# **Appendix A** Title VI Policy Statement

CALIFORNIA STATE TRANSPORTATION AGENCY GAVIN NEWSOM, GOVERNOR

**California Department of Transportation**

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September 2022

**NON-DISCRIMINATION POLICY STATEMENT**

The California Department of Transportation, under Title VI of the Civil Rights Act of 1964, ensures *"No person in the United States shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal financial assistance."*

Caltrans will make every effort to ensure nondiscrimination in all of its services, programs and activities, whether they are federally funded or not, and that services and benefits are fairly distributed to all people, regardless of race, color, or national origin. In addition, Caltrans will facilitate meaningful participation in the transportation planning process in a non-discriminatory manner.

Related federal statutes, remedies, and state law further those protections to include sex, disability, religion, sexual orientation, and age.

For information or guidance on how to file a complaint, or obtain more information regarding Title VI, please contact the Title VI Branch Manager at (916) 639-6392 or visit the following web page: https://dot.ca.gov/programs/civil-rights/title-vi.

To obtain this information in an alternate format such as Braille or in a language other than English, please contact the California Department of Transportation, Office of Civil Rights, at PO Box 942874, MS-79, Sacramento, CA 94274-0001; (916) 879-6768 (TTY 711); or at Title.VI@dot.ca.gov.

TONY TAVARES
Director

# **Appendix B** Relocation Benefits

## California Department of Transportation Relocation Assistance Program

### RELOCATION ASSISTANCE ADVISORY SERVICES

This appendix is general in nature and is not intended to be a complete statement of federal and state relocation laws and regulations. Any questions about relocation should be addressed to the Department's Division of Right of Way and Land Surveys. This section provides some general descriptive information on Public Law (PL) 91-646, the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended. This is often referred to simply as the "Uniform Act." The information in this appendix is provided only as background and is not intended as a complete statement of all the state or federal laws and regulations; for specific details the environmental planner should contact the Department's District or Regional Right of Way Relocation Branch. After presenting an outline of the basic legal foundation for relocation policy, the appendix looks at important relocation assistance information, including advisory services and the financial benefit program. Refer to the Caltrans Right of Way Manual Chapter 10, for more detailed and specific information on relocation and housing programs.

#### *DECLARATION OF POLICY*

"The purpose of this title is to establish a ***uniform policy for fair and equitable treatment*** of persons displaced as a result of federal and federally assisted programs in order that such persons ***shall not suffer disproportionate injuries*** as a result of programs designed for the benefit of the public as a whole."

The Fifth Amendment to the U.S. Constitution states, "No Person shall…be deprived of life, liberty, or property, without due process of law, nor shall private property be taken for public use without just compensation." The Uniform Act sets forth in statute the due process that must be followed in Real Property acquisitions involving federal funds. Supplementing the Uniform Act is the government-wide single rule for all agencies to follow, set forth in 49 Code of Federal Regulations (CFR) Part 24. Displaced individuals, families, businesses, farms, and nonprofit organizations may be eligible for relocation advisory services and financial benefits, as discussed below.

#### *FAIR HOUSING*

The Fair Housing Law (Title VIII of the Civil Rights Act of 1968) sets forth the policy of the United States to provide, within constitutional limitations, for fair housing. This act, and as amended, makes discriminatory practices in the purchase and rental of most residential units illegal. Whenever possible, minority persons shall be given reasonable opportunities to relocate to any available housing regardless of neighborhood, as long as the replacement dwellings are decent, safe, and sanitary and are within their financial means. This policy, however, does not require the Department to provide a person a larger payment than is necessary to enable a person to relocate to a comparable replacement dwelling.

Any persons to be displaced will be assigned to a relocation advisor, who will work closely with each displacee in order to see that all payments and benefits are fully utilized and that all regulations are observed, thereby avoiding the possibility of displacees jeopardizing or forfeiting any of their benefits or payments. At the time of the initiation of negotiations (usually the first written offer to purchase), owner-occupants are given a detailed explanation of the state's relocation services. Tenant occupants of properties to be acquired are contacted soon after the initiation of negotiations and also are given a detailed explanation of the Caltrans Relocation Assistance Program. To avoid loss of possible benefits, no individual, family, business, farm, or

nonprofit organization should commit to purchase or rent a replacement property without first contacting a Department relocation advisor.

***RELOCATION ASSISTANCE ADVISORY SERVICES***

In accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended, the Department will provide relocation advisory assistance to any person, business, farm, or nonprofit organization displaced as a result of the acquisition of real property for public use, so long as they are legally present in the United States. The Department will assist eligible displacees in obtaining comparable replacement housing by providing current and continuing information on the availability and prices of both houses for sale and rental units that are "decent, safe, and sanitary." Nonresidential displacees will receive information on comparable properties for lease or purchase (for business, farm, and nonprofit organization relocation services, see below).

Residential replacement dwellings will be in a location generally not less desirable than the displacement neighborhood at prices or rents within the financial ability of the individuals and families displaced, and reasonably accessible to their places of employment. Before any displacement occurs, comparable replacement dwellings will be offered to displacees that are open to all persons regardless of race, color, religion, sex, national origin, and consistent with the requirements of Title VIII of the Civil Rights Act of 1968. This assistance will also include the supplying of information concerning federal and state assisted housing programs and any other known services being offered by public and private agencies in the area.

Persons who are eligible for relocation payments and who are legally occupying the property required for the project will not be asked to move without first being given at least 90 days written notice. Residential occupants eligible for relocation payment(s) will not be required to move unless at least one comparable "decent, safe, and sanitary" replacement dwelling, available on the market, is offered to them by the Department.

***RESIDENTIAL RELOCATION FINANCIAL BENEFITS***

The Relocation Assistance Program will help eligible residential occupants by paying certain costs and expenses. These costs are limited to those necessary for or incidental to the purchase or rental of a replacement dwelling and actual reasonable moving expenses to a new location within 50 miles of the displacement property. Any actual moving costs in excess of the 50 miles are the responsibility of the displacee. The Residential Relocation Assistance Program can be summarized as follows:

*Moving Costs*

Any displaced person, who lawfully occupied the acquired property, regardless of the length of occupancy in the property acquired, will be eligible for reimbursement of moving costs. Displacees will receive either the actual reasonable costs involved in moving themselves and personal property up to a maximum of 50 miles, or a fixed payment based on a fixed moving cost schedule. Lawful occupants who move into the displacement property after the initiation of negotiations must wait until the Department obtains control of the property in order to be eligible for relocation payments.

*Purchase Differential*

In addition to moving and related expense payments, fully eligible homeowners may be entitled to payments for increased costs of replacement housing.

Homeowners who have owned and occupied their property for 90 days or more prior to the date of the initiation of negotiations (usually the first written offer to purchase the property), may qualify to receive a price differential payment and may qualify to receive reimbursement for certain nonrecurring costs incidental to the purchase of the replacement property. An interest differential payment is also available if the interest rate for the loan on the replacement dwelling is higher than the loan rate on the displacement dwelling, subject to certain limitations on reimbursement based upon the replacement property interest rate.

*Rent Differential*
Tenants and certain owner-occupants (based on length of ownership) who have occupied the property to be acquired by the Department prior to the date of the initiation of negotiations may qualify to receive a rent differential payment. This payment is made when the Department determines that the cost to rent a comparable "decent, safe, and sanitary" replacement dwelling will be more than the present rent of the displacement dwelling. As an alternative, the tenant may qualify for a down payment benefit designed to assist in the purchase of a replacement property and the payment of certain costs incidental to the purchase, subject to certain limitations noted under the *Down Payment* section below.

To receive any relocation benefits, the displaced person must buy or rent and occupy a "decent, safe and sanitary" replacement dwelling within one year from the date the Department takes legal possession of the property, or from the date the displacee vacates the displacement property, whichever is later.

*Down Payment*
The down payment option has been designed to aid owner-occupants of less than 90 days and tenants in legal occupancy prior to the Department's initiation of negotiations. The one-year eligibility period in which to purchase and occupy a "decent, safe and sanitary" replacement dwelling will apply.

*Last Resort Housing*
Federal regulations (49 CFR 24) contain the policy and procedure for implementing the Last Resort Housing Program on Federal-aid projects. Last Resort Housing benefits are, except for the amounts of payments and the methods in making them, the same as those benefits for standard residential relocation as explained above. Last Resort Housing has been designed primarily to cover situations where a displacee cannot be relocated because of lack of available comparable replacement housing, or when the anticipated replacement housing payments exceed the limits of the standard relocation procedure, because either the displacee lacks the financial ability or other valid circumstances.

After the initiation of negotiations, the Department will within a reasonable length of time, personally contact the displacees to gather important information, including the following:

- Number of people to be displaced.
- Specific arrangements needed to accommodate any family member(s) with special needs.
- Financial ability to relocate into comparable replacement dwelling which will adequately house all members of the family.
- Preferences in area of relocation.
- Location of employment or school.

***NONRESIDENTIAL RELOCATION ASSISTANCE***

The Nonresidential Relocation Assistance Program provides assistance to businesses, farms and nonprofit organizations in locating suitable replacement property, and reimbursement for certain costs involved in relocation. The Relocation Advisory Assistance Program will provide current lists of properties offered for sale or rent, suitable for a particular business's specific relocation needs. The types of payments available to eligible businesses, farms, and nonprofit organizations are: searching and moving expenses, and possibly reestablishment expenses; or a fixed in lieu payment instead of any moving, searching and reestablishment expenses. The payment types can be summarized as follows:

*Moving Expenses*

Moving expenses may include the following actual, reasonable costs:

- The moving of inventory, machinery, equipment and similar business-related property, including: dismantling, disconnecting, crating, packing, loading, insuring, transporting, unloading, unpacking, and reconnecting of personal property. Items identified as real property may not be moved under the Relocation Assistance Program. If the displacee buys an Item Pertaining to the Realty back at salvage value, the cost to move that item is borne by the displacee.
- Loss of tangible personal property provides payment for actual, direct loss of personal property that the owner is permitted not to move.
- Expenses related to searching for a new business site, up to $2,500, for reasonable expenses actually incurred.

*Reestablishment Expenses*

Reestablishment expenses related to the operation of the business at the new location, up to $25,000 for reasonable expenses actually incurred.

*Fixed In Lieu Payment*

A fixed payment in lieu of moving, searching, and reestablishment payments may be available to businesses that meet certain eligibility requirements. This payment is an amount equal to half the average annual net earnings for the last two taxable years prior to the relocation and may not be less than $1,000 nor more than $40,000.

***ADDITIONAL INFORMATION***

Reimbursement for moving costs and replacement housing payments are not considered income for the purpose of the Internal Revenue Code of 1954, or for the purpose of determining the extent of eligibility of a displacee for assistance under the Social Security Act, or any other law, *except* for any federal law providing local "Section 8" Housing Programs.

Any person, business, farm or nonprofit organization that has been refused a relocation payment by the Department relocation advisor or believes that the payment(s) offered by the agency are inadequate may appeal for a special hearing of the complaint. No legal assistance is required. Information about the appeal procedure is available from the relocation advisor.

California law allows for the payment for lost goodwill that arises from the displacement for a public project. A list of ineligible expenses can be obtained from the Department's Division of Right of Way and Land Surveys. California's law and the federal regulations covering relocation assistance provide that no payment shall be duplicated by other payments being made by the displacing agency.

For more information contact Caltrans Division of Right of Way's Relocation Assistance Program at:

https://dot.ca.gov/programs/right-of-way/relocation-assistance-program

- **Standard Measure TR-1**: The Transportation Management Plan will include traffic rerouting measures, a detour plan, and public information procedures, which will be developed during the design phase with participation from local agencies, transit and shuttle services, local school administrations, local communities, business associations, and affected drivers. Early and well-publicized announcements and other public information measures prior to and during construction will minimize confusion, inconvenience, and traffic congestion. As part of the Transportation Management Plan, construction planning will minimize nighttime construction in residential areas and minimize daytime construction impacts on commercial areas. Staging areas would be located within the existing Caltrans right-of-way and, as feasible, within the Santa Cruz Branch Rail Line right-of-way along Coastal Rail Trail Segment 12. The Transportation Management Plan will identify staging areas on parcels for which temporary construction easements will be obtained, including an area of Aptos Village County Park adjacent to the railroad right-of-way. Additionally, the following measures will be incorporated and implemented, if applicable, based on final construction design plans:
  - During the construction phase of the proposed project, some parking restrictions may be required on a temporary basis. A public outreach program throughout the construction period will keep the public informed of the construction schedule and scheduled parking and roadway closures, including detour routes and, if available, alternative parking.
  - In the event of temporary obstruction of any pedestrian walkways or bicycle paths, the Transportation Management Plan will identify nearby alternate routes, including pedestrian routes that meet American Disabilities Act requirements, as appropriate.
  - The Traffic Management Plan will include measures to minimize, avoid, or mitigate impacts on alternate routes, such as agreements with the County of Santa Cruz to provide enhanced infrastructure (e.g., necessary signage, flagging, cones) on arterial roads or intersections to deal with detoured traffic.
  - Coordination with transit and private shuttle services will occur to plan for any rerouting, and any necessary avoidance, minimization, or mitigation measures will be incorporated in the Transportation Management Plan.
  - To minimize disruption to the traveling public during construction of the proposed project, a comprehensive strategy will be developed to minimize disruption and assure the safe movement of vehicles through and around the construction site.
- **AMM-VA-1:** Work with the community during preliminary design to develop aesthetic guidelines for the project improvements through a formalized structure that allows community input. Caltrans District 5 Landscape Architecture shall be consulted in this process.

- **AMM-VA-2:** During design and construction, save and protect as much existing vegetation in the corridor as feasible, especially eucalyptus and other skyline trees.
- **AMM-VA-3:** Survey exact locations for trees (by arborist) and include in the plan set.
- **AMM-VA-4:** Protect the drip zone of isolated trees and provide temporary fencing.
- **AMM-VA-5:** Protect large areas of existing plantings and preserve with temporary fencing.
- **AMM-VA-6:** During design and construction, develop construction plans that apply aesthetic treatments to the sound walls. Aesthetic treatment of the sound walls shall be approved by Caltrans District 5 Landscape Architecture.
- **AMM-VA-7:** Include vine plantings on one or both sides of sound walls where feasible (given Caltrans setback and maintenance requirements). If vines are only planted on one side of the wall, include vine portals in the design of the wall to accommodate vine access to both sides of the wall. Planting plans shall be approved by Caltrans District 5 Landscape Architecture.
- **AMM-VA-8:** During design and construction, develop construction plans that apply aesthetic treatments to the retaining walls. Aesthetic treatment of the retaining walls shall be approved by Caltrans District 5 Landscape Architecture.
- **AMM-VA-9:** During design and construction, develop construction plans that apply aesthetic treatments to the proposed bridges in the corridor. Aesthetic treatment of the proposed bridges shall be approved by Caltrans District 5 Landscape Architecture.
- **AMM-VA-10:** If bridge rail is used at the creek crossing retaining walls, use Type 80 rail with aesthetic treatment. Aesthetic treatment and bridge rail type selection shall be approved by Caltrans District 5 Landscape Architecture.
- **AMM-VA-11:** Include aesthetic treatments on concrete median barriers consistent with the visual character of the corridor and the adjacent community. Aesthetic treatment of the concrete median barriers shall be approved by Caltrans District 5 Landscape Architecture.
- **AMM-VA-12:** Replace existing chain link fencing between SR 1 and adjacent frontage roads with ornamental fencing (applies where there is no sound wall). Ornamental fencing type selection shall be approved by Caltrans District 5 Landscape Architecture.
- **AMM-VA-13:** During design and construction, landscape and revegetate disturbed areas to the greatest extent feasible (given Caltrans setback and maintenance requirements). Planting plans shall be approved by Caltrans District 5 Landscape Architecture.
- **AMM-VA-14:** Include skyline trees in the planting pallet to reduce the scale of the new highway elements. Planting palette shall be approved by Caltrans District 5 Landscape Architecture.

- **AMM-VA-15:** Include infill shrub planting between SR 1 and adjacent frontage roads to the maximum extent possible. Planting plans shall be approved by Caltrans District 5 Landscape Architecture.
- **AMM-VA-16:** Include vines on a minimum of 20% of the fencing between SR 1 and adjacent frontage roads. Planting plans shall be approved by Caltrans District 5 Landscape Architecture.
- **AMM-VA-17:** Where horticulturally appropriate, provide a permanent irrigation system for all plantings. Irrigation plans shall be approved by Caltrans District 5 Landscape Architecture.
- **AMM-VA-18:** Include an extended 3-year maintenance/establishment period as part of the construction period to provide a single source of maintenance during the construction and through the establishment of vegetation.
- **AMM CUL-1**: Before any ground-disturbing work occurs in the project area, a qualified archaeologist will be retained to conduct mandatory contractor/worker cultural resources awareness training for construction personnel. The awareness training will be provided to all construction personnel (contractors and subcontractors), to brief them on the need to avoid effects on cultural resources adjacent to and within construction areas and the penalties for not complying with applicable state and federal laws and permit requirements.
- **AMM CUL**-2: The project proponents will inform its contractor(s) of the possibility of subsurface archaeological deposits within the project area by including the following directive in contract documents:
  - "If prehistoric or historical archaeological deposits are discovered during project activities, all work within 100 feet of the discovery shall be redirected and a qualified archaeologist contacted to assess the situation, consult with agencies as appropriate, and make recommendations regarding the treatment of the discovery. Project personnel shall not collect or move any archaeological materials or human remains and associated materials. Archaeological resources can include flaked-stone tools (e.g., projectile points, knives, choppers) or obsidian, chert, basalt, or quartzite toolmaking debris; bone tools; culturally darkened soil (i.e., midden soil often containing heat-affected rock, ash and charcoal, shellfish remains, faunal bones, and cultural materials); and stone-milling equipment (e.g., mortars, pestles, handstones). Prehistoric archaeological sites often contain human remains. Historical materials can include wood, stone, concrete, or adobe footings, walls, and other structural remains; debris-filled wells or privies; and deposits of wood, glass, ceramics, metal, and other refuse."
  - If archaeological deposits are identified during project subsurface construction, all ground-disturbing activities within 100 feet will be redirected and a qualified archaeologist contacted to assess the situation and consult with agencies as appropriate. The archaeologist will first determine whether such deposits are historical resources as defined in 14 California Code of Regulations 15064.5(a) and as required of the lead agency at 14 California Code of Regulations 15064.5(c)(1). If these deposits do not qualify as historical resources, a

determination will be made whether they qualify as unique archaeological resources, pursuant to 14 California Code of Regulations 15064.5(c)(3). If the deposit qualifies as a historical resource or a unique archaeological resource, it will need to be avoided by adverse effects, or such effects must be mitigated. Mitigation may consist of, but is not necessarily limited to, systematic recovery and analysis of archaeological deposits, recording the resource, preparation of a report of findings, and accessioning recovered archaeological materials at an appropriate curation facility. Public educational outreach also may be appropriate. Upon completion of the assessment, the archaeologist will prepare a report documenting the methods and results and provide recommendations for the treatment of the archaeological materials discovered. The report will be submitted to the project proponents and the NWIC.

- **AMM CUL-3:** If human remains are encountered, the remains will be treated in accordance with California Health and Safety Code 7050.5. The project proponents will inform their contractor(s) of the cultural sensitivity of the project area for human remains by including the following directive in contract documents:
  - "If human remains are encountered during project activities, work within 100 feet of the discovery shall be redirected and the County Coroner notified immediately. At the same time, an archaeologist shall be contacted to assess the situation and consult with agencies as appropriate. Project personnel shall not collect or move any human remains and associated materials. If the human remains are of Native American origin, the Coroner must notify the Native American Heritage Commission within 24 hours of this identification. The Native American Heritage Commission will identify a Most Likely Descendant to inspect the site and provide recommendations for the proper treatment of the remains and associated grave goods."
  - Upon completion of the assessment, the archaeologist will prepare a report documenting the methods and results, and provide recommendations for the treatment of the human remains and any associated cultural materials, as appropriate and in coordination with the recommendations of the Most Likely Descendant. The report will be submitted to the project proponents and the Northwest Information Center.
- **Mitigation Measure-PALEO-1**: Prior to the start of excavations, a qualified Principal Paleontologist (M.S. or Ph.D. in paleontology or geology familiar with paleontological procedures and techniques) will be retained to prepare and implement a detailed Paleontological Mitigation Plan prior to the start of construction. The Paleontological Mitigation Plan will include the following elements and stipulations:
  - The Paleontological Mitigation Plan will identify all areas where excavation will disturb *in situ* geologic units identified as highly sensitive for paleontological resources.
  - Spot checking may be required to confirm the extent of the low sensitivity deposits should they overlie high sensitivity units. This includes areas of artificial fill and Holocene-aged sediments.

  - Full-time monitoring will be required where disturbance would be more than 8 feet deep into Holocene-aged sediments as well as all impacts on the Purisima Formation and Pleistocene-aged sediments.
  - Requirements for reduction of monitoring effort.
  - The paleontological monitor's authority to temporarily halt or divert construction equipment to investigate finds.
  - Protocols for fossil recovery, preparation, and curation.
  - Other pertinent items for the Paleontological Mitigation Plan as per Chapter 8 of Caltrans' Paleontology Standard Environmental Reference (Caltrans 2016).
- The qualified Principal Paleontologist will be present at pre-grading meetings to consult with grading and excavation contractors.
- Before excavation begins, a training session on fossil identification and the procedures to follow should fossils be encountered will be conducted by the Principal Paleontologist or their designee for all personnel involved in earthmoving for the project.
- If unanticipated discoveries of paleontological resources occur during project construction, all work within 25 feet of the discovery must cease and the find must be protected in place until it can be evaluated by a qualified paleontologist. Work may resume immediately outside of the 25-foot radius.
- **AMM HAZ-1**: A Preliminary Site Investigation of the subsurface soils and/or groundwater will be completed within the project boundaries to investigate the depth and lateral extent of contamination within the project. At a minimum, the Preliminary Site Investigation screening will investigate each area identified below where construction is anticipated to disturb the subsurface soil or encounter groundwater.

  The project proponent will conduct a Preliminary Site Investigation for the following recognized environmental conditions within the proposed acquisition area of the project.

  - Agricultural Land Uses: Sample and test soils for pesticides and metals along State Route 1 from State Park Drive to Freedom Boulevard where historic agricultural land uses were identified in the Initial Site Assessment. The estimated cost of collection and testing soil within these parcels totals approximately $54,000. Implementation could take up to 4 days.
  - Aerially deposited lead: Analyze soil samples from road shoulders along State Route 1, Rio Del Mar Boulevard, Soquel Drive, and State Park Drive for total lead.
  - Treated wood waste/Pole-Mounted Transformers: Analyze soil samples for polycyclic aromatic hydrocarbons, polychlorinated biphenyls, and metals near utility pole where soil disturbance might occur during construction.

  - Railroad Corridor Hazards: Analyze soil samples for metals, arsenic, semi-volatile organic compounds polycyclic aromatic hydrocarbons, and polychlorinated biphenyls along the railroad corridor.
- The project proponent will coordinate and consult with the Santa Cruz Environmental Health Division for soil testing and remediation along the railroad corridor.
  - Asbestos-containing materials: Sample and test for ACM in concrete portions of the Rio Del Mar Boulevard overcrossing and the railroad bridges.
  - Traffic Striping: Sample and test traffic striping and painted surfaces on the railroad bridges for lead-based paint. Samples to be obtained from areas that will be disturbed during construction.
- Based on the findings of the Preliminary Site Investigation, if a soils management plan and health and safety plan are necessary, they will be prepared and implemented. Should the Preliminary Site Investigation indicate the presence of soil or groundwater contamination within the project area to be above regulatory thresholds, a Phase 3 Assessment will be conducted to investigate the depth and lateral extent of contamination within the project and remediate if necessary.
- **AMM HAZ-2**: The project proponent will develop and implement the necessary plans and measures required by Caltrans and federal and state regulations, including a health and safety plan, best management practices, and/or an injury and illness prevention plan. The plans will be prepared and implemented to address worker safety when working with potentially hazardous materials, including potential lead or chromium in traffic stripes, aerially deposited lead, asbestos-containing materials, and other construction-related materials within the right-of-way during any soil-disturbing activity.
- **AMM-EN-1**: The final design plans will provide landscaping where necessary within the corridor to provide aesthetic treatment, replacement planting, or mitigation planting. Landscaping reduces surface warming and, through photosynthesis, decreases carbon dioxide.
- **AMM-EN-2**: The final design plans will incorporate the use of energy-efficient lightings, such as light-emitting diode traffic signals and solar-powered flashing beacons during construction.
- **AMM-EN-3**: The Build Alternative will incorporate the following best available control technologies related to energy use:
  - Use cement blended with the maximum feasible amount of fly ash or other materials (i.e., limestone).
  - Recycle construction materials. Recycled products typically have lower manufacturing and transport energy costs because they do not use raw materials, which must be mined and transported to a processing facility.
  - Use lighter-colored pavement where feasible to increase albedo.
  - Use recycled water or grey water for fugitive dust control.

  - Employ energy-efficient and fuel-efficient vehicles and equipment and zero- and/or near-zero emission technologies.
  - Encourage ride-sharing and carpooling for construction crews.
- These energy conservation features are consistent with state and local policies to reduce energy. Therefore, the project would not result in an inefficient, wasteful, and unnecessary consumption of energy.
- **AMM BIO-1:** Prior to construction and if required, the Santa Cruz County Regional Transportation Commission will obtain a 404 permit (anticipated to be Nationwide Permit 14 for linear transportation projects) from the U.S. Army Corps of Engineers, a 401 Certification and/or Waste Discharge Requirements from the Regional Water Quality Control Board, a Section 1602 Streambed Alteration Agreement (SAA) from California Department of Fish and Wildlife, and a Coastal Development Permit, or waiver from the California Coastal Commission/applicable Local Coastal Programs.
- **AMM BIO-2:** Prior to construction, Santa Cruz County Regional Transportation Commission will prepare a Mitigation and Monitoring Plan (MMP) to mitigate impacts on vegetation and natural habitats, including jurisdictional areas. The MMP will be consistent with federal and state regulatory requirements and will be amended with any regulatory permit conditions, as required. Santa Cruz County Regional Transportation Commission will implement the MMP as necessary during construction and immediately following project completion.
- **AMM BIO-3:** Prior to any ground-disturbing activities, environmentally sensitive area fencing will be installed around jurisdictional waters and the dripline of trees to be protected within project limits. Environmentally sensitive areas will be noted on design plans and delineated in the field prior to the start of construction activities.
- **AMM BIO-4:** A qualified biological monitor(s) will ensure compliance with avoidance and minimization measures within the project environmental documents. Full-time monitoring will occur during vegetation removal and initial ground disturbance, water diversion implementation and removal, installation of temporary environmentally sensitive area fencing in jurisdictional areas, and temporary erosion control installation. Monitoring may be reduced to part time once construction activities are underway and the potential for additional impacts is reduced.
- **AMM BIO-5:** During project activities, the biological monitor(s) will coordinate with federal, state, and local agencies and the construction contractor to ensure construction schedules comply with biological requirements.
- **AMM BIO-6:** Prior to project implementation, the project site will be clearly flagged or fenced so that the contractor is aware of the limits of allowable site access and disturbance. Areas within the designated project site that do not require regular access will be clearly flagged as off-limit areas to avoid unnecessary damage to sensitive habitats or existing vegetation within the project site.
- **AMM BIO-7:** Prior to project implementation, a project Erosion Control Plan will be prepared.

- **AMM BIO-8:** During project activities, erosion control measures will be implemented. Fiber rolls and sediment barriers (e.g., straw bales) will be installed between the project site and adjacent wetlands and other waters. At a minimum, these measures will be checked and maintained on a daily basis throughout the construction period. The contractor will also apply adequate dust control techniques, such as site watering, during construction.
- **AMM BIO-9:** To control erosion during and after project implementation, standard Caltrans BMPs will be implemented.
- **AMM BIO-10:** During project activities, work occurring within stream channels will be conducted during the dry season if possible (June 1–September 30). If in-stream work will be necessary, a Diversion and Dewatering Plan will be prepared, submitted for agency approval, and implemented.
- **AMM BIO-11:** Prior to the onset of work, a Hazardous Materials Response Plan will be prepared to allow a prompt and effective response to any accidental spills. All workers will be informed of the importance of preventing spills and of the appropriate measures to take should a spill occur.
- **AMM BIO-12:** During project activities, the cleaning and refueling of mobile equipment and vehicles will occur only within a designated staging area and at least 100 feet from wetlands, other waters, or other aquatic areas. This staging area will conform to best management practices applicable to attaining zero discharge of stormwater runoff. At a minimum, all equipment and vehicles will be checked and maintained on a daily basis to ensure proper operation and avoid potential leaks or spills. Stationary equipment will be in secondary containment at all times when within 100 feet of streams.
- **AMM BIO-13:** During project activities, all project-related hazardous materials spills within the project site will be cleaned up immediately. Spill prevention and cleanup materials will be on-site at all times during construction.
- **AMM BIO-14:** The contractor will ensure that the spread or introduction of invasive exotic plant species is avoided to the maximum extent possible. When practicable, invasive exotic plants in the project site will be removed and properly disposed.
- **AMM BIO-15:** During construction, trash will be contained, removed from the work site, and disposed of regularly. Following construction, all trash and construction debris will be removed from work areas.
- **AMM BIO-16:** During project activities, no pets will be allowed on the construction site.
- **Mitigation Measure BIO-17:** The goal of compensatory mitigation is to prevent a net loss of wetlands or other aquatic resource acreage, function, and value. Several types of compensatory mitigation are available to offset impacts on jurisdictional waters, including creation, restoration, enhancement, and preservation of either on-site or off-site aquatic resources.
- Affected jurisdictional waters (including federal, state, and/or Coastal Zone wetlands, other waters, and riparian areas) have typically been restored at a 1:1 ratio for

temporary impacts and mitigated at a 3:1 ratio for permanent impacts; the actual mitigation ratio required by the relevant agencies will be negotiated during the permitting process. Compensatory mitigation options will include creation, restoration, enhancement, and preservation implemented either on-site (preferred) or off-site. Any removal of riparian trees will be offset by a replacement ratio as determined by California Department of Fish and Wildlife in Section 1602 Streambed Alteration Agreement requirements. At a minimum, restoration and mitigation plantings will achieve 75% survival of required replacement plantings at the end of a 5-year period and require no further maintenance for survival. Off-site mitigation, if implemented, will be conducted within the watershed that is being affected, if feasible. Compensatory mitigation will be implemented immediately following project completion. Compensatory mitigation plantings will be monitored on a quarterly basis. Any required maintenance will also occur on a quarterly basis. Maintenance activities will include weeding, debris removal, replanting (if necessary), repair of any vandalism, fertilizing, and/or pest control. Maintenance activities will be dictated by the results of the quarterly monitoring effort. Santa Cruz County Regional Transportation Commission will be responsible for submitting quarterly reports and annual monitoring reports to Caltrans and the affected regulatory agencies. The annual monitoring report submitted at Year 5 will serve as a final completion report should the mitigation be successful.

- **AMM BIO-18:** All coast live oak woodland and individual oaks that are considered "significant trees" by the County of Santa Cruz and that are not planned for removal will be delineated on the project plans and provided protective fencing at a distance no less than the dripline of the affected tree canopy. Project equipment will not be permitted to enter the dripline of the coast live oak dripline canopy at any time during the length of the project.
- **AMM BIO-19:** If work is required within the dripline of a "significant tree", a licensed arborist will be present to supervise all ground disturbances within the critical root zone and activities that may affect branches. The arborist will provide guidance such as temporary damaged root protection, timing between impact and root treatment by arborist, appropriate use of air spade or hand tools to minimize tree damage specific to the action proposed, and to treat root zone and branch damage.
- During construction and upon completion of construction the licensed arborist will provide treatment, as the licensed arborist determines is appropriate, to maintain and improve the health of the tree, including pruning of any broken branches or roots, pruning if needed of the broken main stem, and soil supplement and watering programs. All root pruning will be completed with sharpened hand pruners. Pruned roots will be immediately covered with soil or moist fabric. Damaged roots will be treated within 24 hours by a qualified tree specialist to inhibit fungus, insects, or other disease damage.
- **AMM BIO-20:** During project activities, erosion control measures will be implemented. Fiber rolls, and barriers (e.g., hay bales) will be installed between the project site and adjacent coast live oak woodlands. At a minimum, these measures will be checked and maintained daily throughout the construction period. The

contractor will also apply adequate dust control techniques, such as site watering, during construction.

- **AMM BIO-21:** During project activities, the cleaning and refueling of mobile equipment and vehicles will occur only within a designated staging area. This staging area will conform to best management practices applicable to attaining zero discharge of stormwater runoff. At a minimum, all equipment and vehicles will be checked and maintained daily to ensure proper operation and avoid potential leaks or spills.
- **Mitigation Measure BIO-22:** Any coast live oak tree that is considered a "significant tree"[1] by the County of Santa Cruz is removed will be replaced at a 10:1 ratio. For trees that have been retained but have sustained impacts within their critical root zone, the impacts will be mitigated as follows: impacts on less than 10% of the tree's critical root zone and canopy would be mitigated at a 2:1 ratio (plant two trees for each tree affected); impacts over 10% and less than 50% of the tree's critical root zone and/or canopy would be mitigated at a 3:1 ratio; impacts on more than 50% of the trees' critical root zone would require mitigation at a 4:1 ratio.
  - Oak tree replacement efforts will achieve 75% success at the end of a 5-year period and require no further maintenance for survival. The location of these replacement plantings will be on-site, to the maximum extent practicable, and closely associated with existing coast live oak woodland habitat for the purposes of providing continuity with the existing coast live oak woodland habitat. If on-site mitigation is not feasible, off-site locations may be acceptable if they are within the Aptos Creek watershed. The compensatory mitigation will be implemented immediately following project completion. Compensatory mitigation plantings will be monitored on a quarterly basis. Any required maintenance will also occur on a quarterly basis. Maintenance activities will include weeding, debris removal, replanting (if necessary), repair of any vandalism, fertilizing, and/or pest control. Maintenance activities will be dictated by the results of the quarterly monitoring effort. Santa Cruz County Regional Transportation Commission will be responsible for submitting quarterly reports, annual monitoring reports, and a final completion report to Caltrans and the affected regulatory agencies. The annual monitoring report submitted at Year 5 will serve as a final completion report should the mitigation be successful.
- **AMM BIO-23:** If in-stream work is proposed to occur in coastal streams, incidental take authorization from National Marine Fisheries Service through a federal Endangered Species Act Section 7 Biological Opinion and Incidental Take Statement will be acquired, if determined necessary by National Marine Fisheries Service.
- **Mitigation Measure BIO-24**: Measures to avoid, minimize, and/or mitigate impacts discussed in Section 2.3.2, Wetlands and Other Waters will be applied to any loss of

[1] County of Santa Cruz ordinance defines a "Significant tree", as any tree, sprout clump, or group of trees when it has a diameter-at-breast height (DBH) at or greater than 20 inches; or if it is a clumping tree with greater than four stems, where each stem is greater than or equal to 12 inches DBH

aquatic and riparian vegetation within steelhead critical habitat. Additional mitigation may be directed by regulatory agencies.

- **AMM BIO-25**: Qualified biologists shall conduct a preconstruction survey for California giant salamander in areas of suitable habitat where construction will occur. If regulatory agency approval allows, the qualified biologists shall capture and relocate any California giant salamanders (if present) or other sensitive species to suitable habitat outside of the area of impact.
- **AMM BIO-26:** Qualified biologists shall conduct a preconstruction survey for Santa Cruz black salamander in areas of suitable habitat where construction will occur. If regulatory agency approval allows, the qualified biologists shall capture and relocate any Santa Cruz black salamanders (if present) or other sensitive species to suitable habitat outside of the area of impact.
- **AMM BIO-27:** If project-related construction will affect aquatic areas and if regulatory agency approval allows, qualified biologists shall conduct a preconstruction survey for western pond turtle in aquatic areas where construction will occur. The qualified biologists shall capture and relocate any western pond turtle (if present) or other sensitive aquatic species to suitable habitat outside of the area of impact. A letter of permission will be obtained from California Department of Fish and Wildlife to relocate western pond turtle and other species of special concern species from work areas encountered during construction within the BSA as necessary.
- **AMM BIO-28:** If feasible, removal of trees shall be scheduled to occur in the fall and winter (between September 16 and February 15), outside of the typical nesting season.
- **AMM BIO-29:** If any construction activities are proposed to occur during the typical nesting season (February 16 to September 15), a nesting bird survey of the area of disturbance shall be conducted by qualified biologists no more than 2 weeks prior to construction to determine presence/absence of nesting birds within the project area.
- **AMM BIO-30:** If evidence of migratory bird nesting that may be affected by construction activities is discovered, or when birds are injured or killed as a result of construction activities, the contractor shall immediately notify the engineer or biological monitor. At a minimum, a 500-foot radius of the nest shall be designated an environmentally sensitive area for nesting raptors, and a 250-foot radius shall be designated an environmentally sensitive area for other nesting avian species, unless otherwise directed by the Service or California Department of Fish and Wildlife. Nests, eggs, or young of birds covered by the Migratory Bird Treaty Act and odeCalifornia Fish and Game C will not be moved or disturbed until the end of the nesting season or until young fledge, whichever is later, nor would adult birds be killed, injured, or harassed at any time. The environmentally sensitive area shall remain in place until such time that the nest is no longer considered active by the qualified biologist. The Santa Cruz County Regional Transportation Commission shall provide written notification to Caltrans and the resource agencies by the qualified biologist.

- **AMM BIO-31:** If a white-tailed kite nest is identified within the biological study area at any time during the proposed project, the biological monitor shall thoroughly document the species activity and ensure that immediate project activities avoid any impacts to the species. coordination with California Department of Fish and Wildlife. will be facilitated by the City of Arroyo Grande Public Works Department if necessary to devise a suitable avoidance plan for state-listed nesting bird species. If there is a potential for take, California Department of Fish and Wildlife. shall be contacted immediately, and if deemed necessary by California Department of Fish and Wildlife. a suitable avoidance plan will be developed and implemented for the duration of project activities. A final report summarizing the results of implementation of the avoidance plan will be submitted to California Department of Fish and Wildlife. within 30 days following successful fledging or upon project completion, whichever is sooner.
- **AMM BIO-32:** Vegetation removal in potential nesting habitats shall be monitored and documented by the biological monitor(s) regardless of time of year.
- **AMM BIO-33**: A qualified biologist shall conduct preconstruction surveys the year prior to construction for bats species that could be utilizing existing structures or trees for roosting habitat. If bats are identified as utilizing areas within the biological study area for day or night roosting, the qualified biologist shall identify the species of bat present. The biologist(s) conducting the pre-construction surveys shall also identify the nature of the bat utilization of the bridge (i.e., maternity roost, day roost, night roost).
- **AMM BIO-34:** If bat species are identified as roosting in areas that will be affected, prior to construction, a plan to exclude bat species from impact areas shall be prepared. This plan shall discuss methods of eliminating bat access to the identified roosting habitat prior to construction so that bats are not able to return to and occupy the roost. The appropriate timing for exclusion implementation shall be determined upon the species identified as occurring within the project site. Roost areas shall be surveyed by a qualified biologist prior to implementing exclusion methods to ensure that no bats are trapped within. Exclusion methods may include, but are not limited to, wire mesh, spray foam, or fabric placement. This plan shall be submitted to the appropriate regulatory agency for approval.
- **AMM BIO-35:** Demolition of existing structures and vegetation removal shall occur outside of the bat maternity roosting season, typically during the spring and summer months.
- **AMM BIO-36:** If bats cannot be excluded from bat roosts, work activities shall be avoided within 100 feet of active maternity roosts until bat pups have been weaned and are deemed independent by a qualified biologist. Regulatory agencies shall be contacted for additional guidance if roosting bats are observed within the biological study area during construction.
- **AMM BIO-37:** A qualified biologist shall be present periodically during construction activities to monitor the bat populations, which may be utilizing the bridge and to ensure that all practicable measures are employed to avoid incidental disturbance to special-status bat species. Monitoring would be timed to occur during key

construction events (e.g., removal of existing structures or trees with roosting habitat).

- **Mitigation Measure BIO-38**: If project-related impacts permanently affect a major roost location, compensatory mitigation would be required. Compensatory mitigation shall include replacement of suitable habitat that follows the guidance included within *Caltrans Bat Mitigation: A Guide to Developing Feasible and Effective Solutions* (H.T. Harvey and Associates 2019).
- **AMM BIO-39**: No more than 14 days prior to construction activities, a preconstruction survey will be conducted within the BSA by a qualified biologist in suitable habitat to determine the presence or absence of woodrat middens.
- **AMM BIO-40**: If woodrat middens are located during the preconstruction survey, the qualified biologist shall establish a minimum 25-foot buffer around each midden that can feasibly be avoided by project activities.
- **AMM BIO-41**: If project activities cannot avoid affecting the middens, then a qualified biologist shall dismantle the middens by hand prior to grading or vegetation removal activities. The midden dismantling shall be conducted such that the midden material is slowly removed looking for young woodrats. The material shall be placed in a pile at the closest adjacent undisturbed habitat and more than 50 feet from construction activities.
- **AMM BIO-42**: If young are encountered during midden dismantling, the dismantling activity shall be stopped and the material replaced back on the nest and the nest shall be left alone and rechecked weekly to see if the young are out of the nest or capable of being independent without relying on adult care (as determined by a qualified biologist); once the young are determined to be independent, the nest dismantling can continue.
- **AMM BIO-43**: If feasible, avoid eucalyptus tree removal or other disturbance of eucalyptus habitat from October 1 to March 1 to avoid potential impacts on winter roosting monarch butterflies.
- **AMM BIO-44**: If construction activities are scheduled to impact occur within potentially suitable monarch butterfly overwintering habitat between November October 1 and March 1, a qualified biologist shall conduct pre-construction surveys for overwintering monarch butterflies in appropriate habitat. If an active roost or aggregation is present, any construction grading, or other development within 100 feet of the active roost, shall be prohibited between October 1 and March 1. Consult with the Service if monarch butterfly roosts are observed and avoidance is not feasible.
- **AMM BIO-45:** Only Service-approved biologists will participate in activities associated with the capture, handling, and monitoring of California red-legged frog.
- **AMM BIO-46:** Ground disturbance will not begin until written approval is received from USFWS that the biologist is qualified to conduct the work.
- **AMM BIO-47:** A Service-approved biologist will survey the project area 48 hours before the onset of work activities. If any life stage of the California red-legged frog is

found and these individuals are likely to be killed or injured by work activities, the approved biologist will be allowed sufficient time to move them from the site before work activities begin. The Service-approved biologist will relocate the California red-legged frogs the shortest distance possible to a location that contains suitable habitat and will not be affected by the activities associated with the proposed project. The relocation site should be in the same drainage to the extent practicable. Coordination with the Service shall occur with regard to the relocation site prior to the capture of any California red-legged frogs.

- **AMM BIO-48:** Before any construction activities begin, a Service-approved biologist will conduct a training session for all construction personnel. At a minimum, the training will include a description of the California red-legged frog and its habitat, the specific measures to be implemented to conserve the California red-legged frog during the project, and all project boundary limits. Brochures, books, and briefings may be used in the training session, provided that a qualified person is on hand to answer questions.
- **AMM BIO-49:** A Service -approved biologist will be present at the work site until all California red-legged frogs have been removed, workers have been instructed, and disturbance of the habitat has been completed. After this time, the state or local sponsoring agency will designate a person to monitor on-site compliance with all minimization measures. The Service -approved biologist will ensure that this monitor receives the training outlined in Avoidance and Minimization Measure BIO-49 and in the identification of California red-legged frog. If the monitor or the Service -approved biologist recommends that work be stopped because California red-legged frogs would be affected to a degree that exceeds the levels anticipated by the Federal Highway Administration and the Service during the review of the proposed action, they will notify the resident engineer (the engineer that is directly overseeing and in command of construction activities) immediately. The resident engineer will either resolve the situation by eliminating the effect immediately or require that all actions that are causing these effects be halted. If work is stopped, the Service will be notified as soon as is reasonably possible.
- **AMM BIO-50:** During project activities, all trash that may attract predators will be properly contained, removed from the work site, and disposed of regularly. Following construction, all trash and construction debris will be removed from work areas.
- **AMM BIO-51:** All refueling, maintenance, and staging of equipment and vehicles will occur at least 100 feet from the riparian habitat or waterbodies and not in a location from which a spill would drain directly toward aquatic habitat. The monitor will ensure contamination of habitat does not occur during such operations. Prior to the onset of work, the Federal Highway Administration will ensure that a plan is in place for prompt and effective response to any accidental spills. All workers will be informed of the importance of preventing spills and of the appropriate measures to take should a spill occur.
- **AMM BIO-52:** Habitat contours will be returned to their original configuration at the end of the project activities. This measure will be implemented in all areas disturbed by activities associated with the project, unless the Service and Federal Highway

Administration determine that it is not feasible, or modification of original contours would not benefit the California red-legged frog.

- **AMM BIO-53:** The number of access routes, size of staging areas, and the total area of activity will be limited to the minimum necessary to achieve the project goal. Environmentally sensitive areas will be established to confine access routes and construction areas to the minimum area necessary to complete construction and minimize the impact on California red-legged frog habitat; this goal includes locating access routes and construction areas outside of wetlands and riparian areas to the maximum extent practicable.
- **AMM BIO-54:** Caltrans (or the local sponsor) will attempt to schedule work activities for times of the year when impacts on the California red-legged frog would be minimal. For example, work that would affect large pools that may support breeding would be avoided, to the maximum degree practicable, during the breeding season (November through May). Isolated pools that are important to maintain California red-legged frogs through the driest portions of the year would be avoided, to the maximum degree practicable, during the late summer and early fall. Habitat assessments, surveys, and informal consultation between Caltrans and the USFWS during project planning shall be used to assist in scheduling work activities to avoid sensitive habitats during key times of year.
- **AMM BIO-55:** To control sedimentation during and after project implementation, Caltrans and sponsoring agency will implement best management practices outlined in any authorizations or permits issued under the authorities of the Clean Water Act that it receives for the specific project. If best management practices are ineffective, Caltrans will attempt to attempt to remedy the situation immediately, in consultation with the Service.
- **AMM BIO-56:** If a work site is to be temporarily dewatered by pumping, intakes will be completely screened with wire mesh not larger than 0.2 inch to prevent California red-legged frogs from entering the pump system. Water will be released or pumped downstream at an appropriate rate to maintain downstream flows during construction. The methods and materials used in any dewatering will be determined by Caltrans in consultation with the Service on a site-specific basis. Upon completion of construction activities, any diversions or barriers to flow will be removed in a manner that would allow flow to resume with the least disturbance to the substrate. Alteration of the streambed will be minimized to the maximum extent possible; any imported material will be removed from the streambed upon completion of the project.
- **AMM BIO-57:** Unless approved by USFWS, water will not be impounded in a manner that may attract California red-legged frogs.
- **AMM BIO-58:** A USFWS-approved biologist will permanently remove any individuals of exotic species, such as bullfrogs (*Rana catesbeiana*), crayfish, and centrarchid fishes from the project area to the maximum extent possible. The USFWS-approved biologist will be responsible for ensuring his or her activities are in compliance with the CFGC.

- **AMM BIO-59:** If Caltrans demonstrates that disturbed areas have been restored to conditions that allow them to function as habitat for the California red-legged frog, these areas will not be included in the amount of total habitat permanently disturbed.
- **AMM BIO-60:** To ensure that diseases are not conveyed between work sites by the USFWS-approved biologist, the fieldwork code of practice developed by the Declining Amphibian Populations Task Force will be followed at all times.
- **AMM BIO-61:** Project sites will be revegetated with an assemblage of native riparian, wetlands, and upland vegetation suitable for the area. Locally collected plant materials will be used to the extent practicable. Invasive, exotic plants will be controlled to the maximum extent practicable. These measures will be implemented in all areas disturbed by activities associated with the project, unless the Service and Caltrans determine that it is not feasible or practical.
- **AMM BIO-62:** Caltrans will not use herbicides as the primary method used to control invasive, exotic plants. However, if Caltrans determines the use of herbicides is the only feasible method for controlling invasive plants at a specific project site, it will implement the following additional protective measures for the California red-legged frog:
    a. Caltrans will not use herbicides during the breeding season for the California red-legged frog.
    b. Caltrans will conduct surveys for the California red-legged frog immediately prior to the start of any herbicide use. If found, California red-legged frogs will be relocated to suitable habitat far enough from the project area that no direct contract with herbicides would occur.
    c. Giant reed and other invasive plants will be cut and hauled out by hand and the stems painted with glyphosate or glyphosate-based products, such as Aquamaster or Rodeo.
    d. Licensed and experienced FHWA staff or a licensed and experience contractor will use a hand-held sprayer for foliar application of Aquamaster or Rodeo where large monoculture stands occur at an individual project site.
    e. All precautions will be taken to ensure that no herbicide is applied to native vegetation.
    f. Herbicides will not be applied on or near open water surfaces (no closer than 60 feet from open water).
    g. Foliar applications of herbicide will not occur when wind speeds are in excess of 3 miles per hour.
    h. No herbicides will be applied within 24 hours of forecasted rain.

i. Application of all herbicides will be done by a qualified Caltrans staff or contractors to ensure that overspray is minimized, that all application is made in accordance with label recommendations, and with implementation of all required and reasonable safety measures. A safe dye will be added to the mixture to visually denote treated sites. Application of herbicides will be consistent with the U.S. Environmental Protection Agency's Office of Pesticide Programs, Endangered Species Protection Program county bulletins.

j. All herbicides, fuels, lubricants, and equipment will be stored, poured, or refilled at least 60 feet from riparian habitat or waterbodies in a location where a spill would not drain directly toward aquatic habitat. Caltrans will ensure that contamination of habitat does not occur during such operations. Prior to the onset of work, Caltrans will ensure that a plan is in place for a prompt and effective response to accidental spills. All workers will be informed of the importance of preventing spills and of the appropriate measures to take should a spill occur.

- Upon completion of any project for which this programmatic consultation is used, Caltrans will ensure that a Project Completion Report is completed and provided to the Ventura Fish and Wildlife Office. Caltrans should include recommended modification of the protective measures if alternative measures would facilitate compliance with the provisions of this consultation. In addition, Caltrans will reinitiate formal consultation in the event any of the following thresholds are reached as a result of projects conducted under the provisions of this consultation:
- Caltrans will reinitiate consultation when, as a result of projects conducted under the provisions of this consultation:

a. 10 California red-legged frog adults or juveniles have been killed or injured in a given year (for this and all other standards, an egg mass is considered to be one California red-legged frog)

b. 50 California red-legged frogs have been killed or injured in total

c. 20 acres of critical habitat for the California red-legged frog that include the primary constituent elements of aquatic breeding and non-breeding aquatic habitat and upland and dispersal habitat have been permanently lost in any given year

d. 100 acres of critical habitat for the California red-legged frog that include the primary constituent elements of aquatic breeding and non-breeding aquatic habitat and upland and dispersal habitat have been permanently lost in total

e. 100 acres of critical habitat for the California red-legged frog that include the primary constituent elements of aquatic breeding and non-breeding aquatic

habitat and upland and dispersal habitat have been temporarily disturbed in any given year

f. 500 acres of critical habitat for the California red-legged frog that include the primary constituent elements of aquatic breeding and non-breeding aquatic habitat and upland and dispersal habitat have been temporarily disturbed in total

- **AMM BIO-63:** At the request of California Department of Fish and Wildlife and to ensure take avoidance, the project proponent will retain a qualified biologist to conduct 2 years of preconstruction surveys according to Service protocol surveys for Santa Cruz long-toed salamander conducted the seasons prior to project construction.
- **AMM BIO-64:** Prior to the initiation of work adjacent to the Valencia Ecological Preserve, the project proponent will install high-visibility construction exclusion fencing along the outside of the Preserve's exclusion fence to make the limits of the project and construction visually obvious.
- **AMM BIO-65:** If in-stream work is proposed to occur in coastal streams, incidental take authorization from NOAA Fisheries shall be acquired through a FESA Section 7 biological opinion and incidental take statement.
- **AMM BIO-66**: If in-stream work is required at the confluence of Aptos Creek and Valencia Creek, remediation of the structural barrier to fish passage will be addressed. Santa Cruz County Regional Transportation Commission and Caltrans will coordinate with California Department of Fish and Wildlife to comply with Senate Bill-857, SHC § 156.3, and SHC §156.4
- **AMM BIO-67:** A component including a description of central California Coast steelhead, its ecology, and the need for conservation of the species will be integrated into the worker environmental training program.
- **AMM BIO-68:** If dewatering/stream diversion is necessary, a diversion and dewatering plan shall be prepared and implemented to allow for passage of aquatic species through the site during construction. The form and function of all pumps used during the dewatering activities shall be checked twice daily, at a minimum, by the biological monitor(s) to ensure a dry work environment and minimize adverse effects to aquatic species and habitats.
- **AMM BIO-69:** During project activities, if pumps are incorporated to assist in temporarily dewatering the site, intakes shall be completely screened with no larger than 0.2-inch wire mesh to prevent steelhead and other sensitive aquatic species from entering the pump system. Pumps shall release the additional water to a settling basin allowing the suspended sediment to settle out prior to re-entering the stream(s) outside of the isolated area.
- **AMM BIO-70:** During dewatering/diversion activities, or if tidal fluctuations breach a formerly dewatered and isolated project site, a National Marine Fisheries Service-approved biological monitor(s) or other NMFS-approved biologist(s) shall supervise site dewatering and relocate steelhead and other stranded aquatic species.

- **AMM BIO-71:** If it is determined by the biological monitor(s) or the NMFS-approved biologist(s) that impacts to steelhead would have the potential to exceed the levels authorized by National Marine Fisheries Service-, they will notify the resident engineer (the engineer that is directly overseeing and in command of construction activities) immediately. The resident engineer will resolve the situation immediately by eliminating the cause of the identified effect on the species or require that all actions that are causing these effects be halted until coordination with the appropriate resource agency is completed. No work will resume until the issue is resolved.
- **AMM BIO-72:** Following construction, temporary impacts on streamside vegetation used as sheltering areas or streambed sandbars, gravels, and cobbles used by fish species will be restored to their preconstruction conditions, at a minimum.
- **Mitigation Measure BIO-73**: Additionally, the fish passage barrier associated with the hydraulic drop and sheet flow over the concrete apron at the outlet of the culvert at PM 9.97 will be improved for the benefit of fish passage. Caltrans will implement a phased approach to correcting fish passage in Valencia Creek at PM 9.97 and PM 9.88. This project, EA 05-0C734, will complete short-term, or partial, improvements to fish passage. Then project EA 05-1N900 (Valencia Creek Fish Passage) will follow up with long-term remediation of the fish passage issues at PM 9.97 and PM 9.88, which will be funded through the state SHOPP program.
  - The following mitigation is proposed immediately downstream of the arch culvert to address fish passage issues as part of the short-term improvements required for impacts from this project. Design plans for remediation work will be included with project designs and based on coordination with California Department of Fish and Wildlife and National Marine Fisheries Service.
    - 1. The existing baffle fishway in the arch culvert, which consists of dividing walls and baffles, would be extended to the downstream edge of the concrete outlet apron. This will confine the flows and achieve the desired hydraulic conditions at the outlet apron for fish passage. The extended dividing walls and baffles would be constructed of timber and, if necessary, concrete to achieve the same hydraulic performance as the existing baffles. Additionally, an outlet baffle shall be placed at the most downstream bay of the extended baffle system. This will concentrate plunging flows off the lip of the concrete outlet apron and maximize water depths in the most downstream bay of the fishway. This is where fish would be expected to complete their leap from downstream into the arch culvert, thus, improving fish passage.
    - 2. To promote pool development and maintenance immediately downstream of the outlet apron, a starter channel would be excavated, and boulder-root wad combinations would be installed in the upstream area immediately adjacent to the opening of the arch culvert. The boulder-root wad combinations would be installed at an appropriate elevation so that some of the instream woody material would remain submerged below the water surface where it would provide instream cover for fish across a range of flow conditions. By constricting the channel slightly and adding roughness, the

boulder-root wad combinations would help to maintain pool water surface elevations and depth immediately downstream of the outlet apron (arch culvert), thereby creating more favorable conditions for adult and juvenile fish to access the fishway, thus improving fish passage.

- **AMM BIO-74:** If in-stream work is proposed to occur Aptos Creek, incidental take authorization from the Service through a Section 7 biological opinion and incidental take statement shall be acquired, if deemed necessary by the Service. Formal consultation with the Service may be necessary if a Section 404 permit is issued.
- **AMM BIO-75**: A component including a description of tidewater goby, its ecology, and the need for conservation of the species will be integrated into the worker environmental training program.
- **AMM BIO-76**: Prior to construction, if it is necessary to dewater/divert areas within Aptos Creek prior to project implementation, a Service-approved biologist shall conduct a preconstruction survey for tidewater goby and use seining, dip-nets, or other approved methods to capture and relocate tidewater goby from the areas to be dewatered to areas with suitable habitat outside of the area of proposed disturbance.
- **AMM BIO-77**: If dewatering/stream diversion is necessary, a diversion and dewatering plan shall be prepared and implemented to allow for passage of aquatic species through the site during construction. The form and function of all pumps used during the dewatering activities shall be checked twice daily, at a minimum, by the biological monitor(s) to ensure a dry work environment and minimize adverse effects on aquatic species and habitats.
- **AMM BIO-78**: During project activities, if pumps are incorporated to assist in temporarily dewatering the site, intakes shall be completely screened with no larger than 0.2-inch wire mesh to prevent tidewater goby and other sensitive aquatic species from entering the pump system. Pumps shall release the additional water to a settling basin allowing the suspended sediment to settle out prior to re-entering the stream(s) outside of the isolated area.
- **AMM BIO-79**: During dewatering/diversion activities, or if tidal fluctuations breach a formerly dewatered and isolated project site, the Service -approved biological monitor(s) or other Service -approved biologist(s) shall supervise site dewatering and relocate tidewater goby and other stranded aquatic species.
- **AMM BIO-80**: If it is determined by the biological monitor(s) or the Service-approved biologist(s) that impacts on tidewater goby have the potential to exceed the levels authorized by the Service, they will notify the resident engineer (the engineer that is directly overseeing and in command of construction activities) immediately. The resident engineer will either resolve the situation immediately by eliminating the cause of the identified effect on the species or require that all actions that are causing these effects be halted until coordination with the appropriate resource agency is completed. No work will resume until the issue is resolved.
- **AMM BIO-81**: Focused surveys following Service survey guidelines for least Bell's vireo and southwestern willow flycatcher will be completed to determine the presence/absence of least Bell's vireo and southwestern flycatcher wherever

suitable habitat is present within 500 feet of the limits of construction. Surveys will be conducted within 1 year prior to the onset of construction activities. If least Bell's vireo or southwestern willow flycatcher are detected during these surveys, formal Section 7 consultation will be reinitiated.

- **AMM BIO-82**: Caltrans will provide the Service with a report detailing least Bell's vireo and southwestern flycatcher survey efforts for the breeding season preceding construction.
- **AMM BIO-83**: Worker awareness trainings and educational materials will include information about least Bell's vireo and southwestern willow flycatcher and their habitat.
- **AMM BIO-84**: If feasible, removal of trees shall be scheduled to occur in the fall and winter (between September 15 and February 15), outside of the typical nesting season.
- **AMM BIO-85**: If any construction activities are proposed to occur during the typical nesting season (February 15 to September 15), a nesting bird survey of the area of disturbance shall be conducted by qualified biologists no more than 2 weeks prior to construction to determine presence/absence of nesting birds within the project area.
- **AMM BIO-86**: If evidence of migratory bird nesting that may be affected by construction activities is discovered, or when birds are injured or killed as a result of construction activities, the contractor shall immediately notify the engineer or biological monitor. At a minimum, a 500-foot radius of the nest shall be designated an environmentally sensitive area for nesting raptors, and a 250-foot radius shall be designated an environmentally sensitive area for other nesting avian species, unless otherwise directed by the Service or California Department of fish and Wildlife. Nests, eggs, or young of birds covered by the Migratory Bird Treaty Act and California Fish and Game Code would not be moved or disturbed until the end of the nesting season or until young fledge, whichever is later, nor would adult birds be killed, injured, or harassed at any time. The environmentally sensitive area shall remain in place until such time that the nest is no longer considered active by the qualified biologist. Written notification shall be provided to Caltrans, the Santa Cruz Regional Transportation Commission, and the resource agencies by the qualified biologist.
- **AMM BIO-87**: If least Bell's vireo and/or southwestern willow flycatcher are identified within the biological study area at any time during the proposed project, the biological monitor shall thoroughly document the species activity and ensure that immediate project activities avoid any impacts on the species. If there is a potential for take, the Service shall be contacted immediately to ensure that avoidance of take is maintained throughout the duration of project activities.
- **AMM BIO-88**: Vegetation removal in potential nesting habitats shall be monitored and documented by the biological monitor(s) regardless of time of year.
- **AMM BIO-89:** To avoid the spread of invasive species, the contractor will stockpile topsoil and redeposit the stockpiled soil on slopes after construction is complete or transport all topsoil to a certified landfill for disposal.

- **AMM BIO-90:** During construction, the project will make all reasonable efforts to limit the use of imported soils for fill. Soils currently existing on-site should be used for fill material. If the use of imported fill material is necessary, the imported material must be obtained from a source that is known to be free of invasive plant species, or the material must consist of purchased clean material such as crushed aggregate, sorted rock, or similar.
- **AMM BIO-91:** The landscape and restoration planting plans will emphasize the use of native species expected to occur in the area. Project plans will avoid the use of plant species that the California Invasive Plan Council, California Department of Fish and Wildlife, or other resource organizations considers to be invasive or potentially invasive. Prior to issuance of grading permits, all project landscape and restoration plans will be verified to ensure that the plans do not include the use of any species considered invasive by the California Invasive Plan Council or the California Department of Fish and Wildlife.

# Appendix D Notice of Preparation

## Notice of Preparation of a Draft Environmental Impact Report/Environmental Assessment and Notice of Scoping Online Open House

### Highway 1 Auxiliary Lanes and Bus-on-Shoulder Improvements —Freedom Boulevard to State Park Drive— and Coastal Rail Trail Segment 12 Project

Santa Cruz County, CA

**Introduction**

The California Department of Transportation (Caltrans), in association with the Santa Cruz County Regional Transportation Commission (SCCRTC) and the County of Santa Cruz (County), proposes improvements along State Highway Route 1 (SR 1) and the Santa Cruz Branch Line railroad right of way, within an unincorporated area of the County. Improvements under consideration include the construction of auxiliary lanes, implementation of bus-on-shoulder (BOS) operations, widening and replacement of bridges, construction of Segment 12 of the Coastal Rail Trail, and the installation of sound walls and retaining walls.

Caltrans plans to prepare a joint Environmental Impact Report/Environmental Assessment (EIR/EA) pursuant to the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA). Caltrans is the lead agency under CEQA and will also serve as the lead agency for the Federal Highway Administration (FHWA) under its NEPA assignment memorandum of understanding with FHWA.

Caltrans is distributing this Notice of Preparation to request comments from responsible and trustee agencies and interested members of the public regarding the significant environmental issues, reasonable project alternatives, and reasonable mitigation measures to be explored in the draft EIR/EA.

**Project Location**

The proposed auxiliary lanes and bus-on-shoulder improvements would extend approximately 2.7 miles along SR 1 in unincorporated Santa Cruz County between the Freedom Boulevard interchange and the State Park Drive interchange, from post mile (PM) 10.7 to PM 8.1. The proposed Coastal Rail Trail Segment 12 would extend approximately 1.25 miles along the Santa Cruz Branch Line railroad, between Rio Del Mar Boulevard and State Park Drive. The project location is shown in Figure 1.

**Project Purpose and Need**

The purpose of the project is to:

- Reduce congestion along SR 1 through the project limits
- Enhance bicycle and pedestrian connectivity by providing a segment of the Coastal Rail Trail
- Promote the use of alternative transportation modes to increase transportation system capacity and reliability
- Reconstruct railroad bridges over SR 1 to accommodate the widened highway and Coastal Rail Trail crossings of SR 1

This project is needed because:

- Several bottlenecks along SR 1 in the southbound and northbound directions cause congestion during peak hours, significantly delaying drivers.
- "Cut-through" traffic, or traffic on local streets, is increasing because drivers are seeking to avoid congestion on the highway.
- There are limited opportunities for pedestrians and bicyclists to safely get across SR 1 and navigate the project corridor, even though portions of the project area are designated as regional bicycle routes.
- There are insufficient incentives to increase transit service in the SR 1 corridor because congestion threatens reliability and cost-effective transit service delivery.

**Project Background**

Auxiliary lane improvements on SR 1 in the project area were addressed previously in a combined Tier I/Tier II EIR with a Finding of No Significant Impact (FONSI), which was adopted in December 2018. The Tier I component, referred to as the corridor improvement project, proposed approximately 8.9 miles of new high-occupancy vehicle (HOV) lanes, HOV on-ramp bypass lanes, auxiliary lanes, pedestrian and bicycle overcrossings, and reconstructed interchanges. It was recognized that the Tier I project would likely be implemented in phases. The first phase of the corridor improvements was analyzed in the Tier II component of the Tier I/Tier II EIR/FONSI, which included auxiliary lanes between 41st Avenue and Soquel Avenue/Drive and other improvements within the Tier II project limits. The second phase of the improvements is currently under environmental review and is identified as the Highway 1 State Park Drive to Bay/Porter Auxiliary Lanes Project.

The proposed project includes the third phase of the improvements described in the Tier I and Tier II EIR/FONSI. The SCCRTC developed an implementation plan for building out the Tier I corridor improvement project based on traffic operation criteria to ensure that each phase identified as a future construction-level project would have independent utility because it would individually provide a benefit to traffic operations on SR 1.

Bus-on-shoulder improvements on SR 1 within the project area are included in the proposed project based on recommendations of previous studies, described as follows. The Monterey Bay Area Feasibility Study of Bus-on-Shoulder Operations on State Route 1 and the Monterey Branch Line concluded that a hybrid auxiliary lane/bus-on-shoulder project on SR 1 between the Morrissey and Freedom Boulevard interchanges could cost effectively provide transit benefits in the corridor. The subsequent Bus-on-Shoulder Concept of Operations set forth a framework for the design, implementation and operation of a bus-on-shoulder facility on SR 1.

The proposed Coastal Rail Trail Segment 12 was addressed previously in the EIR on the Master Plan for the Monterey Bay Sanctuary Scenic Trail Network project, which evaluated environmental impacts of the Trail Network Master Plan at a programmatic level of analysis. The Final EIR was certified in November 2013. The Master Plan for the Monterey Bay Sanctuary Scenic Trail (Coastal Rail Trail) was developed to establish a continuous alignment, connecting spurs, and set of design standards for a multi-use trail for the length of Santa Cruz County. Various segments of the Coastal Rail Trail are proceeding separately through the CEQA environmental review, design, permitting, and construction phases of project development.

The proposed project has independent utility and logical termini. The auxiliary lanes and bus-on-shoulder improvements would specifically improve congested conditions on the SR 1 corridor between the Freedom Boulevard interchange and the State Park Drive interchange. The proposed auxiliary lanes and bus-on-shoulder improvements between these two interchanges would function without requiring additional improvements outside the project area. Additionally, the proposed Coastal Rail Trail Segment 12 would provide improved safety for pedestrian and bicycle travel along the SR 1 corridor between Rio Del Mar Boulevard and State Park Drive, addressing the need to safely cross SR 1 and safely navigate the corridor independent of other safety and alternative transportation improvements outside the proposed project area. Development of the proposed project would not restrict consideration of alternatives for other reasonably foreseeable transportation improvements.

### Project Description

The Project proposes to widen SR 1 to accommodate auxiliary lanes and bus-on-shoulder features in the northbound and southbound directions between the Freedom Boulevard interchange and the State Park Drive interchange, from PM 10.7 to PM 8.1. The major improvements include widening of the two bridges over Aptos Creek and Spreckels Drive, replacing the two railroad bridges over SR 1, and construction of a bicycle and pedestrian trail along an approximately 1.25-mile segment of the Santa Cruz Branch Line railroad right of way, from Rio Del Mar Boulevard State Park Drive. The Santa Cruz Branch Line railroad corridor is an active freight line and is owned by the SCCRTC.

The auxiliary lanes would connect the interchange entrance and exit ramps, thereby extending the weaving and merging distance between the ramps and improving traffic flow by allowing greater separation between vehicles entering and exiting the freeway from mainline traffic. The proposed bus-on-shoulder improvements would support future bus operations on the shoulders of SR 1 during peak congestion periods to achieve transit travel time and reliability improvements.

The proposed trail segment, Coastal Rail Trail Segment 12, is part of the proposed Monterey Bay Sanctuary Scenic Trail within the 32-mile coastal rail corridor from Watsonville to Davenport. The proposed Coastal Rail Trail improvements include the construction of a paved bicycle and pedestrian shared use trail on the inland side of the tracks, a fence separating the new trail from the rail line, and the modification or replacement of two existing railroad bridges that cross Aptos Creek and Valencia Creek, respectively, to accommodate the new trail.

The Project is anticipated to require right of way acquisitions and utility relocations to accommodate the pavement widening and bridge work. Temporary construction easements are anticipated to be needed to construct retaining walls, soundwalls, and the bridges. The Project area is shown in Figure 1, Project Area.

**Potential Environmental Effects**

The project is expected to result in temporary and permanent environmental effects. The draft EIR/EA will determine what resources would be affected, the level of significance of these impacts, and feasible avoidance, minimization and mitigation measures to lessen the impacts. Based on preliminary information, potential environmental effects of the proposed project are outlined below.

*Air Quality and Greenhouse Gas Emissions*

Construction activities may result in temporary increases in fugitive dust and emissions from construction equipment and vehicles. An air quality study will be prepared and will quantify construction emissions and assess the potential for exposure to asbestos, lead, mobile source air toxic emissions, and cumulative impacts. The air quality study will also evaluate project-related regional changes in long-term mobile source emissions.

*Biological Resources*

Preliminary studies indicate that the project may result in potential impacts to federally listed animal species (steelhead belonging to the Central California Coast Distinct Population Segment (DPS), tidewater goby, California red-legged frog, least Bell's vireo, southwestern willow flycatcher, as well as Santa Cruz long-toed salamander, which is also listed under the California Endangered Species Act and is a State Fully Protected species) or their habitat, the State Fully Protected species white-tailed kite, California Rare Plant Rank species, California Species of Special Concern, and nesting birds. Impacts to wetlands and waters of the United States may also occur. A fish passage

assessment will be completed to identify potential barriers to upstream and downstream migration of anadromous fish that may be present in the biological study area. Any project-related impacts to fish passage will be studied. A Natural Environment Study will be prepared (including an Aquatic Resources Delineation), and a Biological Assessment will be prepared as part of the Section 7 Endangered Species Act consultation process with the U.S. Fish and Wildlife Service and National Marine Fisheries Service. Coordination with Santa Cruz County, California Department of Fish and Wildlife, U.S. Army Corps of Engineers, and the Regional Water Quality Control Board is also anticipated.

*Cultural Resources*

Previous technical studies have indicated elevated sensitivity for prehistoric archaeological resources within the project area. Additionally, portions of a known multi-component archaeological resource site are unevaluated and require subsurface investigation to make an eligibility determination for listing in the National Register of Historic Places. There is also potential for historic architectural resources to occur within the project area. Research, fieldwork, and technical reporting will be undertaken to identify cultural resources in the project's Area of Potential Effects, in accordance with Caltrans guidelines and Programmatic Agreement pursuant to Section 106 of the National Historic Preservation Act. The draft EIR/EA will provide information on the potential to affect cultural resources and identify appropriate avoidance, minimization, and mitigation measures.

*Geology and Soils*

A preliminary geotechnical design report will be prepared and will consider potential geotechnical, geologic and seismic impacts. Appropriate avoidance, minimization, and mitigation measures will be identified. The project will be designed in accordance with the Caltrans Highway Manual. Sound walls, retaining walls, and bridges will be designed in accordance with the applicable Caltrans Seismic Design criteria.

*Hazardous Waste and Materials*

An Initial Site Assessment (ISA) prepared for the Tier I Project found that potentially hazardous materials may be present along SR 1 within the limits of the currently proposed project. This may include aerially deposited lead, asbestos-containing materials, lead-containing paint, treated wood waste, and yellow thermoplastic traffic stripe. The potential presence of these and other potentially hazardous materials will be evaluated in an ISA for the proposed project, which will identify appropriate avoidance, minimization, and mitigation measures to provide for proper handling, reuse, disposal, and treatment of hazardous materials.

*Hydrology, Floodplain, and Sea Level Rise*

The proposed project has the potential to result in floodplain encroachment by increasing base flood water surface elevations of Aptos Creek due to bridge improvements. A Floodplain Evaluation Report will be prepared that will identify feasible measures to avoid, minimize, and mitigate adverse impacts related to flooding. Additionally, the project site is located within an area that is susceptible to sea level rise (SLR). The project will take into account State and federal guidance for incorporating SLR projections into planning and decision-making.

*Hydromodification, Water Quality, and Stormwater Runoff*

Construction activities and operations of the proposed project could result in short-term and long-term impacts to Aptos and Valencia Creeks, portions of which are within the project limits, and Valencia Lagoon, which is located near the proposed project. Impacts during construction may include erosion and sedimentation associated with the disturbance of soil, and discharge of pollutants associated with construction activities. A stormwater pollution prevention plan will be prepared and implemented to provide appropriate construction best management practices and other measures to address the potential for adverse impacts during construction. The project is anticipated to result in an increase of impervious surfaces, which has the potential for long-term water quality impacts during project operations. Permanent stormwater treatment facilities are anticipated to be included in the project in accordance with National Pollutant Discharge Elimination System permit requirements. The potential need for hydromodification management control measures will be evaluated and, if necessary, appropriate control measures will be incorporated in the project.

*Land Use and Coastal Zone*

Portions of the project area are located in the Coastal Zone, and the project may potentially affect resources protected by the federal Coastal Zone Management Act (CZMA), California Coastal Act, and the Santa Cruz County Local Coastal Plan. A Coastal Development Permit pursuant to the California Coastal Act is anticipated to be required. The draft EIR/EA will provide information on potential impacts and identify appropriate avoidance, minimization, and mitigation measures to reduce impacts on sensitive resources in the Coastal Zone, such as biological resources, water quality, parks and recreational resources.

*Noise*

Construction activities may result in short-term noise impacts during construction of the proposed project. Additionally, traffic on auxiliary lanes and bus-on-shoulder operations may potentially result in long-term noise impacts. The proposed Coastal Rail Trail has the potential to result in long-term noise impacts for nearby residences, such as sound generated by trail users, maintenance workers and dogs. A noise study will be

conducted and will identify appropriate measures to minimize and mitigate noise impacts.

*Paleontological Resources*

The Paleontological Evaluation Report (PER) and Addendum to the PER prepared for the Tier I and Tier II Project identified the potential for paleontological resources to occur in within the limits of the currently proposed project. A paleontological study will be prepared for the proposed project and will provide information on the potential to affect paleontological resources and identify appropriate avoidance, minimization, and mitigation measures.

*Parks and Recreational Facilities*

Construction activities for the proposed project has the potential for temporary traffic impacts such as lane closures along SR 1 (described below), which may adversely affect access to nearby public parks and recreational facilities such as the Forest of Nisene Monks State Park, Seacliff State Beach, Aptos Village County Park, Polo Grounds Park, Aptos Seascape Golf Course, Rio del Mar Park, and Rio del Mar Beach. No parkland is located within the project limits, and construction activities would not occur on park property.

*Transportation and Traffic*

Impacts during construction of the proposed project my include temporary lane and/or partial roadway closures along SR 1. Work associated with bridge modification or replacement has potential to result in temporary lane or partial roadway closures of Spreckels Drive and Seacliff Drive. A construction period traffic management plan will be developed and implemented to identify traffic handling practices and public awareness activities that will inform the public regarding closures and provide detours with consistent access for vehicles and bicycles. Operations of the proposed Coastal Rail Trail improvements could result in potential conflicts between trail users and automobile traffic at the trail crossings of roadways. Overall, it is anticipated that auxiliary lanes and bus-on-shoulder improvements would improve traffic congestion and enhance safety, and that the proposed Coastal Rail Trail improvements would enhance transportation safety for bicycle and pedestrian modes of travel.

*Utilities and Emergency Services*

The temporary relocation of utilities may be required during construction due to project activities such as pavement widening and the proposed replacement or modification of the two vehicle bridges over Aptos Creek and Spreckels Drive, the two railroad bridges over Highway 1, the railroad bridge over Aptos Creek, and the railroad bridge over Valencia Creek. Additionally, any lane closures could affect emergency providers. The draft EIR/EA will identify feasible measures to avoid and minimize impacts on service providers and users.

*Visual and Aesthetic Resources*

The proposed project may result in short-term temporary impacts to visual and aesthetic resources during construction. Long-term impacts may include the degrading of visual quality due to removal of trees, addition of new retaining walls and sound walls, widening or replacement of bridges, and the introduction of Coastal Rail Trail facilities, including the proposed safety fence between the trail and the railroad tracks. Depending on further studies, lighting fixtures may be recommended in some locations along the proposed Coastal Rail Trail segment and could introduce new sources of lighting. A Visual Impact Assessment will be prepared that will identify feasible measures to avoid, minimize, and mitigate adverse impacts.

**Scoping Meeting**

An online scoping open house is being provided at the following link, https://www.hwy1-freedom-statepark.com/. Caltrans is accepting comments until October 18, 2020, at the online open house and via mail and email at the address below.

Lara Bertaina, Senior Environmental Planner
California Department of Transportation, District 5
50 Higuera Street
San Luis Obispo, CA 93401
Lara.Bertaina@dot.ca.gov

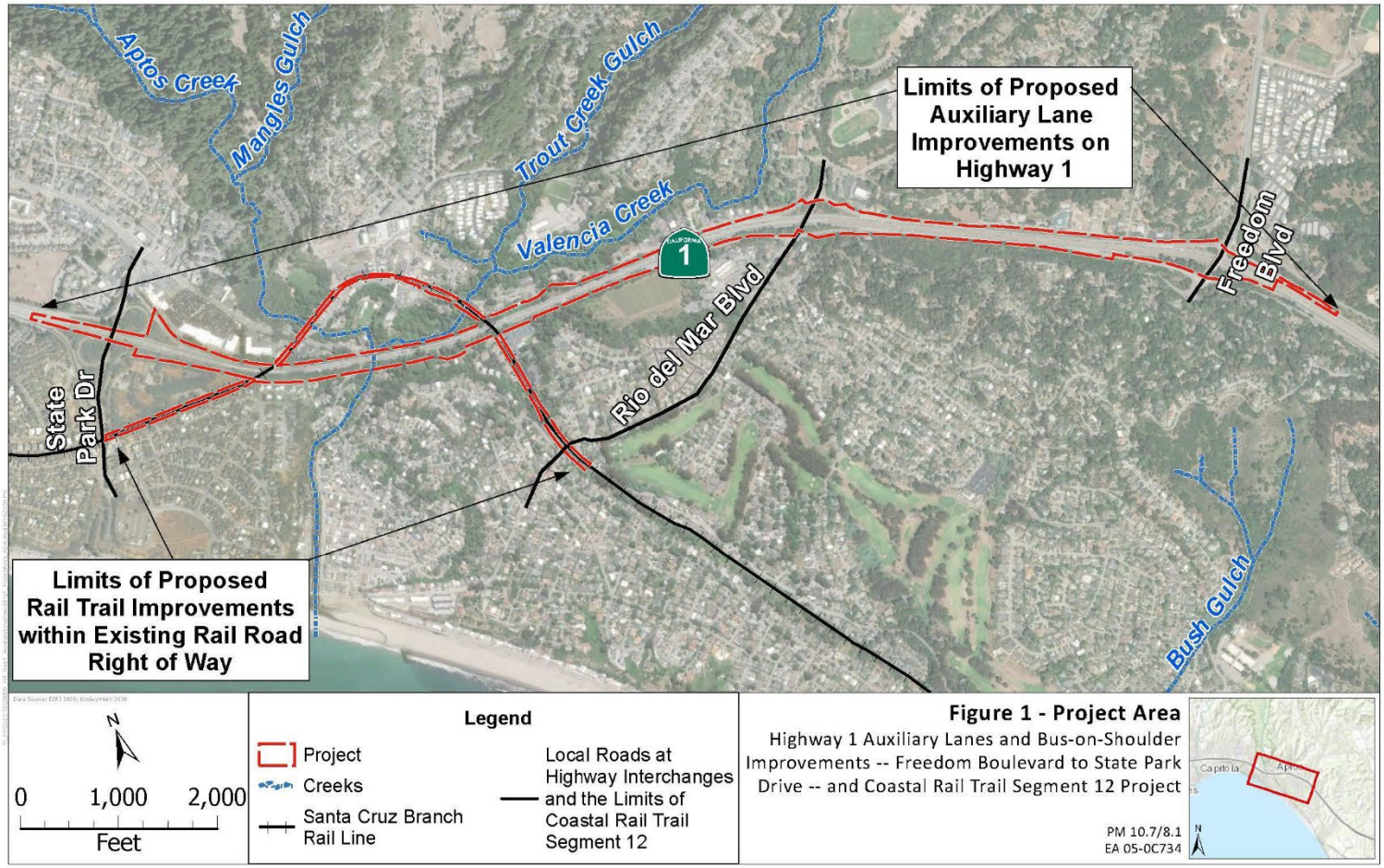



**Figure 1 - Project Area**

Highway 1 Auxiliary Lanes and Bus-on-Shoulder Improvements -- Freedom Boulevard to State Park Drive -- and Coastal Rail Trail Segment 12 Project

PM 10.7/8.1
EA 05-0C734

# **Appendix E** Section 4(f) Concurrence Letter

SANTA CRUZ COUNTY REGIONAL TRANSPORTATION COMMISSION
1101 Pacific Avenue, Suite 250, Santa Cruz, CA 95060-4418 • (831)460-3200 • info@sccrtc.org

January 10, 2023
Santa Cruz County Parks
ATTN: Jeff Gaffney, Parks Director
979 17th Avenue, Santa Cruz, CA 95062

**SUBJECT: SCCRTC Highway 1 Auxiliary Lanes Freedom Boulevard to State Park Drive to and Coastal Rail Trail Segment 12, Section 4(f) Concurrence Request**

Dear Mr. Gaffney:

As you know, the California Department of Transportation (Caltrans), in cooperation with the Santa Cruz County Regional Transportation Commission (SCCRTC) and the County of Santa Cruz is proposing to widen auxiliary lanes along State Route 1 (SR 1), accommodate bus-on-shoulder (BOS) operations between the Freedom Boulevard and State Park Drive Interchanges and construct Coastal Rail Trail Segment 12 (Project). The Project is subject to federal environmental review requirements because Caltrans and SCCRTC are using federal funds from the Federal Highway Administration (FHWA). Accordingly, Project documentation is being prepared in compliance with the National Environmental Policy Act (NEPA). Caltrans (on behalf of FHWA) is the lead agency under NEPA.

As part of the federal environmental compliance process under NEPA, Caltrans is required to prepare documentation required by Section 4(f) of the U.S. Department of Transportation Act. Caltrans has determined that the project would not trigger the provisions of Section 4(f) because the project meets the exception contained in 23 CFR 74.13 (g). As specified in 23 CFR 774.13 (g), transportation enhancement projects and mitigation activities qualify for an exception where:

1) The use of the Section 4(f) property is solely for the purpose of preserving or enhancing an activity, feature, or attribute that qualifies the property for Section 4(f) protection; and

2) The official(s) with jurisdiction over the Section 4(f) resource agrees in writing to paragraph (g)(1) of this section.

The Project meets the above exception for the following reasons:

- The proposed trail connection to Aptos Village Park Road at Aptos Village County Park would allow for an integrated trail network and allow park users to access the coastal rail trail.

- The provisions of Section 4(f) would not apply because the proposed connection to County Park would not result in parkland being converted to a transportation use.

As discussed in the virtual meeting on August 8, 2022; SCCRTC and the Santa Cruz County Parks staff agreed to enter into an operation, use and maintenance agreement at a later date. There will be no transfer of property/ownership between the two entities. SCCRTC is committed to collaborating with the Santa Cruz County Parks on design and enhancements at this location. Please see Exhibit 1 for conceptual plans for trail connection with Aptos Village County Park.

As indicated above, your agreement with paragraph (g)(1) is necessary as part of the Project documentation. Please indicate your concurrence that the Project meets the exception contained in 23 CFR 774.13 (g) for the reasons stated above by signing below.

Jeff Gaffney
Jeff Gaffney (Jan 16, 2023 10:47 PST)

Jeff Gaffney, Director of Parks

01/16/2023
Date

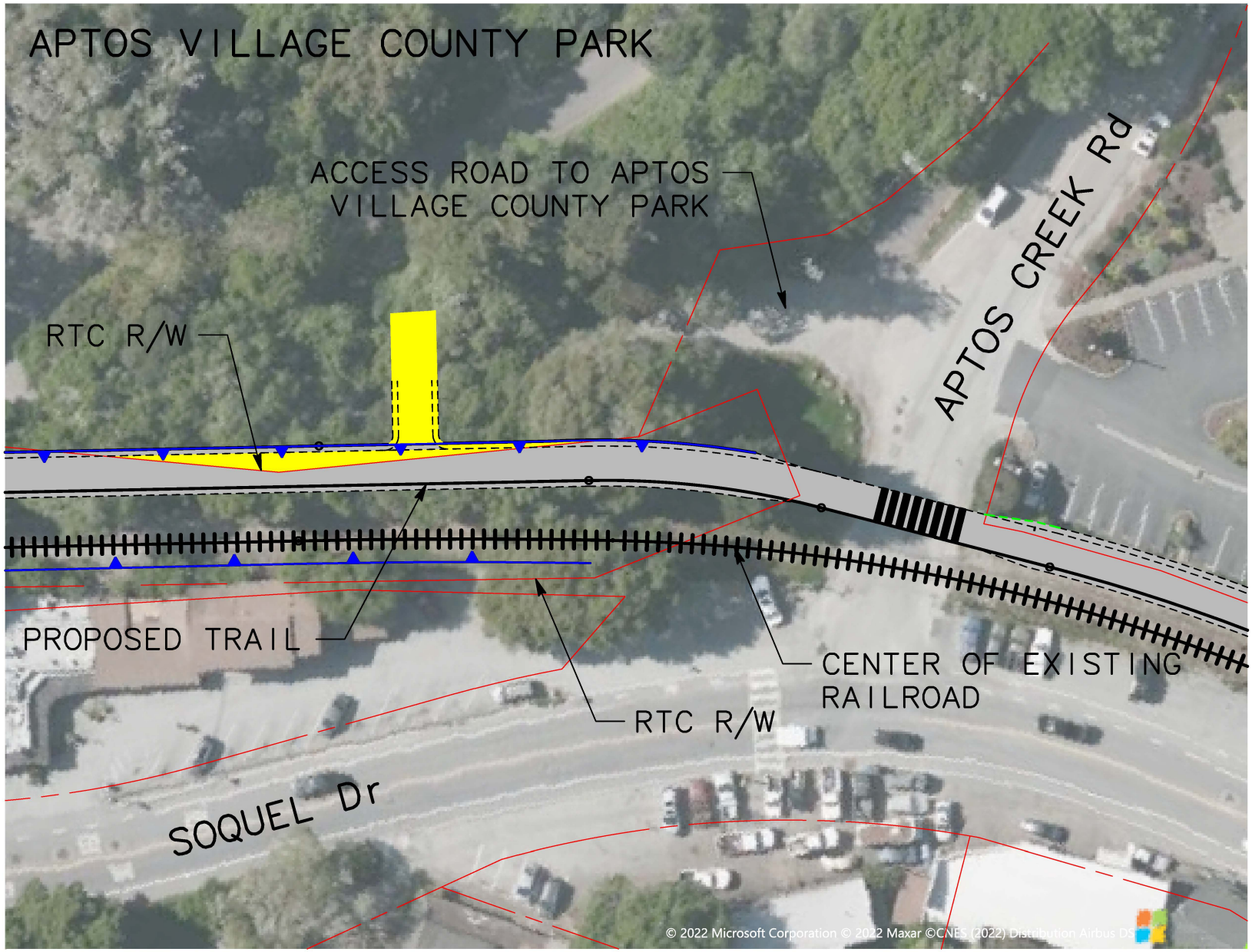
The signed copy will automatically be provided to both parties. If you have any questions or would like to discuss this further, please contact me at (831) 247-4887 or schristensen@sccrtc.org.

Sincerely,

Sarah E. Christensen. P.E.
Project Manager
Santa Cruz County Regional Transportation Commission

Cc: Matt Machado, Director, County of Santa Cruz Public Works

Exhibit 1: Proposed connection to Aptos Village County Park




NO SCALE

PROPOSED TRAIL WITHIN RTC R/W

PROPOSED TRAIL WITHIN COUNTY PARK R/W

JULY 2022

**SCCRTC COASTAL RAIL TRAIL - TRAIL SEGMENT 12**

**AT-GRADE TRAIL CONNECTION TO APTOS VILLAGE COUNTY PARK**

SCCRTC | MARK THOMAS

# SCCRTC 4(f) letter_0112023

Final Audit Report 2023-01-16

| | |
|---|---|
| Created: | 2023-01-10 (Pacific Standard Time) |
| By: | Sarah Christensen (schristensen@sccrtc.org) |
| Status: | Signed |
| Transaction ID: | CBJCHBCAABAAr7x7IBG4SnDkN6uKr1aLYEDAnYrqy-rm |

## "SCCRTC 4(f) letter_0112023" History

Document created by Sarah Christensen (schristensen@sccrtc.org)
2023-01-10 - 10:37:14 AM PST

Document emailed to Jeff Gaffney (jeff.gaffney@santacruzcounty.us) for signature
2023-01-10 - 10:37:44 AM PST

Email viewed by Jeff Gaffney (jeff.gaffney@santacruzcounty.us)
2023-01-16 - 10:46:22 AM PST

Document e-signed by Jeff Gaffney (jeff.gaffney@santacruzcounty.us)
Signature Date: 2023-01-16 - 10:47:51 AM PST - Time Source: server

Agreement completed.
2023-01-16 - 10:47:51 AM PST

SCCRTC | Powered by Adobe Acrobat Sign

# **Appendix F** Right of Way Exhibits

**Revised in the final environmental document to remove two parcels owned in fee by Santa Cruz Regional Transportation Commission.**

NOTE:

FOR ACCURATE RIGHT OF WAY DATA, CONTACT
RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

**LEGEND**

- NEW R/W TAKE
- TEMPORARY CONSTRUCTION EASEMENTS
- AERIAL EASEMENT
- UNDERGROUND PERMANENT EASEMENT FOR WALLS
- BUILDING REMOVAL

# DRAFT

| Dist | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 05 | SCR | 1 | 8.1/10.7 | | XX |

REGISTERED CIVIL ENGINEER DATE

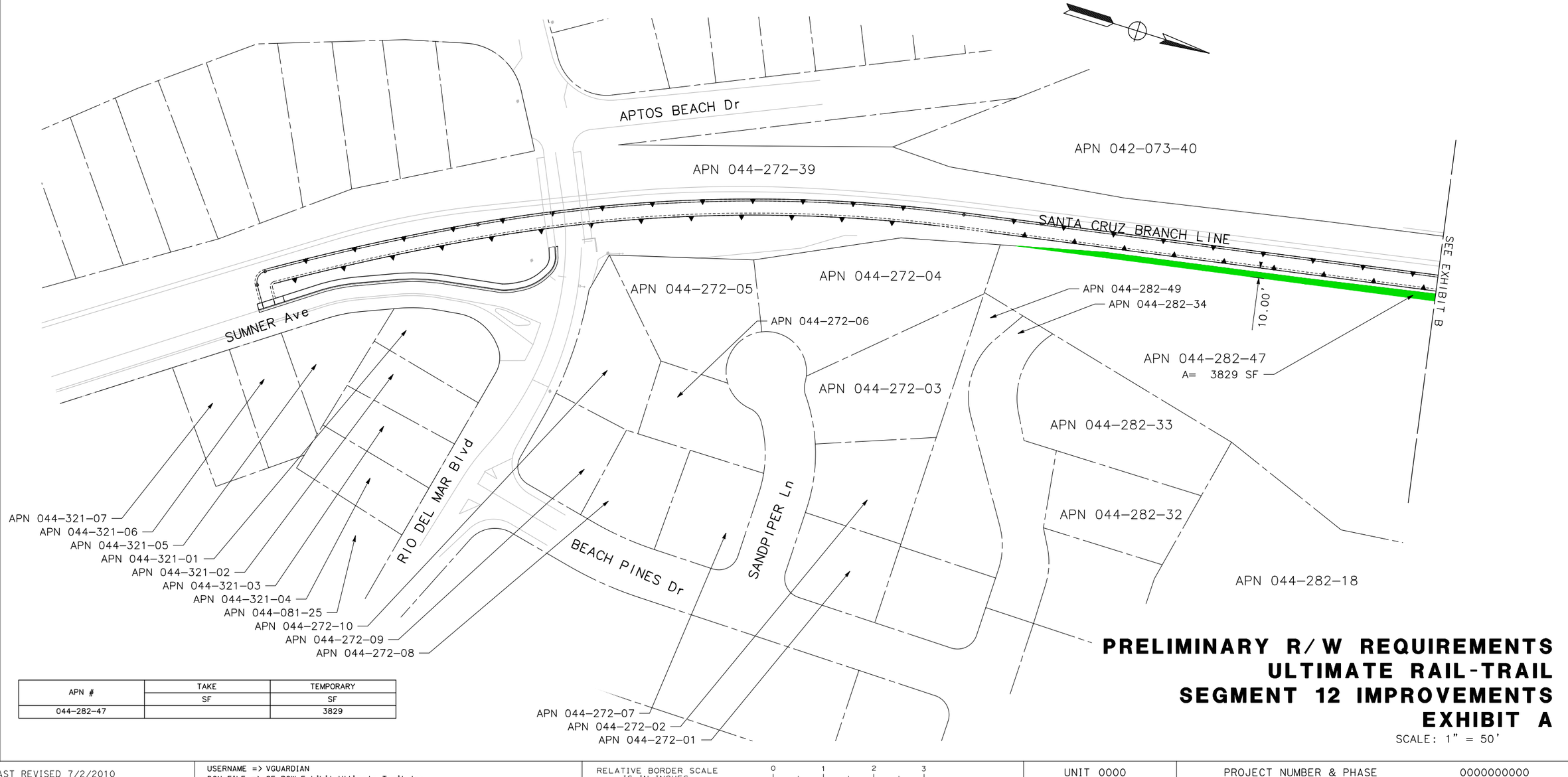
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — No. Exp. CIVIL — STATE OF CALIFORNIA

*THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.*


MARK THOMAS
701 UNIVERSITY Ave
SUITE 200
SACRAMENTO, CA 95825

SANTA CRUZ COUNTY
REGIONAL TRANSPORTATION
COMMISSION
1523 PACIFIC AVENUE
SANTA CRUZ, CA 95060


| APN # | TAKE | TEMPORARY |
|---|---|---|
| | SF | SF |
| 044-282-47 | | 3829 |

# PRELIMINARY R/W REQUIREMENTS
# ULTIMATE RAIL-TRAIL
# SEGMENT 12 IMPROVEMENTS
# EXHIBIT A

SCALE: 1" = 50'

| REVISED BY | DATE REVISED |
|---|---|
| | |
| | |
| | |
| | |

CALCULATED-DESIGNED BY: R. YAZAWA
CHECKED BY: V. GUARDIAN

CONSULTANT FUNCTIONAL SUPERVISOR: ZACHARY SIVIGLIA

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

LAST REVISION 00-00-00
DATE PLOTTED =>7/26/2022
TIME PLOTTED =>11:36 AM

BORDER LAST REVISED 7/2/2010

USERNAME => VGUARDIAN
DGN FILE => SF-ROW Exhibit-Ultimate Trail.dwg

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 0000

PROJECT NUMBER & PHASE 0000000000

NOTE:

FOR ACCURATE RIGHT OF WAY DATA, CONTACT
RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

**LEGEND**

- NEW R/W TAKE
- TEMPORARY CONSTRUCTION EASEMENTS
- AERIAL EASEMENT
- UNDERGROUND PERMANENT EASEMENT FOR WALLS
- BUILDING REMOVAL

# DRAFT

| Dist | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 05 | SCR | 1 | 8.1/10.7 | | XX |

REGISTERED CIVIL ENGINEER DATE

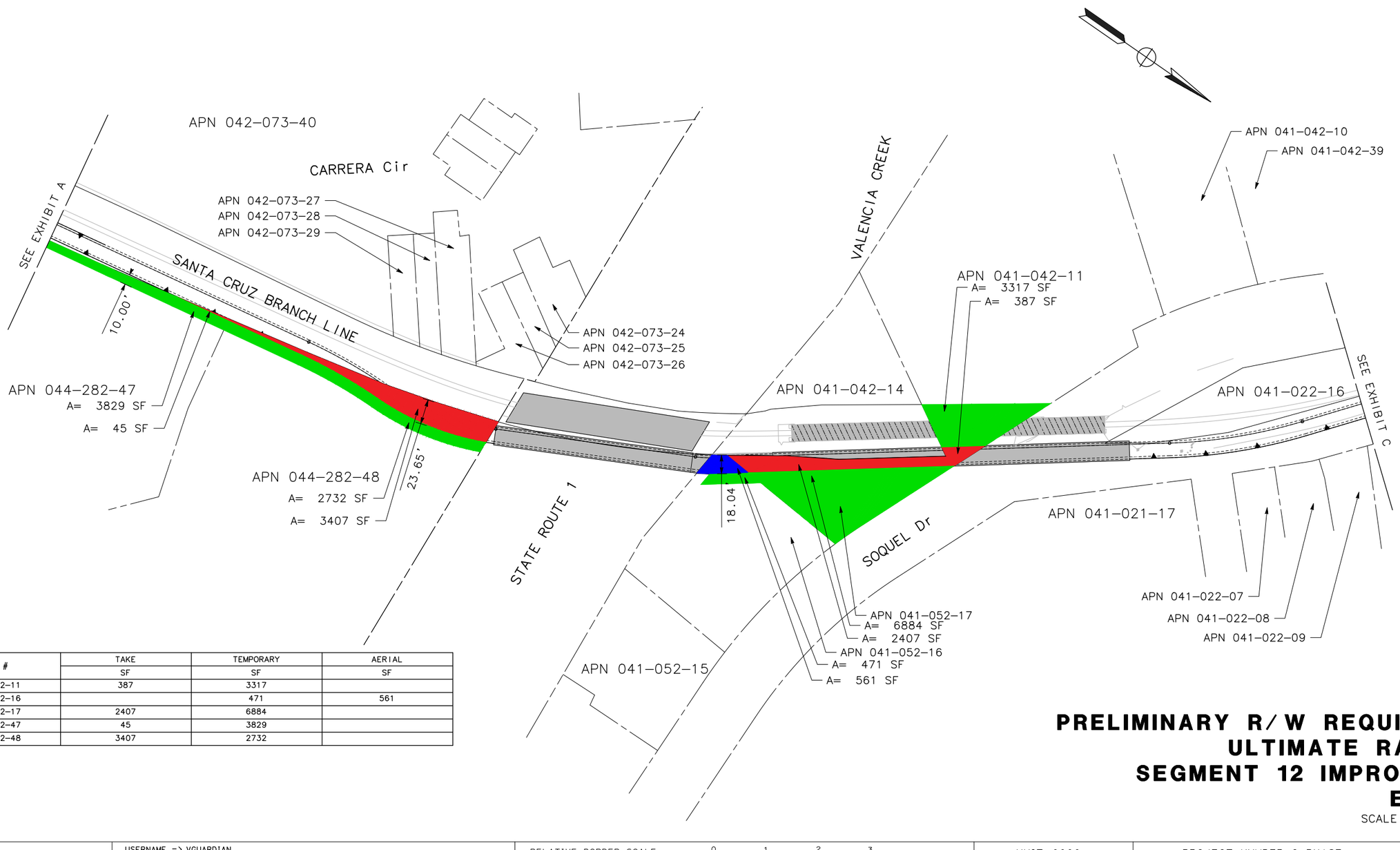
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — No. Exp. CIVIL — STATE OF CALIFORNIA

*THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.*


MARK THOMAS
701 UNIVERSITY Ave
SUITE 200
SACRAMENTO, CA 95825

SANTA CRUZ COUNTY
REGIONAL TRANSPORTATION
COMMISSION
1523 PACIFIC AVENUE
SANTA CRUZ, CA 95060


| APN # | TAKE | TEMPORARY | AERIAL |
|---|---|---|---|
| | SF | SF | SF |
| 041-042-11 | 387 | 3317 | |
| 041-052-16 | | 471 | 561 |
| 041-052-17 | 2407 | 6884 | |
| 044-282-47 | 45 | 3829 | |
| 044-282-48 | 3407 | 2732 | |

# PRELIMINARY R/W REQUIREMENTS
# ULTIMATE RAIL-TRAIL
# SEGMENT 12 IMPROVEMENTS
# EXHIBIT B

SCALE: 1" = 50'

REVISED BY | DATE REVISED
R. YAZAWA | V. GUARDIAN
CALCULATED-DESIGNED BY | CHECKED BY
CONSULTANT FUNCTIONAL SUPERVISOR: ZACHARY SIVIGLIA
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION — Caltrans

LAST REVISION 00-00-00 | DATE PLOTTED =>7/26/2022 | TIME PLOTTED =>1:29 PM

BORDER LAST REVISED 7/2/2010 | USERNAME => VGUARDIAN | DGN FILE => SF-ROW Exhibit-Ultimate Trail.dwg | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0000 | PROJECT NUMBER & PHASE 0000000000

| Dist | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 05 | SCR | 1 | 8.1/10.7 | | XX |

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

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MARK THOMAS
701 UNIVERSITY Ave
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SACRAMENTO, CA 95825

SANTA CRUZ COUNTY
REGIONAL TRANSPORTATION COMMISSION
1523 PACIFIC AVENUE
SANTA CRUZ, CA 95060

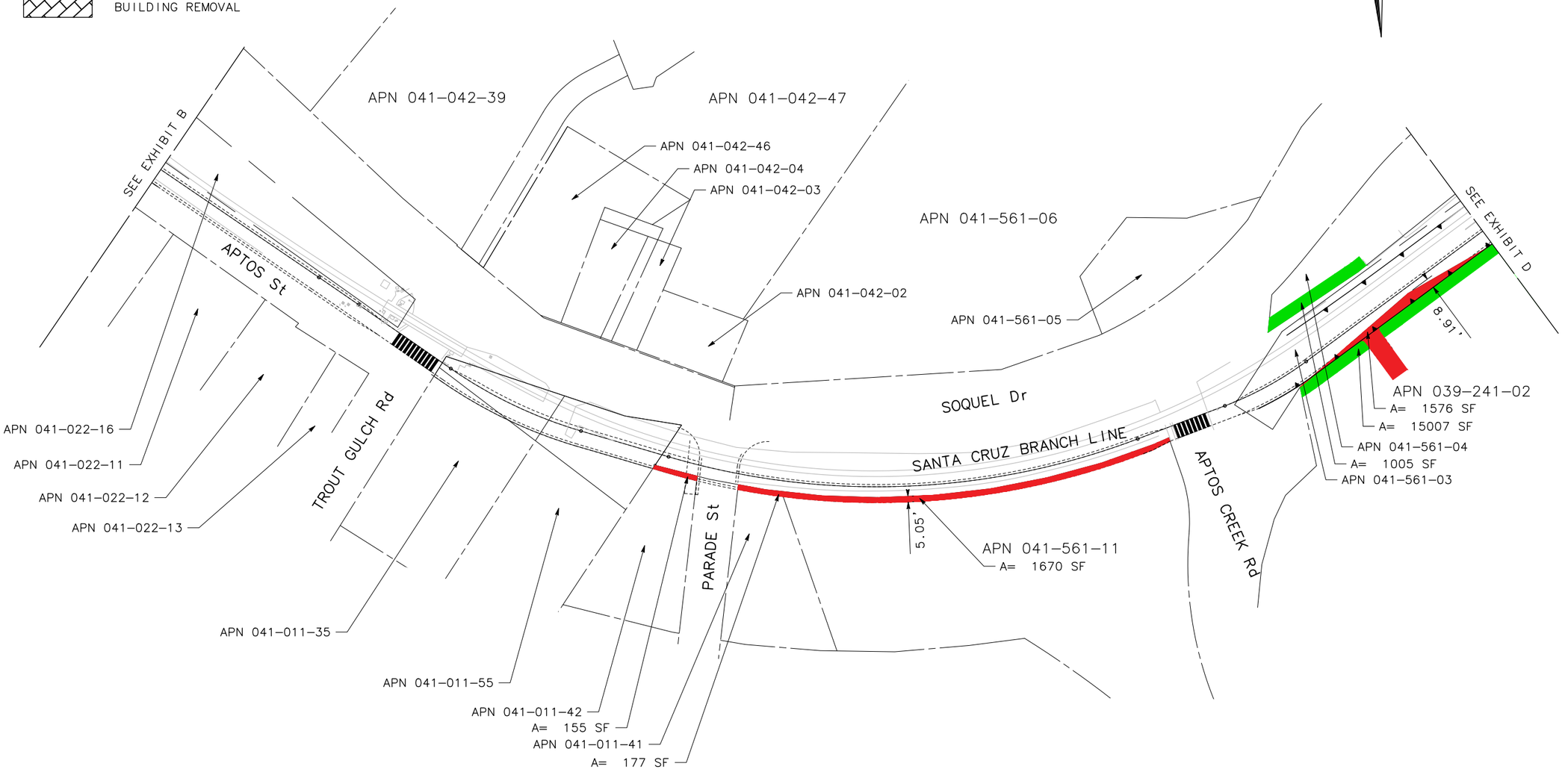
# DRAFT

NOTE:

FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

## LEGEND

- NEW R/W TAKE
- TEMPORARY CONSTRUCTION EASEMENTS
- AERIAL EASEMENT
- UNDERGROUND PERMANENT EASEMENT FOR WALLS
- BUILDING REMOVAL




| APN # | TAKE | TEMPORARY | AERIAL |
|---|---|---|---|
| | SF | SF | SF |
| 039-241-02 | 1576 | 15007 | 1221 |
| 041-011-41 | 177 | | |
| 041-011-42 | 155 | | |
| 041-561-04 | | 1005 | |
| 041-561-11 | 1670 | | |

# PRELIMINARY R/W REQUIREMENTS
# ULTIMATE RAIL-TRAIL
# SEGMENT 12 IMPROVEMENTS
# EXHIBIT C

SCALE: 1" = 50'

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Caltrans

CONSULTANT FUNCTIONAL SUPERVISOR: ZACHARY SIVIGLIA

CALCULATED-DESIGNED BY: R. YAZAWA

CHECKED BY: V. GUARDIAN

REVISED BY

DATE REVISED

LAST REVISION 00-00-00

DATE PLOTTED =>7/26/2022
TIME PLOTTED =>11:38 AM

BORDER LAST REVISED 7/2/2010

USERNAME => VGUARDIAN
DGN FILE => SF-ROW Exhibit-Ultimate Trail.dwg

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 0000

PROJECT NUMBER & PHASE 0000000000

NOTE:

FOR ACCURATE RIGHT OF WAY DATA, CONTACT
RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

**LEGEND**

- NEW R/W TAKE
- TEMPORARY CONSTRUCTION EASEMENTS
- AERIAL EASEMENT
- UNDERGROUND PERMANENT EASEMENT FOR WALLS
- BUILDING REMOVAL

# DRAFT

| Dist | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 05 | SCR | 1 | 8.1/10.7 | | XX |

REGISTERED CIVIL ENGINEER DATE

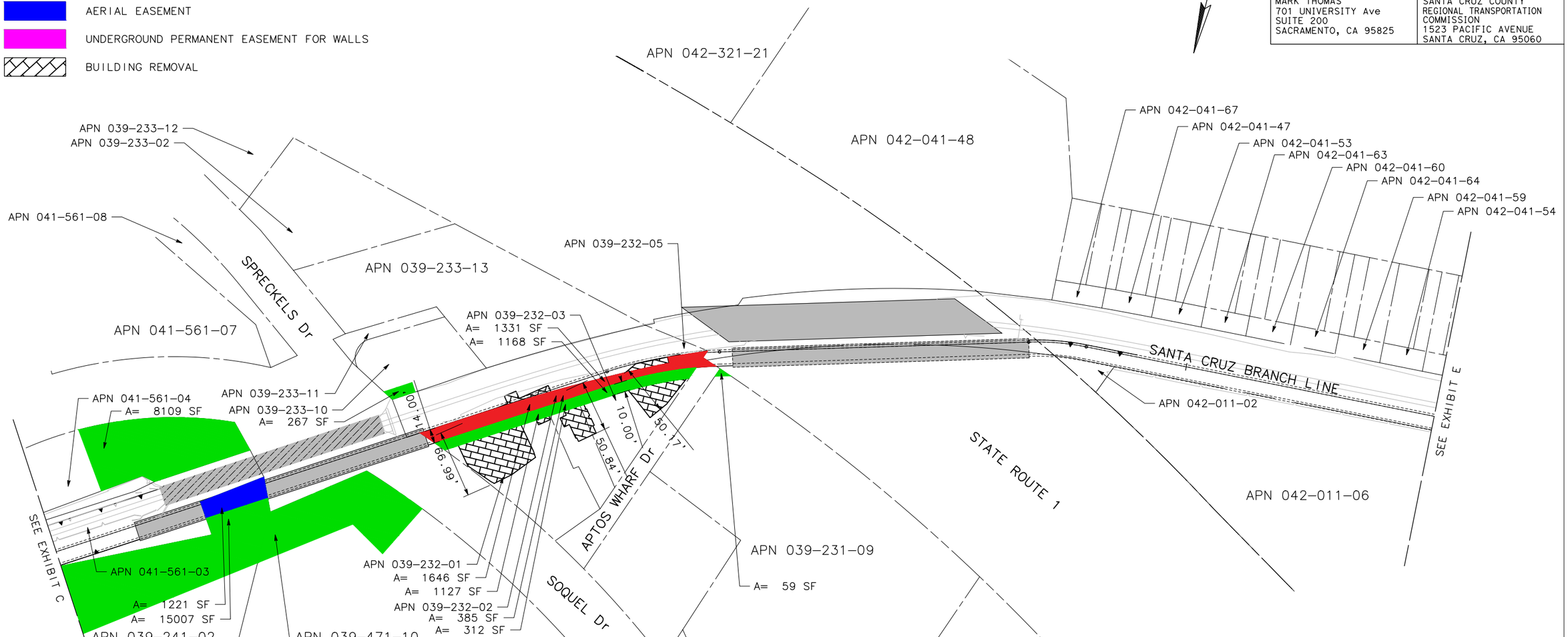
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — No. ____ Exp. ____ CIVIL — STATE OF CALIFORNIA

*THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.*


MARK THOMAS
701 UNIVERSITY Ave
SUITE 200
SACRAMENTO, CA 95825

SANTA CRUZ COUNTY
REGIONAL TRANSPORTATION
COMMISSION
1523 PACIFIC AVENUE
SANTA CRUZ, CA 95060


| APN # | TAKE | TEMPORARY | AERIAL | UNDERGROUND |
|---|---|---|---|---|
| | SF | SF | SF | SF |
| 039-231-09 | | 59 | | |
| 039-232-01 | 1646 | 1127 | | |
| 039-232-02 | 385 | 312 | | |
| 039-232-03 | 1331 | 1168 | | |
| 039-233-10 | | 267 | | |
| 039-241-02 | 1219 | 15007 | 1221 | |
| 039-471-10 | | 7331 | | |
| 041-561-04 | | 8109 | | |

# PRELIMINARY R/W REQUIREMENTS
# ULTIMATE RAIL-TRAIL
# SEGMENT 12 IMPROVEMENTS
# EXHIBIT D

SCALE: 1" = 50'

REVISED BY | DATE REVISED
R. YAZAWA | V. GUARDIAN
CALCULATED-DESIGNED BY | CHECKED BY
CONSULTANT FUNCTIONAL SUPERVISOR: ZACHARY SIVIGLIA
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

LAST REVISION 00-00-00 | DATE PLOTTED =>7/26/2022 | TIME PLOTTED =>1:33 PM

BORDER LAST REVISED 7/2/2010 | USERNAME => VGUARDIAN | DGN FILE => SF-ROW Exhibit-Ultimate Trail.dwg | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0000 | PROJECT NUMBER & PHASE 0000000000

NOTE:

FOR ACCURATE RIGHT OF WAY DATA, CONTACT
RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

**LEGEND**

- NEW R/W TAKE
- TEMPORARY CONSTRUCTION EASEMENTS
- AERIAL EASEMENT
- UNDERGROUND PERMANENT EASEMENT FOR WALLS
- BUILDING REMOVAL

# DRAFT

| Dist | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 05 | SCR | 1 | 8.1/10.7 | | XX |

REGISTERED CIVIL ENGINEER DATE

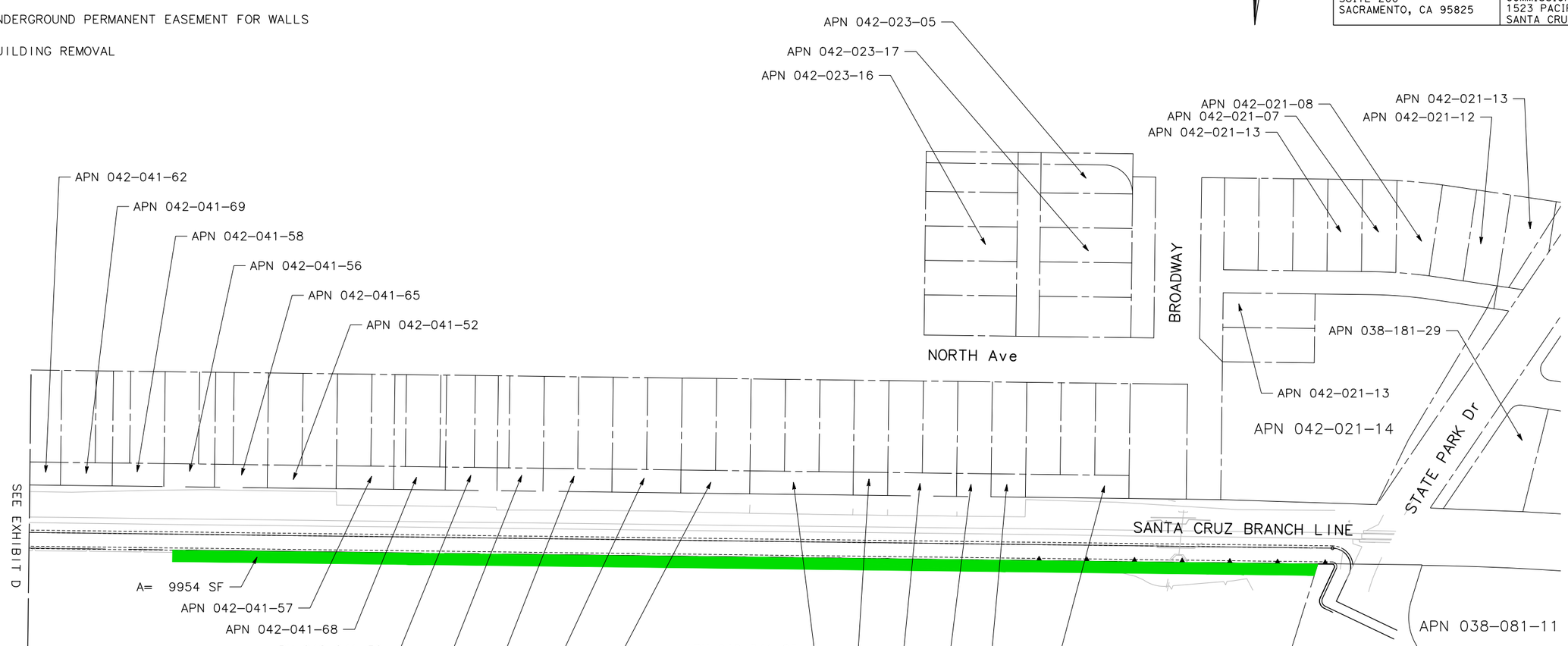
REGISTERED PROFESSIONAL ENGINEER
No.
Exp.
CIVIL
STATE OF CALIFORNIA

PLANS APPROVAL DATE

*THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.*


MARK THOMAS
701 UNIVERSITY Ave
SUITE 200
SACRAMENTO, CA 95825

SANTA CRUZ COUNTY
REGIONAL TRANSPORTATION
COMMISSION
1523 PACIFIC AVENUE
SANTA CRUZ, CA 95060


| APN # | TAKE | TEMPORARY | AERIAL | UNDERGROUND |
|---|---|---|---|---|
| | SF | SF | SF | SF |
| 042-011-06 | | 9954 | | |

# PRELIMINARY R/W REQUIREMENTS
# ULTIMATE RAIL-TRAIL
# SEGMENT 12 IMPROVEMENTS
# EXHIBIT E

SCALE: 1" = 50'

| REVISED BY | DATE REVISED |
|---|---|
| | |
| | |
| | |
| | |

CALCULATED-DESIGNED BY: R. YAZAWA
CHECKED BY: V. GUARDIAN

CONSULTANT FUNCTIONAL SUPERVISOR: ZACHARY SIVIGLIA

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

LAST REVISION 00-00-00
DATE PLOTTED =>7/26/2022
TIME PLOTTED =>11:39 AM

NOTE:

FOR ACCURATE RIGHT OF WAY DATA, CONTACT
RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

## LEGEND

- NEW R/W TAKE
- TEMPORARY CONSTRUCTION EASEMENTS
- RELINQUSH FROM STATE TO COUNTY
- UNDERGROUND PERMANENT EASEMENT FOR WALLS

| Dist | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 05 | SCR | 1 | 8.1/10.7 | | XX |

REGISTERED CIVIL ENGINEER DATE

REGISTERED PROFESSIONAL ENGINEER — No. Exp. CIVIL — STATE OF CALIFORNIA

PLANS APPROVAL DATE

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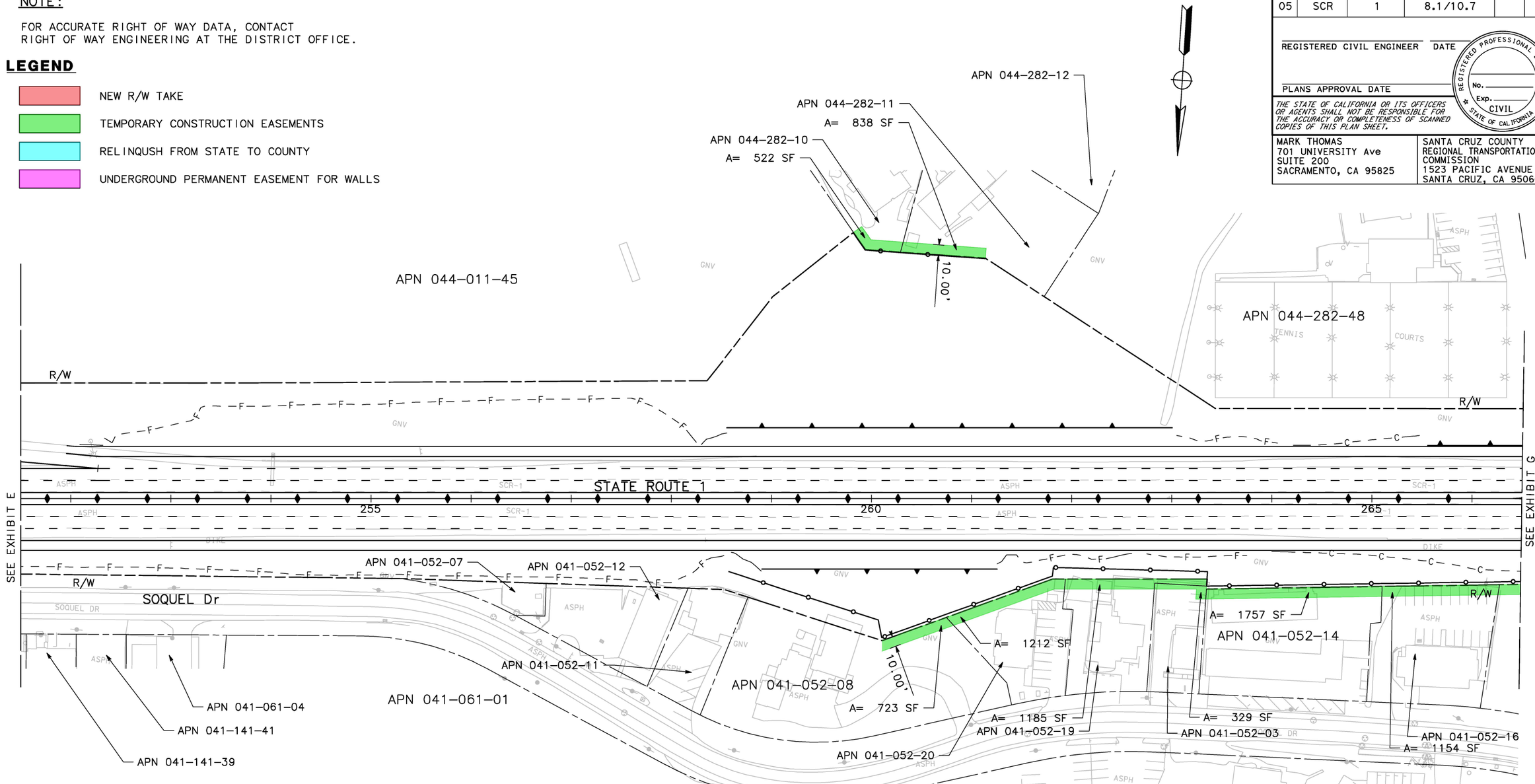
SACRAMENTO, CA 95825

SANTA CRUZ COUNTY
REGIONAL TRANSPORTATION
COMMISSION
1523 PACIFIC AVENUE
SANTA CRUZ, CA 95060


| APN # | TAKE | TEMPORARY |
|---|---|---|
| | SF | SF |
| 041-052-03 | | 329 |
| 041-052-08 | | 723 |
| 041-052-14 | | 1757 |
| 041-052-16 | | 1154 |
| 041-052-19 | | 1185 |
| 041-052-20 | | 1212 |
| 044-282-10 | | 522 |
| 044-282-11 | | 838 |

# PRELIMINARY R/W REQUIREMENTS
# HIGHWAY 1 IMPROVEMENTS
# EXHIBIT F

SCALE: 1" = 50'

REVISED BY | DATE REVISED

R. YAZAWA | V. GUARDIAN

CALCULATED-DESIGNED BY | CHECKED BY

CONSULTANT FUNCTIONAL SUPERVISOR: ZACHARY SIVIGLIA

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Caltrans

LAST REVISION 00-00-00 | DATE PLOTTED =>3/29/2022 | TIME PLOTTED =>3:23 PM

BORDER LAST REVISED 7/2/2010

USERNAME => KMCCLOSKEY
DGN FILE => SF-ROW Exhibit.dwg

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 0000

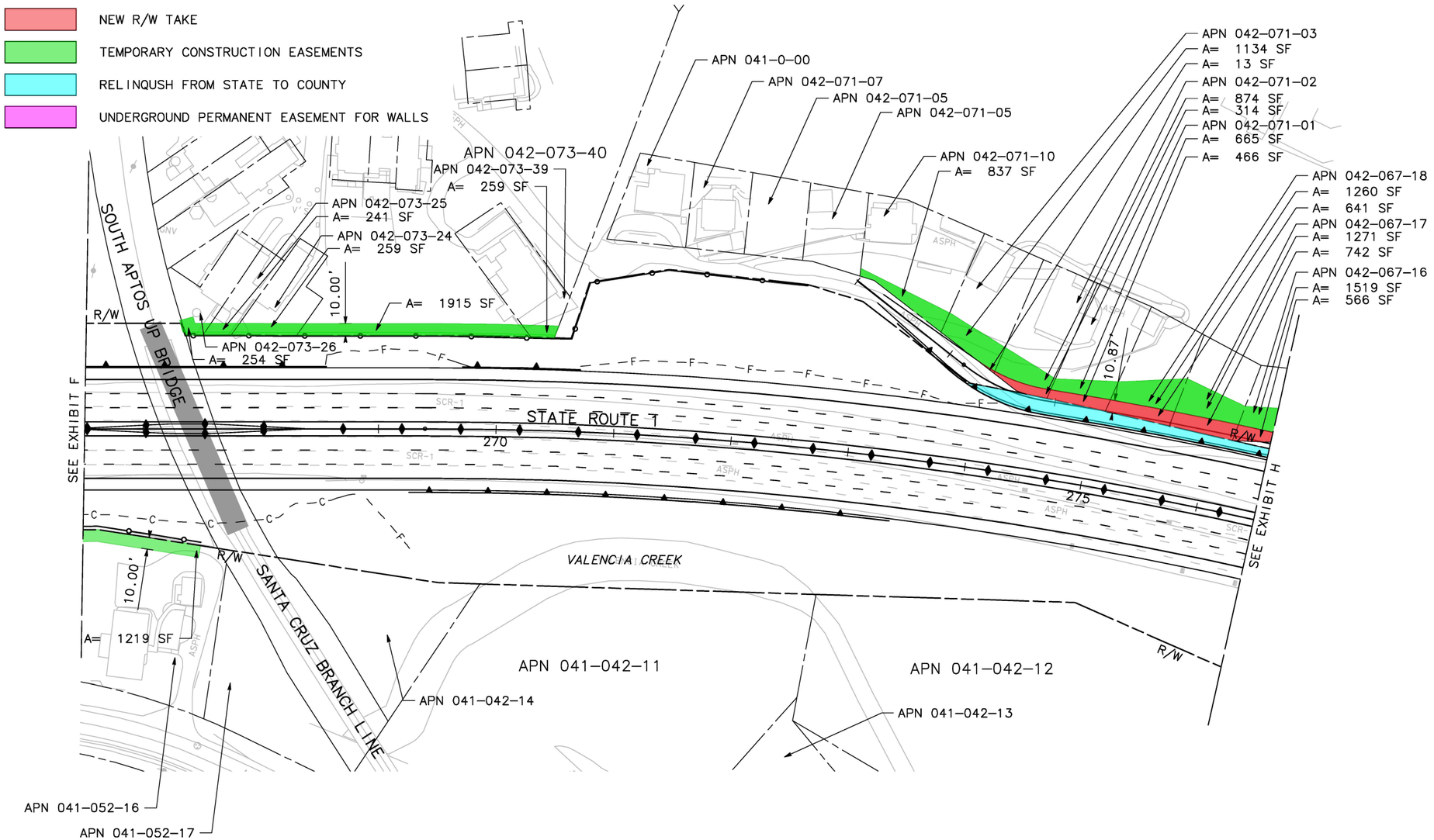
PROJECT NUMBER & PHASE 0000000000

NOTE:

FOR ACCURATE RIGHT OF WAY DATA, CONTACT
RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

## LEGEND

- NEW R/W TAKE
- TEMPORARY CONSTRUCTION EASEMENTS
- RELINQUSH FROM STATE TO COUNTY
- UNDERGROUND PERMANENT EASEMENT FOR WALLS




| APN # | TAKE | TEMPORARY |
|---|---|---|
| | SF | SF |
| 041-052-16 | | 1219 |
| 042-067-16 | 566 | 1519 |
| 042-067-17 | 742 | 1271 |
| 042-067-18 | 641 | 1260 |
| 042-071-01 | 466 | 665 |
| 042-071-02 | 314 | 874 |
| 042-071-03 | 13 | 1134 |
| 042-073-24 | | 558 |
| 042-073-25 | | 241 |
| 042-073-26 | | 254 |
| 042-073-39 | | 259 |
| 042-071-10 | | 837 |
| 042-073-40 | | 1915 |

| Dist | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 05 | SCR | 1 | 8.1/10.7 | | XX |

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

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701 UNIVERSITY Ave
SUITE 200
SACRAMENTO, CA 95825

SANTA CRUZ COUNTY
REGIONAL TRANSPORTATION COMMISSION
1523 PACIFIC AVENUE
SANTA CRUZ, CA 95060

# PRELIMINARY R/W REQUIREMENTS
# HIGHWAY 1 IMPROVEMENTS
# EXHIBIT G

SCALE: 1" = 50'

| REVISED BY | DATE REVISED |
|---|---|
| | |

CALCULATED-DESIGNED BY: R. YAZAWA
CHECKED BY: V. GUARDIAN
CONSULTANT FUNCTIONAL SUPERVISOR: ZACHARY SIVIGLIA
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

LAST REVISION 00-00-00
DATE PLOTTED =>3/29/2022
TIME PLOTTED =>3:32 PM

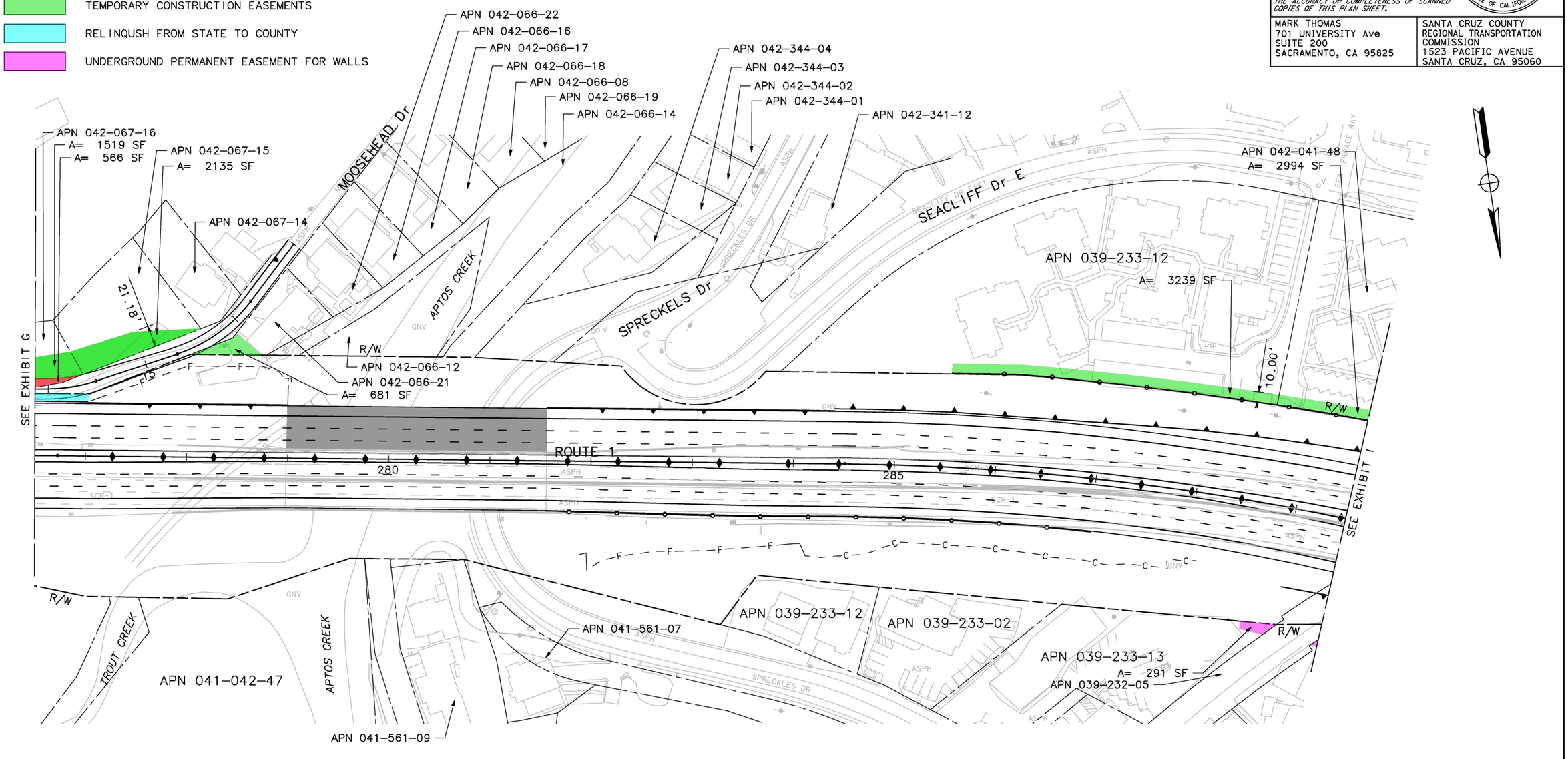
BORDER LAST REVISED 7/2/2010
USERNAME => KMCCLOSKEY
DGN FILE => SF-ROW Exhibit.dwg
RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
UNIT 0000
PROJECT NUMBER & PHASE 0000000000

NOTE:

FOR ACCURATE RIGHT OF WAY DATA, CONTACT
RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

## LEGEND

- NEW R/W TAKE
- TEMPORARY CONSTRUCTION EASEMENTS
- RELINQUSH FROM STATE TO COUNTY
- UNDERGROUND PERMANENT EASEMENT FOR WALLS




| APN # | TAKE | TEMPORARY | UNDERGROUND |
|---|---|---|---|
| | SF | SF | |
| 039-232-05 | | | 986 |
| 039-233-12 | | 3239 | |
| 039-233-13 | | | 291 |
| 042-041-48 | | 2994 | |
| 042-066-21 | | 681 | |
| 042-067-15 | | 2135 | |
| 042-067-16 | 566 | 1519 | |

| Dist | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 05 | SCR | 1 | 8.1/10.7 | | XX |

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

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SACRAMENTO, CA 95825

SANTA CRUZ COUNTY
REGIONAL TRANSPORTATION
COMMISSION
1523 PACIFIC AVENUE
SANTA CRUZ, CA 95060


# PRELIMINARY R/W REQUIREMENTS
# HIGHWAY 1 IMPROVEMENTS
# EXHIBIT H

SCALE: 1" = 50'

REVISED BY | DATE REVISED
R. YAZAWA | V. GUARDIAN
CALCULATED-DESIGNED BY | CHECKED BY
CONSULTANT FUNCTIONAL SUPERVISOR: ZACHARY SIVIGLIA
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

LAST REVISION 00-00-00
DATE PLOTTED =>4/19/2022
TIME PLOTTED =>4:26 PM

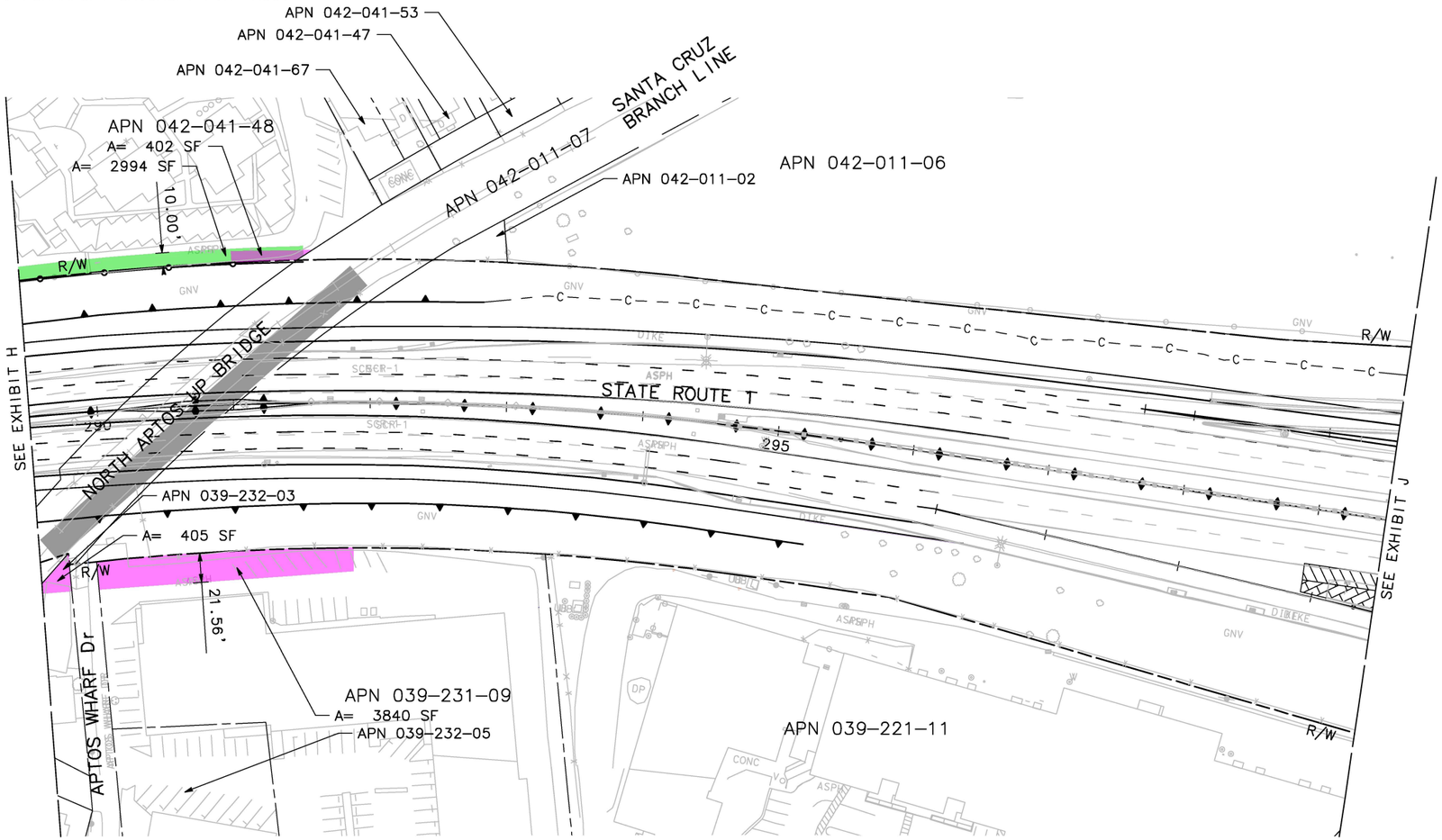
BORDER LAST REVISED 7/2/2010
USERNAME => KMCCLOSKEY
DGN FILE => SF-ROW Exhibit.dwg
RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
UNIT 0000
PROJECT NUMBER & PHASE 0000000000

NOTE:

FOR ACCURATE RIGHT OF WAY DATA, CONTACT
RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

## LEGEND

- NEW R/W TAKE
- TEMPORARY CONSTRUCTION EASEMENTS
- RELINQUSH FROM STATE TO COUNTY
- UNDERGROUND PERMANENT EASEMENT FOR WALLS




| APN # | TAKE | TEMPORARY | UNDERGROUND |
|---|---|---|---|
| | SF | SF | SF |
| 039-231-09 | | | 3840 |
| 039-232-03 | | | 405 |
| 042-041-48 | | 2994 | 402 |

# PRELIMINARY R/W REQUIREMENTS
# HIGHWAY 1 IMPROVEMENTS
# EXHIBIT I

SCALE: 1" = 50'

| Dist | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 05 | SCR | 1 | 8.1/10.7 | | XX |

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

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MARK THOMAS
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SACRAMENTO, CA 95825

SANTA CRUZ COUNTY
REGIONAL TRANSPORTATION COMMISSION
1523 PACIFIC AVENUE
SANTA CRUZ, CA 95060


REVISED BY | DATE REVISED
CALCULATED-DESIGNED BY: R. YAZAWA
CHECKED BY: V. GUARDIAN
CONSULTANT FUNCTIONAL SUPERVISOR: ZACHARY SIVIGLIA
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

LAST REVISION 00-00-00 | DATE PLOTTED =>4/20/2022 | TIME PLOTTED =>10:01 AM

NOTE:

FOR ACCURATE RIGHT OF WAY DATA, CONTACT
RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

**LEGEND**

- NEW R/W TAKE
- TEMPORARY CONSTRUCTION EASEMENTS
- RELINQUSH FROM STATE TO COUNTY
- UNDERGROUND PERMANENT EASEMENT FOR WALLS

| Dist | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 05 | SCR | 1 | 8.1/10.7 | | XX |

REGISTERED CIVIL ENGINEER DATE

REGISTERED PROFESSIONAL ENGINEER
No.
Exp.
CIVIL
STATE OF CALIFORNIA

PLANS APPROVAL DATE

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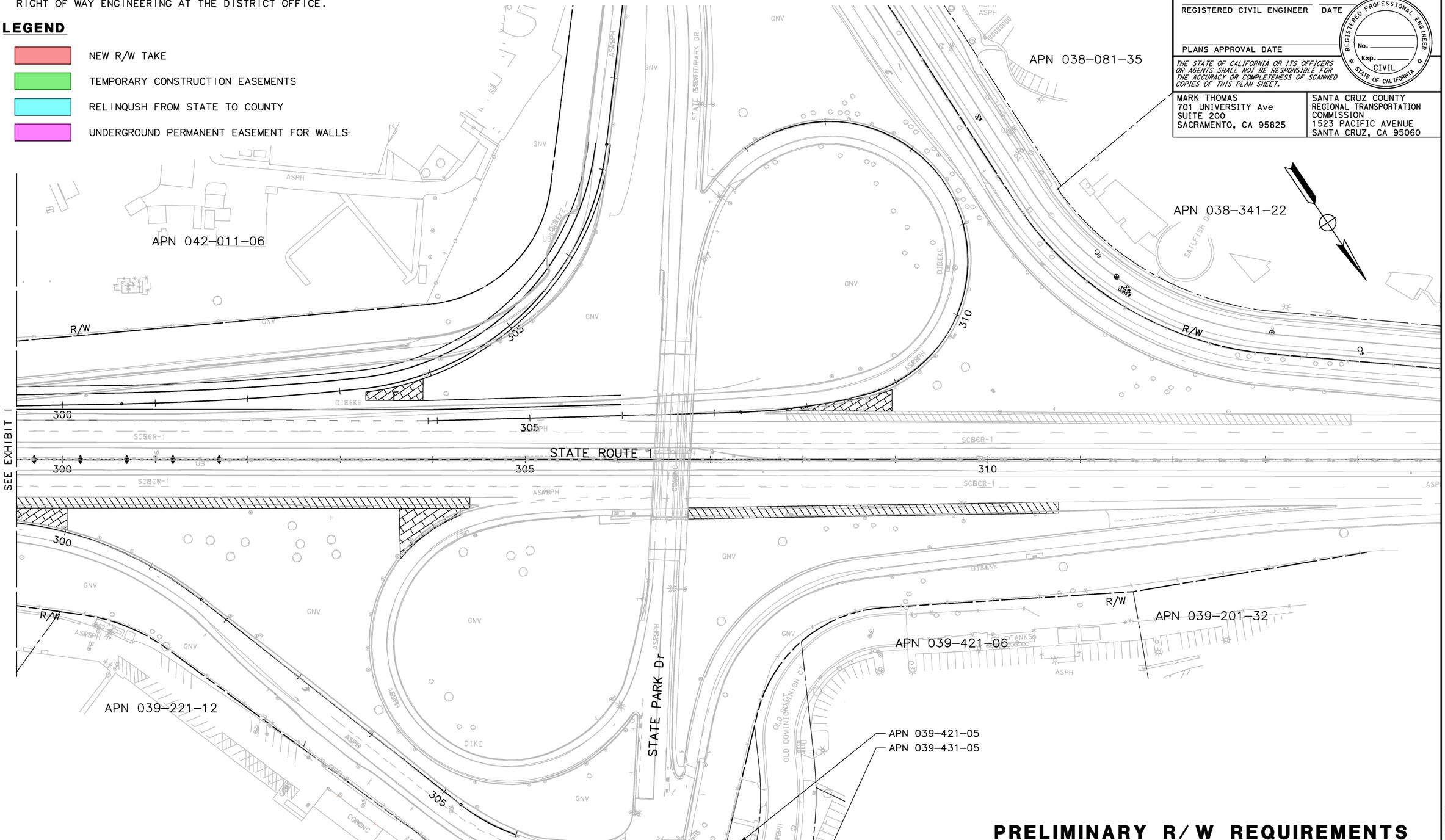
SACRAMENTO, CA 95825

SANTA CRUZ COUNTY
REGIONAL TRANSPORTATION
COMMISSION
1523 PACIFIC AVENUE
SANTA CRUZ, CA 95060


# PRELIMINARY R/W REQUIREMENTS
# HIGHWAY 1 IMPROVEMENTS
# EXHIBIT J

SCALE: 1" = 50'

| REVISED BY | DATE REVISED |
|---|---|
| | |

| CALCULATED-DESIGNED BY | CHECKED BY |
|---|---|
| R. YAZAWA | V. GUARDIAN |

CONSULTANT FUNCTIONAL SUPERVISOR: ZACHARY SIVIGLIA

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

LAST REVISION 00-00-00 | DATE PLOTTED =>4/20/2022 | TIME PLOTTED =>8:50 AM

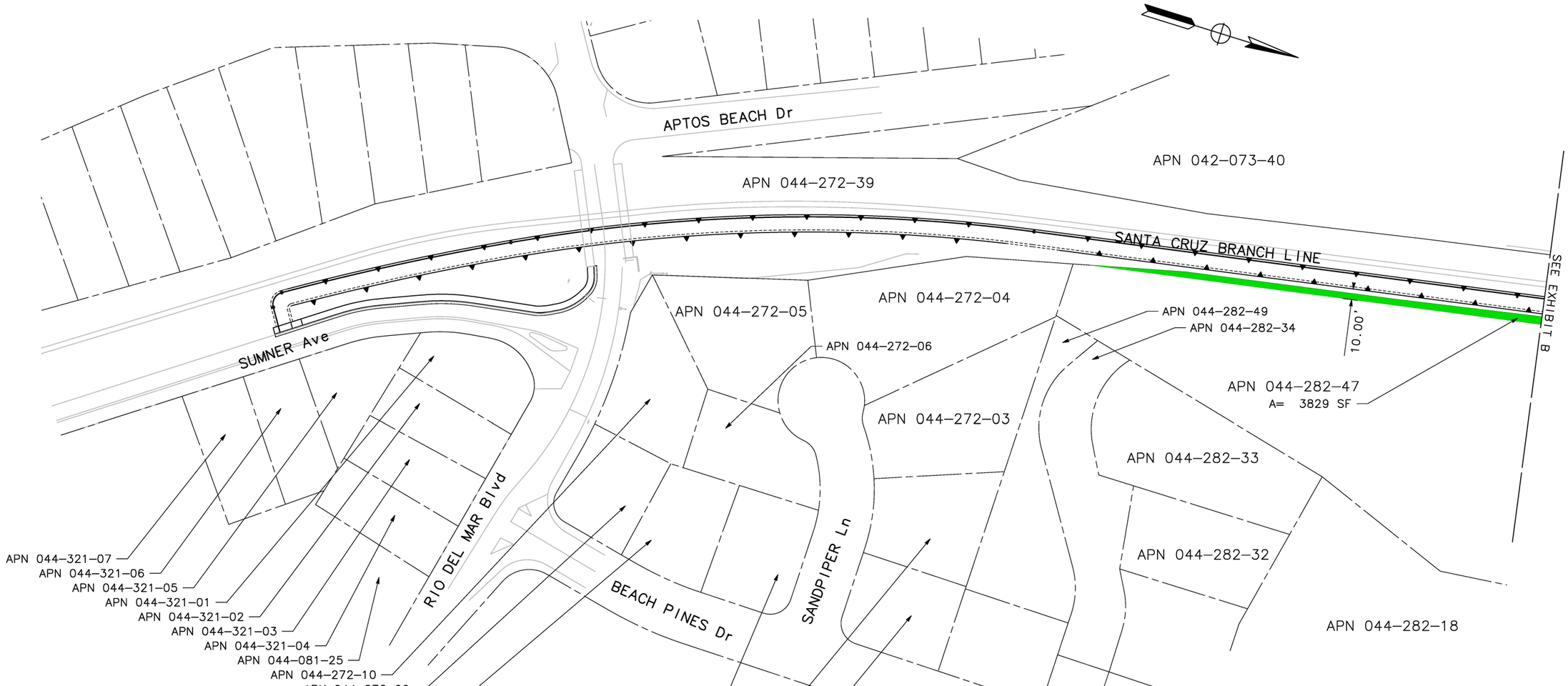
BORDER LAST REVISED 7/2/2010 | USERNAME => KMCCLOSKEY | DGN FILE => SF-ROW Exhibit.dwg | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0000 | PROJECT NUMBER & PHASE 0000000000

NOTE:

FOR ACCURATE RIGHT OF WAY DATA, CONTACT
RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

## LEGEND

- NEW R/W TAKE
- TEMPORARY CONSTRUCTION EASEMENTS
- AERIAL EASEMENT
- UNDERGROUND PERMANENT EASEMENT FOR WALLS
- BUILDING REMOVAL




| APN # | TAKE | TEMPORARY |
|---|---|---|
| | SF | SF |
| 044-282-47 | | 3829 |

# PRELIMINARY R/W REQUIREMENTS
# ULTIMATE RAIL-TRAIL
# SEGMENT 12 IMPROVEMENTS
# EXHIBIT A

SCALE: 1" = 50'

| Dist | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 05 | SCR | 1 | 8.1/10.7 | | XX |

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — No. Exp. CIVIL — STATE OF CALIFORNIA

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MARK THOMAS
701 UNIVERSITY Ave
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SACRAMENTO, CA 95825

SANTA CRUZ COUNTY
REGIONAL TRANSPORTATION
COMMISSION
1523 PACIFIC AVENUE
SANTA CRUZ, CA 95060


STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
CONSULTANT FUNCTIONAL SUPERVISOR: ZACHARY SIVIGLIA
CALCULATED-DESIGNED BY: R. YAZAWA
CHECKED BY: V. GUARDIAN
REVISED BY | DATE REVISED

LAST REVISION 00-00-00 | DATE PLOTTED =>5/25/2022 | TIME PLOTTED =>9:10 AM

BORDER LAST REVISED 7/2/2010

USERNAME => KMCCLOSKEY
DGN FILE => SF-ROW Exhibit-Ultimate Trail.dwg

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 0000

PROJECT NUMBER & PHASE 0000000000

| Dist | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 05 | SCR | 1 | 8.1/10.7 | | XX |

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SACRAMENTO, CA 95825

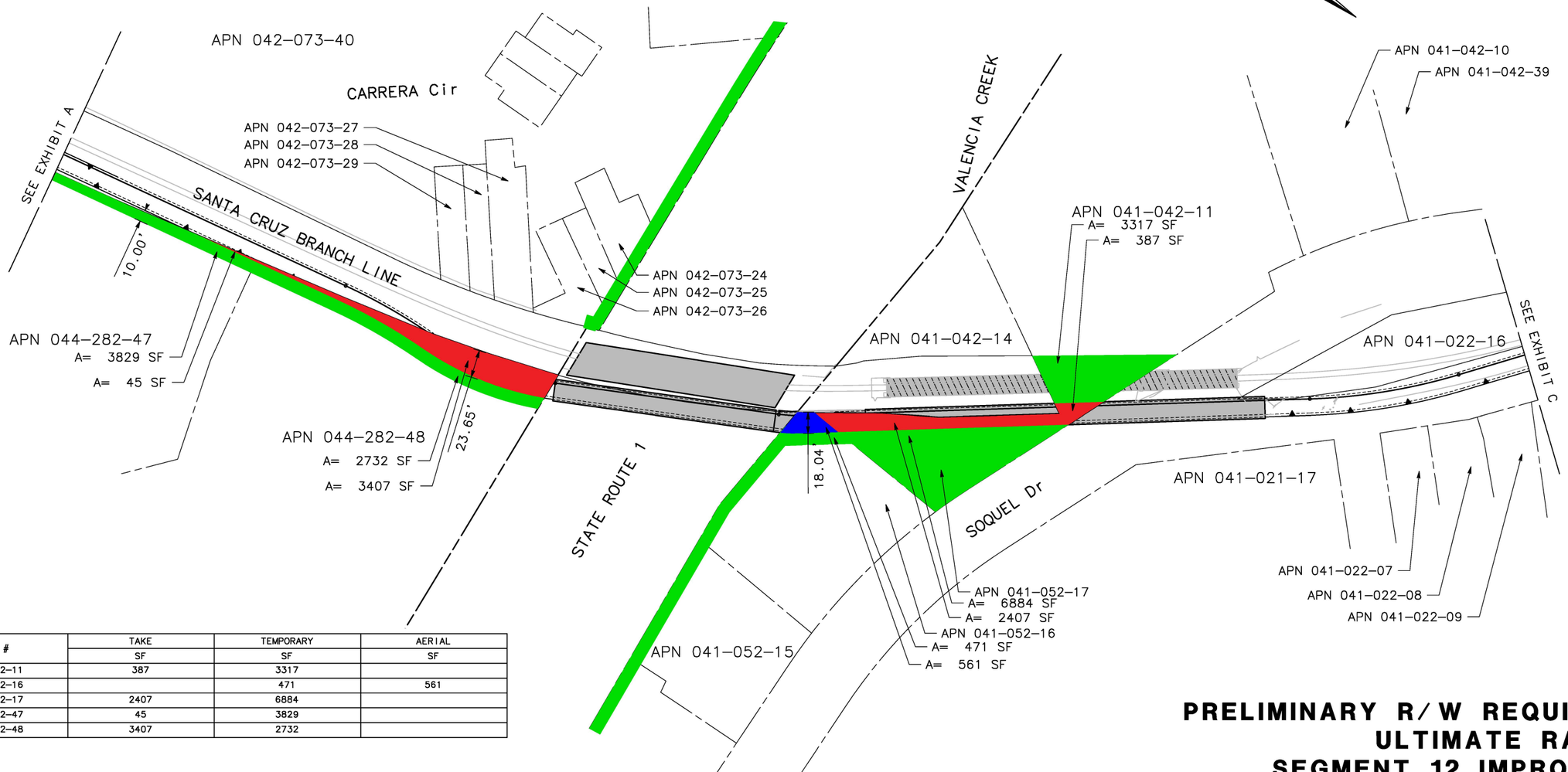
SANTA CRUZ COUNTY
REGIONAL TRANSPORTATION
COMMISSION
1523 PACIFIC AVENUE
SANTA CRUZ, CA 95060


NOTE:

FOR ACCURATE RIGHT OF WAY DATA, CONTACT
RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

## LEGEND

- NEW R/W TAKE
- TEMPORARY CONSTRUCTION EASEMENTS
- AERIAL EASEMENT
- UNDERGROUND PERMANENT EASEMENT FOR WALLS
- BUILDING REMOVAL




| APN # | TAKE | TEMPORARY | AERIAL |
|---|---|---|---|
| | SF | SF | SF |
| 041-042-11 | 387 | 3317 | |
| 041-052-16 | | 471 | 561 |
| 041-052-17 | 2407 | 6884 | |
| 044-282-47 | 45 | 3829 | |
| 044-282-48 | 3407 | 2732 | |

# PRELIMINARY R/W REQUIREMENTS
# ULTIMATE RAIL-TRAIL
# SEGMENT 12 IMPROVEMENTS
# EXHIBIT B

SCALE: 1" = 50'

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION — Caltrans

CONSULTANT FUNCTIONAL SUPERVISOR: ZACHARY SIVIGLIA

CALCULATED-DESIGNED BY: R. YAZAWA
CHECKED BY: V. GUARDIAN

REVISED BY | DATE REVISED

LAST REVISION 00-00-00 | DATE PLOTTED =>5/25/2022 | TIME PLOTTED =>9:10 AM

BORDER LAST REVISED 7/2/2010

USERNAME => KMCCLOSKEY
DGN FILE => SF-ROW Exhibit-Ultimate Trail.dwg

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 0000

PROJECT NUMBER & PHASE 0000000000

NOTE:

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RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

## LEGEND

- NEW R/W TAKE
- TEMPORARY CONSTRUCTION EASEMENTS
- AERIAL EASEMENT
- UNDERGROUND PERMANENT EASEMENT FOR WALLS
- BUILDING REMOVAL

| Dist | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
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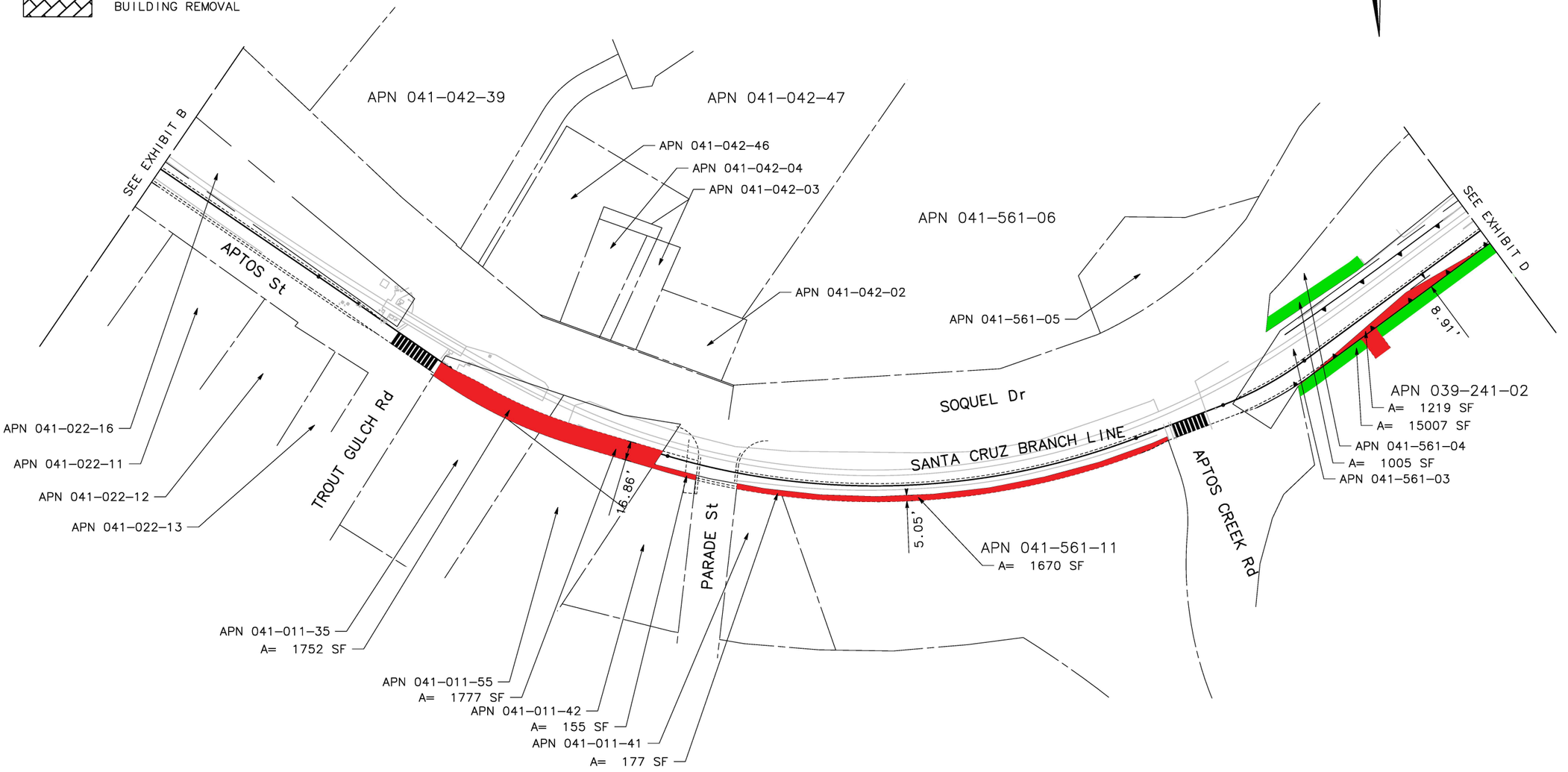
1523 PACIFIC AVENUE
SANTA CRUZ, CA 95060




| APN # | TAKE | TEMPORARY | AERIAL |
|---|---|---|---|
| | SF | SF | SF |
| 039-241-02 | 1219 | 15007 | 1221 |
| 041-011-35 | 1752 | | |
| 041-011-41 | 177 | | |
| 041-011-42 | 155 | | |
| 041-011-55 | 1777 | | |
| 041-561-04 | | 1005 | |
| 041-561-11 | 1670 | | |

# PRELIMINARY R/W REQUIREMENTS
# ULTIMATE RAIL-TRAIL
# SEGMENT 12 IMPROVEMENTS
# EXHIBIT C

SCALE: 1" = 50'

REVISED BY | DATE REVISED
R. YAZAWA | V. GUARDIAN
CALCULATED-DESIGNED BY | CHECKED BY
CONSULTANT FUNCTIONAL SUPERVISOR
ZACHARY SIVIGLIA
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

LAST REVISION 00-00-00 | DATE PLOTTED =>5/25/2022 | TIME PLOTTED =>9:11 AM

BORDER LAST REVISED 7/2/2010 | USERNAME => KMCCLOSKEY | DGN FILE => SF-ROW Exhibit-Ultimate Trail.dwg | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0000 | PROJECT NUMBER & PHASE 0000000000

NOTE:

FOR ACCURATE RIGHT OF WAY DATA, CONTACT
RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

**LEGEND**

- NEW R/W TAKE
- TEMPORARY CONSTRUCTION EASEMENTS
- AERIAL EASEMENT
- UNDERGROUND PERMANENT EASEMENT FOR WALLS
- BUILDING REMOVAL

| Dist | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 05 | SCR | 1 | 8.1/10.7 | | XX |

REGISTERED CIVIL ENGINEER DATE

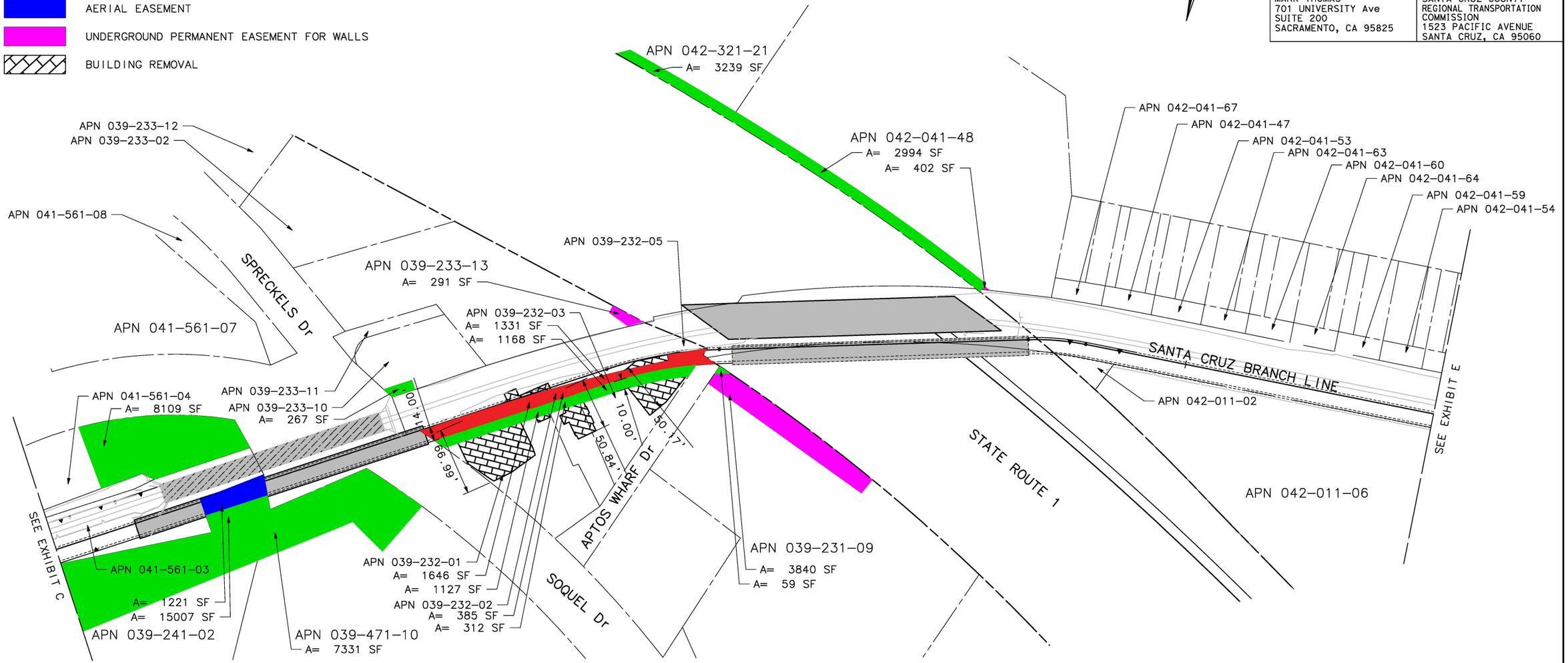
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — No. Exp. CIVIL — STATE OF CALIFORNIA

*THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.*


MARK THOMAS
701 UNIVERSITY Ave
SUITE 200
SACRAMENTO, CA 95825

SANTA CRUZ COUNTY
REGIONAL TRANSPORTATION
COMMISSION
1523 PACIFIC AVENUE
SANTA CRUZ, CA 95060


| APN # | TAKE | TEMPORARY | AERIAL | UNDERGROUND |
|---|---|---|---|---|
| | SF | SF | SF | SF |
| 039-231-09 | | 59 | | |
| 039-232-01 | 1646 | 1127 | | |
| 039-232-02 | 385 | 312 | | |
| 039-232-03 | 1331 | 1168 | | |
| 039-233-10 | | 267 | | |
| 039-241-02 | 1219 | 15007 | 1221 | |
| 039-471-10 | | 7331 | | |
| 041-561-04 | | 8109 | | |

# PRELIMINARY R/W REQUIREMENTS
# ULTIMATE RAIL-TRAIL
# SEGMENT 12 IMPROVEMENTS
# EXHIBIT D

SCALE: 1" = 50'

REVISED BY | DATE REVISED

CALCULATED-DESIGNED BY: R. YAZAWA | CHECKED BY: V. GUARDIAN

CONSULTANT FUNCTIONAL SUPERVISOR: ZACHARY SIVIGLIA

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

LAST REVISION 00-00-00 | DATE PLOTTED =>5/25/2022 | TIME PLOTTED =>9:18 AM

BORDER LAST REVISED 7/2/2010 | USERNAME => KMCCLOSKEY | DGN FILE => SF-ROW Exhibit-Ultimate Trail.dwg | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0000 | PROJECT NUMBER & PHASE 0000000000

NOTE:

FOR ACCURATE RIGHT OF WAY DATA, CONTACT
RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

## LEGEND

- NEW R/W TAKE
- TEMPORARY CONSTRUCTION EASEMENTS
- AERIAL EASEMENT
- UNDERGROUND PERMANENT EASEMENT FOR WALLS
- BUILDING REMOVAL

| Dist | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 05 | SCR | 1 | 8.1/10.7 | | XX |

REGISTERED CIVIL ENGINEER DATE

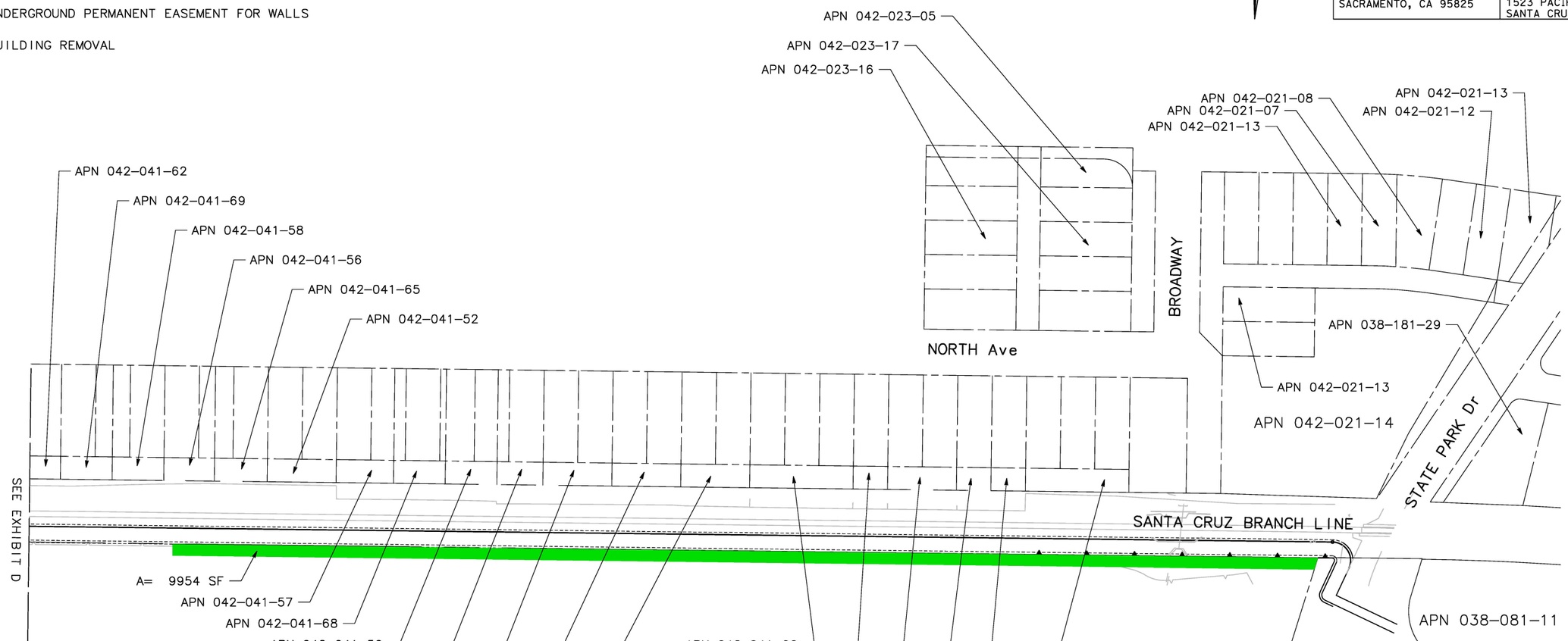
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — No. Exp. CIVIL — STATE OF CALIFORNIA

*THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.*

MARK THOMAS
701 UNIVERSITY Ave
SUITE 200
SACRAMENTO, CA 95825

SANTA CRUZ COUNTY
REGIONAL TRANSPORTATION
COMMISSION
1523 PACIFIC AVENUE
SANTA CRUZ, CA 95060




| APN # | TAKE | TEMPORARY | AERIAL | UNDERGROUND |
|---|---|---|---|---|
| | SF | SF | SF | SF |
| 042-011-06 | | 9954 | | |

# PRELIMINARY R/W REQUIREMENTS
# ULTIMATE RAIL-TRAIL
# SEGMENT 12 IMPROVEMENTS
# EXHIBIT E

SCALE: 1" = 50'

| REVISED BY | DATE REVISED |
|---|---|
| | |

CALCULATED-DESIGNED BY: R. YAZAWA
CHECKED BY: V. GUARDIAN
CONSULTANT FUNCTIONAL SUPERVISOR: ZACHARY SIVIGLIA
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

LAST REVISION 00-00-00
DATE PLOTTED =>5/25/2022
TIME PLOTTED =>9:19 AM

BORDER LAST REVISED 7/2/2010
USERNAME => KMCCLOSKEY
DGN FILE => SF-ROW Exhibit-Ultimate Trail.dwg
RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
UNIT 0000
PROJECT NUMBER & PHASE 0000000000

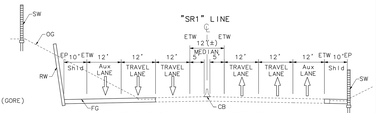
# **Appendix G** Geometric Approval Drawings

## LEGEND

- RETAINING WALL
- CONCRETE BARRIER
- SOUND WALL
- CALTRANS RIGHT OF WAY
- SLOPE LINE/TOE OF SLOPE
- SLOPE LINE/TOP OF CUT
- LINE DATA (SEE TABLE)
- CURVE DATA (SEE TABLE)
- BUS ON SHOULDER
- CONTRASTING SURFACE TREATMENT (GORE)
- NEW STRUCTURE
- NEW PAVEMENT
- NEW R/W TAKE
- TEMPORARY CONSTRUCTION EASEMENT

## NOTES

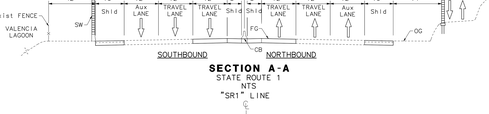
1. FINAL RETAINING WALL LOCATIONS ARE TO BE DETERMINED.



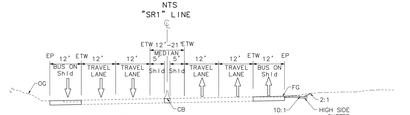

**SECTION G-G**
STATE ROUTE 1
NTS

| LINE DATA | | | |
|---|---|---|---|
| No. | LINE | LENGTH | DIRECTION |
| L1 | "SR1" LINE | 1096.56' | N38°58'03"W |
| L2 | "SR1" LINE | 3154.06' | N65°35'00"W |
| L3 | "SR1" LINE | 2327.99' | S86°17'12"W |
| L4 | "SR1" LINE | 778.18' | N80°49'37"W |
| L5 | "SR1" LINE | 2913.47' | N56°01'21"W |
| L6 | "FB3" LINE | 643.66' | N70°16'23"W |
| L7 | "FB3" LINE | 300.06' | N66°43'45"W |
| L8 | "FB4" LINE | 81.89' | N47°39'37"W |
| L9 | "FB4" LINE | 1176.70' | N61°10'00"W |
| L10 | "RM1" LINE | 300.06' | N66°43'45"W |
| L11 | "RM1" LINE | 472.38' | N70°09'29"W |
| L12 | "RM1" LINE | 103.08' | N82°03'19"W |
| L13 | "RM2" LINE | 536.35' | N60°34'48"W |
| L14 | "RM2" LINE | 163.54' | N43°43'48"W |
| L15 | "RM3" LINE | 86.19' | S78°29'26"W |
| L16 | "RM3" LINE | 268.89' | N83°23'16"W |
| L17 | "RM3" LINE | 205.90' | N89°03'13"W |
| L18 | "RM4" LINE | 218.04' | N69°25'15"W |
| L19 | "RM4" LINE | 997.80' | N88°48'10"W |
| L20 | "MH" LINE | 114.91' | N55°31'02"W |
| L21 | "MH" LINE | 84.74' | S80°14'33"W |
| L22 | "MH" LINE | 71.02' | S45°34'59"W |
| L23 | "SP1" LINE | 300.06' | N57°06'54"W |
| L24 | "SP1" LINE | 281.13' | S40°30'45"W |
| L25 | "SP2" LINE | 313.69' | N51°10'05"W |
| L26 | "SP2" LINE | 358.30' | N17°44'49"W |
| L27 | "SP6" LINE | 338.09' | N57°36'05"W |

| CURVE DATA | | | | | |
|---|---|---|---|---|---|
| No. | LINE | R | Δ | T | L |
| C1 | "SR1" LINE | 3300.00' | 26°36'57" | 780.57' | 1532.96' |
| C2 | "SR1" LINE | 3500.00' | 28°07'48" | 876.87' | 1718.36' |
| C3 | "SR1" LINE | 3259.97' | 12°53'11" | 368.16' | 733.21' |
| C4 | "SR1" LINE | 2530.00' | 24°48'16" | 556.36' | 1095.28' |
| C5 | "FB3" LINE | 400.00' | 11°55'46" | 41.79' | 83.28' |
| C6 | "FB3" LINE | 3000.00' | 3°32'38" | 92.81' | 185.56' |
| C7 | "FB4" LINE | 140.00' | 7°18'47" | 8.95' | 17.87' |
| C8 | "FB4" LINE | 1400.00' | 13°30'23" | 165.78' | 330.02' |
| C9 | "RM1" LINE | 3000.00' | 3°25'44" | 89.80' | 179.54' |
| C10 | "RM1" LINE | 1000.00' | 11°53'50" | 104.20' | 207.64' |
| C11 | "RM1" LINE | 300.00' | 15°59'38" | 42.15' | 83.74' |
| C12 | "RM2" LINE | 575.00' | 16°51'00" | 85.16' | 169.10' |
| C13 | "RM2" LINE | 180.00' | 34°01'50" | 55.08' | 106.91' |
| C14 | "RM3" LINE | 150.00' | 21°03'17" | 27.87' | 55.12' |
| C15 | "RM3" LINE | 450.00' | 18°08'18" | 71.83' | 142.46' |
| C16 | "RM3" LINE | 3000.00' | 5°40'57" | 148.89' | 297.54' |
| C17 | "RM4" LINE | 1500.00' | 19°20'55" | 255.71' | 506.55' |
| C18 | "MH" LINE | 150.00' | 29°20'11" | 39.26' | 76.80' |
| C19 | "MH" LINE | 3326.00' | 3°34'03" | 103.58' | 207.10' |
| C20 | "MH" LINE | 150.00' | 18°44'33" | 24.76' | 49.07' |
| C21 | "MH" LINE | 150.00' | 34°39'33" | 46.80' | 90.74' |
| C22 | "SP1" LINE | 3000.00' | 4°55'59" | 129.22' | 258.29' |
| C23 | "SP1" LINE | 300.00' | 77°26'22" | 240.51' | 405.47' |
| C24 | "SP2" LINE | 400.00' | 33°25'16" | 120.09' | 233.32' |
| C25 | "SP2" LINE | 200.00' | 19°27'08" | 34.28' | 67.90' |
| C26 | "SP6" LINE | 600.00' | 12°49'30" | 67.43' | 134.30' |
| C27 | "SP6" LINE | 150.00' | 202°16'49" | 761.73' | 529.57' |



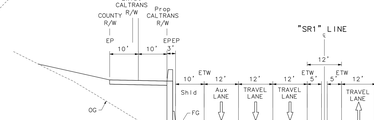

**SECTION A-A**
STATE ROUTE 1
NTS




**SECTION B-B**
STATE ROUTE 1
NTS



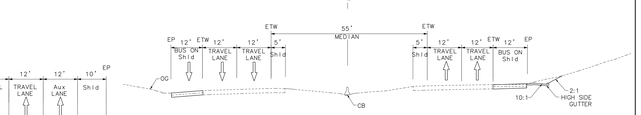

**SECTION D-D**
STATE ROUTE 1
NTS




**SECTION E-E**
STATE ROUTE 1
NTS



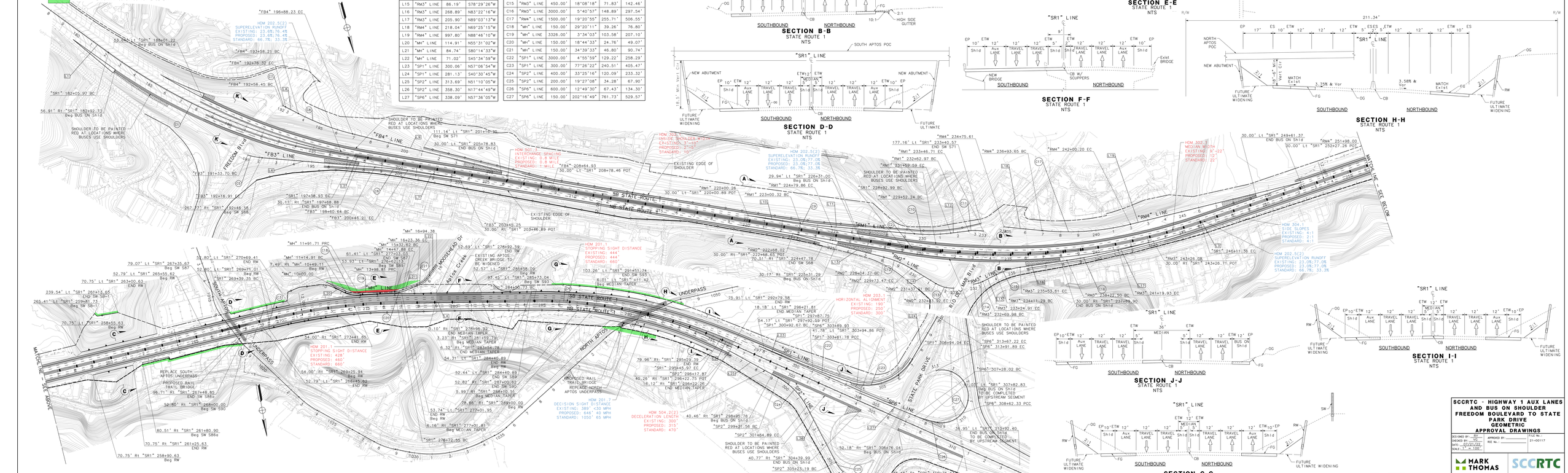

**SECTION F-F**
STATE ROUTE 1
NTS




**SECTION K-K**
STATE ROUTE 1
NTS




**SECTION H-H**
STATE ROUTE 1
NTS




**SECTION I-I**
STATE ROUTE 1
NTS




**SECTION J-J**
STATE ROUTE 1
NTS




**SECTION C-C**
STATE ROUTE 1
NTS

SCALE: 1" = 100'

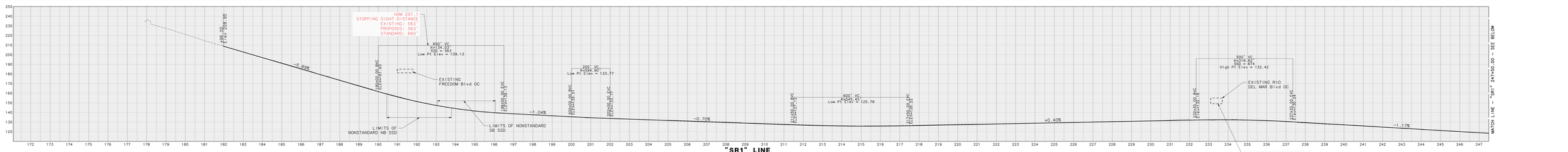
# SCCRTC - HIGHWAY 1 AUX LANES AND BUS ON SHOULDER FREEDOM BOULEVARD TO STATE PARK DRIVE GEOMETRIC APPROVAL DRAWINGS

| | |
|---|---|
| DESIGNED BY: SD | FILE No.: |
| CHECKED BY: VS | APPROVED BY: |
| DATE: 07/21/22 | RCE No.: |
| SCALE: 1" = 100' | 21-00117 |

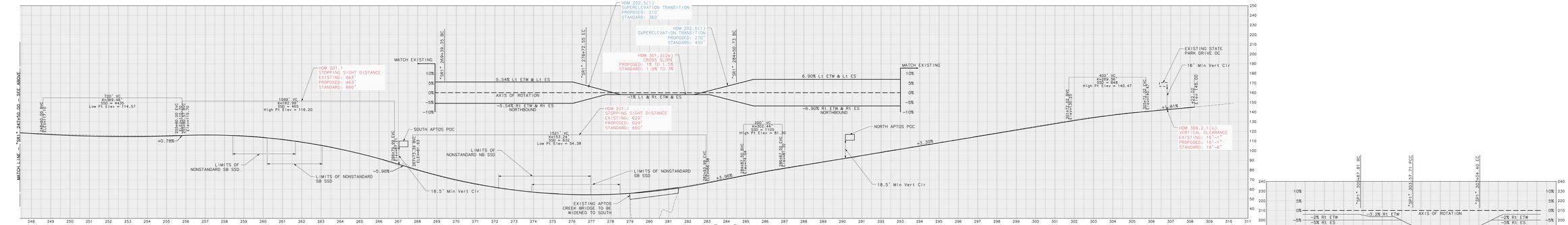
MARK THOMAS

SCCRTC

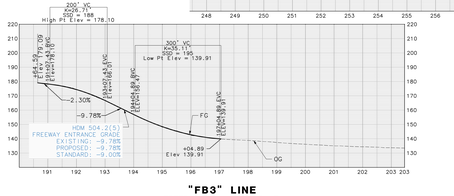
| Dist | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET TOTAL |
|---|---|---|---|---|
| 5 | SCr | 1 | 10.34/13.44 | 1 OF 2 |



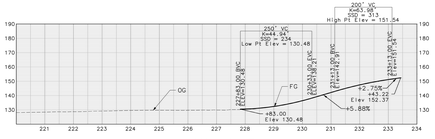

**"SR1" LINE**
Hwy 1 STATE PARK Dr TO FREEDOM Blvd



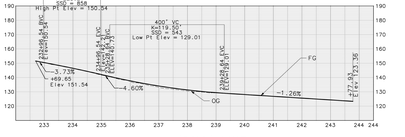

**"SR1" LINE**
Hwy 1 STATE PARK Dr TO FREEDOM Blvd




**"FB3" LINE**
FREEDOM Blvd NB ON-RAMP




**"RM1" LINE**
RIO DEL MAR Blvd SB ON-RAMP

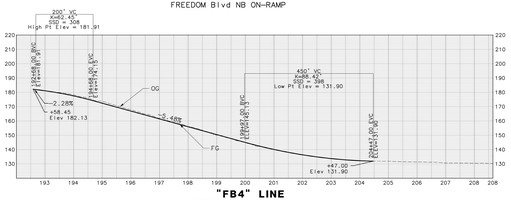



**"RM3" LINE**
RIO DEL MAR Blvd NB ON-RAMP

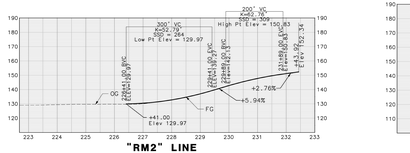
**"SP6" LINE**
STATE PARK Dr SB LOOP ON-RAMP



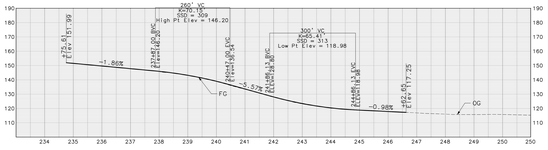

**"SP1" LINE**
STATE PARK Dr SB ON-RAMP



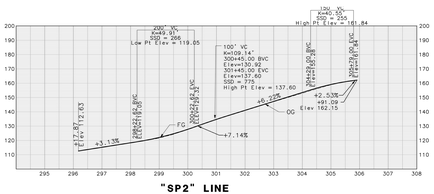

**"FB4" LINE**
FREEDOM Blvd SB OFF-RAMP



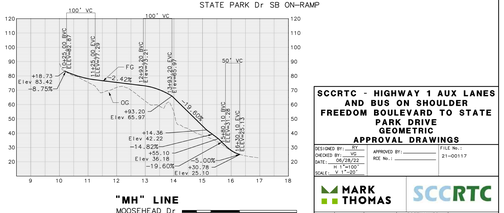

**"RM2" LINE**
RIO DEL MAR Blvd NB OFF-RAMP




**"RM4" LINE**
RIO DEL MAR Blvd SB OFF-RAMP




**"SP2" LINE**
STATE PARK Dr NB OFF-RAMP




**"MH" LINE**
MOOSEHEAD Dr

**SCCRTC - HIGHWAY 1 AUX LANES AND BUS ON SHOULDER FREEDOM BOULEVARD TO STATE PARK DRIVE GEOMETRIC**
**APPROVAL DRAWINGS**

| | |
|---|---|
| DESIGNED BY: RC | FILE No.: |
| CHECKED BY: VC | APPROVED BY: _____ |
| DATE: 06/28/22 | RCE No.: _____ |
| SCALE: V 1"=100' | 21-00117 |
| SCALE: V 1"=20' | |

MARK THOMAS

SCCRTC

| Dist | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET TOTAL |
|---|---|---|---|---|
| 5 | SCr | 1 | 10.34/13.44 | 2 OF 2 |

# COASTAL RAIL-TRAIL SEGMENT 12 ULTIMATE IMPROVEMENTS

**LEGEND**

- RETAINING WALL
- SLOPE LINE/TOE OF SLOPE
- SLOPE LINE/TOP OF CUT
- L1 — LINE DATA (SEE TABLE)
- C1 — CURVE DATA (SEE TABLE)
- PROPOSED BRIDGE
- PROPOSED BRIDGE DECK CONVERSION

**NOTES**

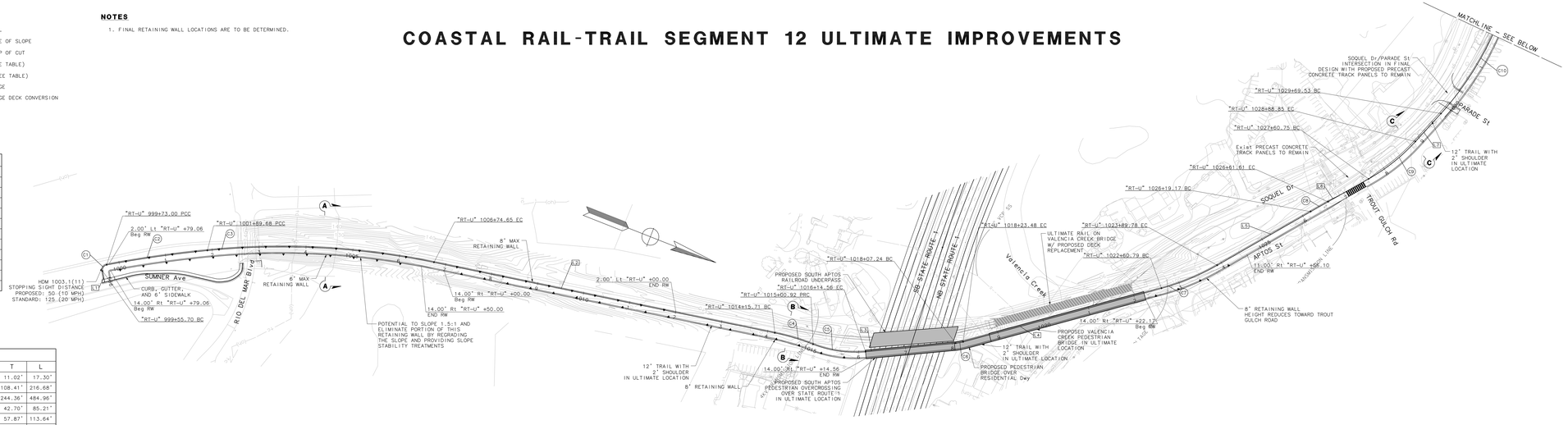
1. FINAL RETAINING WALL LOCATIONS ARE TO BE DETERMINED.

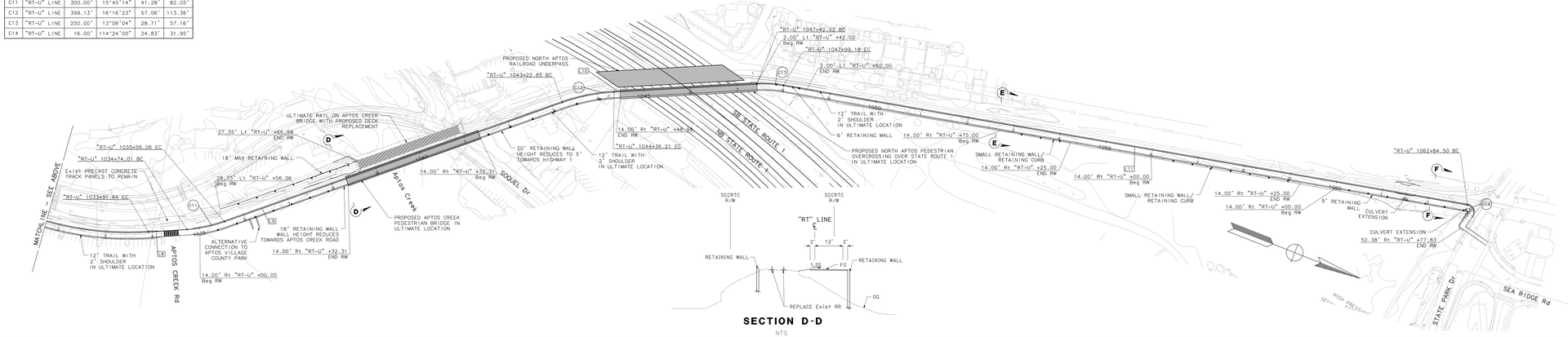
**LINE DATA**

| No. | LINE | LENGTH | DIRECTION |
|---|---|---|---|
| L1 | "RT-U" LINE | 24.77' | S57°44'43"W |
| L2 | "RT-U" LINE | 741.07' | N9°48'26"W |
| L3 | "RT-U" LINE | 192.67' | N26°50'38"W |
| L4 | "RT-U" LINE | 437.31' | N36°36'29"W |
| L5 | "RT-U" LINE | 229.39' | N51°23'20"W |
| L6 | "RT-U" LINE | 99.14' | N50°54'10"W |
| L7 | "RT-U" LINE | 80.68' | N69°15'08"W |
| L8 | "RT-U" LINE | 82.37' | S73°32'23"W |
| L9 | "RT-U" LINE | 766.79' | S57°52'10"W |
| L10 | "RT-U" LINE | 305.81' | S74°08'33"W |
| L11 | "RT-U" LINE | 1485.32' | S87°14'37"W |

**CURVE DATA**

| No. | LINE | R | Δ | T | L |
|---|---|---|---|---|---|
| C1 | "RT-U" LINE | 11.00' | 90°06'54" | 11.02' | 17.30' |
| C2 | "RT-U" LINE | 2500.00' | 4°57'57" | 108.41' | 216.68' |
| C3 | "RT-U" LINE | 1600.00' | 17°21'59" | 244.36' | 484.96' |
| C4 | "RT-U" LINE | 506.00' | 9°38'54" | 42.70' | 85.21' |
| C5 | "RT-U" LINE | 244.00' | 26°41'06" | 57.87' | 113.64' |
| C6 | "RT-U" LINE | 95.35' | 9°45'51" | 8.14' | 16.25' |
| C7 | "RT-U" LINE | 500.00' | 14°46'51" | 64.85' | 128.99' |
| C8 | "RT-U" LINE | 5000.00' | 0°29'11" | 21.22' | 42.44' |
| C9 | "RT-U" LINE | 400.00' | 18°20'58" | 64.61' | 128.10' |
| C10 | "RT-U" LINE | 650.00' | 37°12'29" | 218.80' | 422.11' |
| C11 | "RT-U" LINE | 300.00' | 15°40'14" | 41.28' | 82.05' |
| C12 | "RT-U" LINE | 399.13' | 16°16'23" | 57.06' | 113.36' |
| C13 | "RT-U" LINE | 250.00' | 13°06'04" | 28.71' | 57.16' |
| C14 | "RT-U" LINE | 16.00' | 114°24'00" | 24.83' | 31.95' |



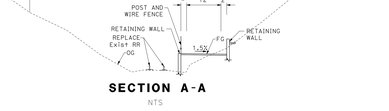







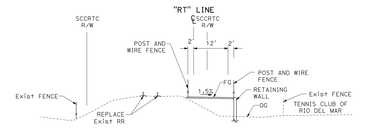
**SECTION D-D**

NTS




**SECTION A-A**

NTS




**SECTION B-B**

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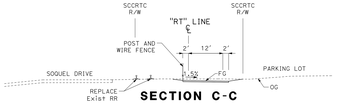
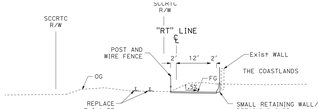



**SECTION C-C**

NTS




**SECTION E-E**

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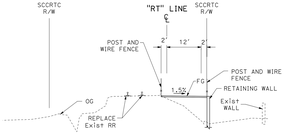



**SECTION F-F**

NTS

**SCCRTC - HIGHWAY 1 AUX LANES AND BUS ON SHOULDER FREEDOM BOULEVARD TO STATE PARK DRIVE**
**DRAFT GEOMETRIC APPROVAL DRAWINGS**

| | |
|---|---|
| DESIGNED BY: JB | APPROVED BY: |
| CHECKED BY: DM | RCE No.: |
| DATE: 12/31/22 | |
| SCALE: 1" = 50' | |

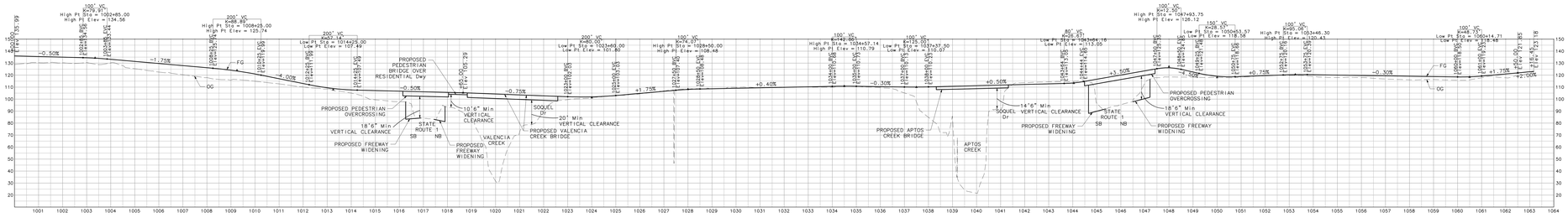
FILE No.: 21-00117

MARK THOMAS

SCCRTC

| Dist | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET TOTAL |
|---|---|---|---|---|
| 5 | SCr | 1 | 10.34/13.44 | 1 OF 2 |

GRAPHIC SCALE
1" = 50'




## "RT-U" LINE

COASTAL RAIL TRAIL SEGMENT 12
RIO DEL MAR Blvd TO STATE PARK Dr

0 30 60 120 240
GRAPHIC SCALE
1" = 100'

**SCCRTC - HIGHWAY 1 AUX LANES AND BUS ON SHOULDER FREEDOM BOULEVARD TO STATE PARK DRIVE**
**DRAFT GEOMETRIC APPROVAL DRAWINGS**

DESIGNED BY: DW
CHECKED BY: DW
DATE: 10/22/21
H = 1"=100'
SCALE: V. 1"=20'

APPROVED BY: _____
RCE No.: _____

FILE No.: 21-00117

MARK THOMAS

SCCRTC

| Dist | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET TOTAL |
|---|---|---|---|---|
| 5 | SCr | 1 | 10.34/13.44 | 2 OF 2 |

# COASTAL TRAIL SEGMENT 12 INTERIM IMPROVEMENTS

**LEGEND**

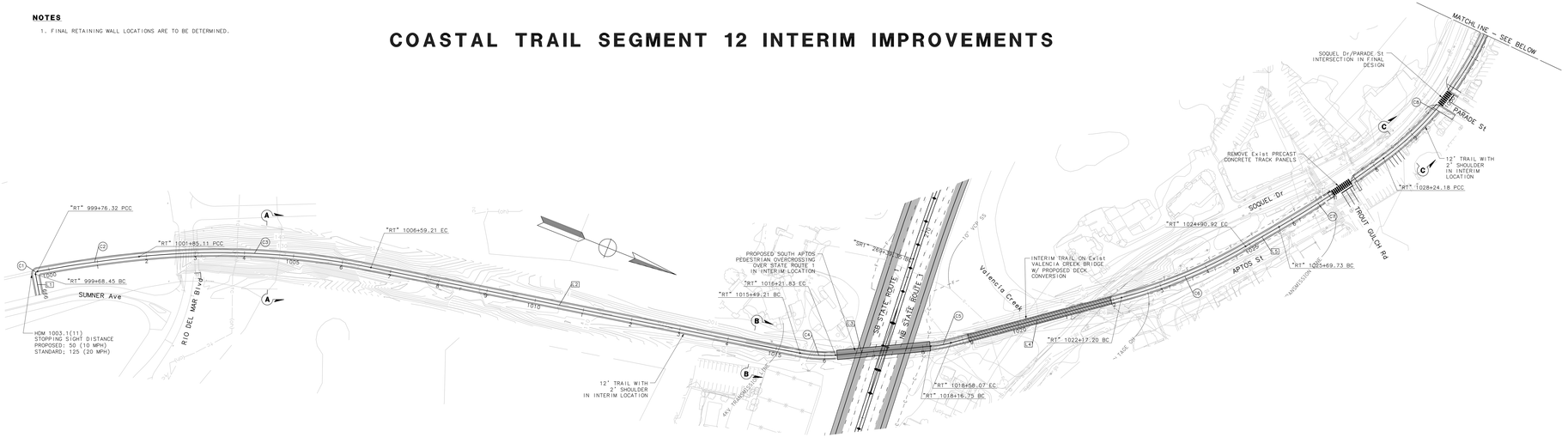
- RETAINING WALL
- SLOPE LINE/TOE OF SLOPE
- SLOPE LINE/TOP OF CUT
- L1 — LINE DATA (SEE TABLE)
- C1 — CURVE DATA (SEE TABLE)
- PROPOSED BRIDGE
- PROPOSED BRIDGE DECK CONVERSION

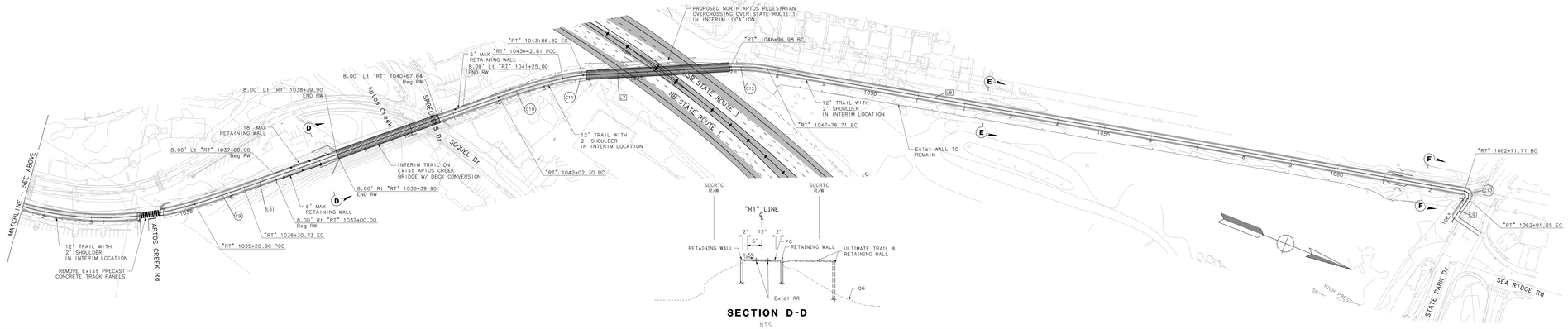
**NOTES**

1. FINAL RETAINING WALL LOCATIONS ARE TO BE DETERMINED.

| LINE DATA | | | |
|---|---|---|---|
| No. | LINE | LENGTH | DIRECTION |
| L1 | "RT" LINE | 42.48' | S57°44'43"W |
| L2 | "RT" LINE | 890.00' | N10°11'59"W |
| L3 | "RT" LINE | 194.92' | N26°50'38"W |
| L4 | "RT" LINE | 359.14' | N36°18'43"W |
| L5 | "RT" LINE | 78.81' | N51°36'40"W |
| L6 | "RT" LINE | 571.58' | S57°45'32"W |
| L7 | "RT" LINE | 310.20' | S74°08'33"W |
| L8 | "RT" LINE | 1008.60' | S87°11'40"W |
| L9 | "RT" LINE | 60.00' | N21°38'36"E |

| CURVE DATA | | | | | |
|---|---|---|---|---|---|
| No. | LINE | R | Δ | T | L |
| C1 | "RT" LINE | 5.00' | 90°06'53" | 5.01' | 7.86' |
| C2 | "RT" LINE | 2512.00' | 4°45'45" | 104.46' | 208.80' |
| C3 | "RT" LINE | 1575.00' | 17°14'49" | 238.85' | 474.10' |
| C4 | "RT" LINE | 250.00' | 16°38'40" | 36.57' | 72.62' |
| C5 | "RT" LINE | 250.00' | 9°28'05" | 20.70' | 41.31' |
| C6 | "RT" LINE | 1025.00' | 15°17'57" | 137.67' | 273.70' |
| C7 | "RT" LINE | 2300.00' | 6°20'21" | 127.36' | 254.47' |
| C8 | "RT" LINE | 645.00' | 61°53'42" | 386.75' | 696.77' |
| C9 | "RT" LINE | 2625.00' | 2°23'46" | 54.89' | 109.77' |
| C10 | "RT" LINE | 1228.22' | 6°33'15" | 70.33' | 140.50' |
| C11 | "RT" LINE | 250.00' | 10°04'35" | 22.04' | 43.97' |
| C12 | "RT" LINE | 350.00' | 13°03'07" | 40.04' | 79.73' |
| C13 | "RT" LINE | 10.00' | 114°15'56" | 15.48' | 19.94' |

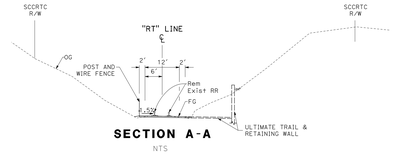


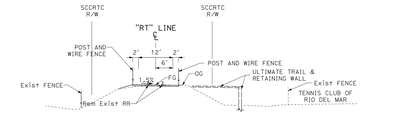




**SECTION D-D**
NTS




**SECTION A-A**
NTS

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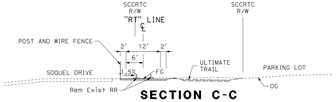
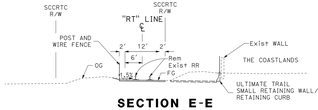
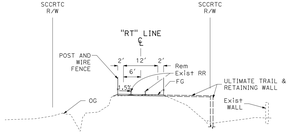



**SECTION C-C**
NTS




**SECTION E-E**
NTS




**SECTION F-F**
NTS

**SCCRTC - HIGHWAY 1 AUX LANES AND BUS ON SHOULDER FREEDOM BOULEVARD TO STATE PARK DRIVE**
**DRAFT GEOMETRIC APPROVAL DRAWINGS**

| | |
|---|---|
| DESIGNED BY: JB | FILE No.: 21-00117 |
| CHECKED BY: DM | APPROVED BY: |
| DATE: 7/31/22 | RCE No.: |
| SCALE: 1" = 50' | |

MARK THOMAS | SCCRTC

GRAPHIC SCALE: 1" = 50'

| Dist | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET TOTAL |
|---|---|---|---|---|
| 5 | SCr | 1 | 10.34/13.44 | 1 OF 2 |

# Appendix H List of Technical Studies

Text has been added to the final environmental document to add the Supplemental Historic Property Survey Report and to correct the month of the Climate Change Memorandum.

Air Quality Report (TAHA, February 2022)

Community Impact Assessment (TAHA, September 2022)

Climate Change Memorandum (ICF, August 2023)

Cumulative Impact Assessment (ICF, March 2023)

Energy Analysis Report (TAHA, July 2022)

Focused Noise Study Report (LSA Associates, June 2022)

Noise Abatement Decision Report (LSA Associates, August 2022)

Water Quality Assessment Report (HDR/WRECO, August 2022)

Natural Environment Study (SWCA, September 2022)

Location Hydraulic Study-Floodplain Evaluation Report (HDR/WRECO, September 2020)

Historical Property Survey Report (Brunzell, April 2023)

- Historic Resource Evaluation Report
- Archaeological Survey Report

Supplemental Historic Property Survey Report (ICF, September 2023)

Hazardous Waste Reports (HDR/WRECO, July 2022)

- Initial Site Assessment

Visual Impact Assessment (ICF, June 2022)

Paleontological Evaluation Report (Stantec Consulting Services Inc., February 2022)

Traffic Study Report (CDM Smith, March 2021)

Additional Traffic Analysis Memorandum (CDM Smith, March 2023)

To obtain a copy of one or more of these technical studies/reports or the environmental impact report/environmental assessment, please send your request to the following email address: info-d5@dot.ca.gov.

Please indicate the project name and project identifying code (under the project name on the cover of this document) and specify the technical report or document you would like a copy of. Provide your name and email address or U.S. postal service mailing address (street address, city, state and zip code).

# **Appendix I** Comment Letters and Responses

This appendix contains the comments received during the public circulation and comment period from April 19, 2023 to June 2, 2023. A California Department of Transportation (Caltrans) response follows each comment presented. Note, comments have been retyped for readability, but are stated verbatim, with acronyms, abbreviations, and any original grammatical or typographical errors. Copies of the original comment letters are contained in Appendix J, *Comment Letters*.

State agencies are labeled with A, organizations are labeled with O, individuals are labeled with I, and comments from the public hearing are labeled as PH.

Three Master Responses have been prepared to address three recurring comments related to tree removal, tiering, and vehicle miles traveled.

**Table I-1. List of Individuals, Organizations, and Agencies Commenting on the Draft Environmental Impact Report/Environmental Assessment**

| Letter ID | Commenter | Format of Comment (letter, email, hearing) | Date |
|---|---|---|---|
| **Agencies** | | | |
| A1 | U.S. Environmental Protection Agency, Mark Pertschuk | Letter via Email | 6/2/2023 |
| A2 | California Transportation Commission, Cherry Zamora | Email | 6/2/2023 |
| A3 | California Coastal Commission, Nolan Clark | Letter via Email | 6/8/2023 |
| A4 | Santa Cruz County Department of Community Development and Infrastructure, Stephanie Hansen | Email | 9/12/2023 |
| A5 | State of California Department of Fish and Wildlife | Letter via Email | 6/1/2023 |
| **Organizations** | | | |
| O1 | Santa Cruz County Friends of the Rail and Trail, Matt Farrell | Letter via Email | 5/29/2023 |
| O2 | Coastal Rail Santa Cruz, Barry Scott | Letter via Email | 6/1/2023 |
| O3 | Campaign for Sustainable Transportation, Rick Longinotti | Letter via Email | 6/2/2023 |
| O4 | Seacliff Business Partners, Emily Chorba | Letter via Email | 6/2/2023 |
| O5 | Seacliff Business Partners, Kelly Dillon | Letter via Email | 6/2/2023 |
| O6 | Seacliff Business Partners, Charlie Wilcox | Letter via Email | 6/2/2023 |
| O7 | Wittwer Parkin, Antoinette Ranit | Letter via Email | 6/2/2023 |
| O8 | Train Riders Association of California, David Schonbrunn | Letter via Email w/attachments | 7/21/2023 |
| **Individuals** | | | |
| I1 | JJ Lind | Email | 4/18/2023 |
| I2 | Douglas M Thomson Sr | Email | 4/21/2023 |
| I3 | Stephanie Tully | Email | 4/22/2023 |
| I4 | Frank Anderson | Email | 4/23/2023 |

| Letter ID | Commenter | Format of Comment (letter, email, hearing) | Date |
|---|---|---|---|
| I5 | Andrea Ratto | Email | 5/1/2023 |
| I6 | Patti Brady | Email | 5/8/2023 |
| I7 | Jane Bruce-Munro | Email | 5/8/2023 |
| I8 | David Van Brink | Email | 5/8/2023 |
| I9 | Mark Johannessen | Email | 5/9/2023 |
| I10 | Molly and Mickey Ording | Email | 5/9/2023 |
| I11 | Nick Adams | Email | 5/11/2023 |
| I12 | Jonathan Goren | Email | 5/11/2023 |
| I13 | Barry Pearlman | Email | 5/11/2023 |
| I14 | Tina Andreatta | Email | 5/16/2023 |
| I15 | Deborah Bohnet | Email w/attachments | 5/19/2023 |
| I16 | Bryan Robinson | Email | 5/21/2023 |
| I17 | Nick Arreguy | Email | 5/26/2023 |
| I18 | Nick Arreguy | Email w/attachments | 5/28/2023a |
| I19 | Nick Arreguy | Email | 5/28/2023b |
| I20 | Terry Dowell | Email | 5/28/2023 |
| I21 | Cheryl Feintech | Email | 5/28/2023 |
| I22 | Caroline Frier | Email | 5/28/2023 |
| I23 | Julia Lompa | Email | 5/28/2023 |
| I24 | Kathryn McGuire | Email | 5/28-2023 |
| I25 | Maria Gitin Torres | Email | 5/28/2023 |
| I26 | Derek Leffers | Email | 5/31/2023 |
| I27 | Michael Lewis and Jean Brocklebank | Email | 5/31/2023 |
| I28 | Dragan Daich | Email | 6/1/2023 |
| I29 | Joe Foster | Email | 6/1/2023 |
| I30 | Caroline Frier | Email | 6/1/2023 |
| I31 | Kelley Howard | Email | 6/1/2023 |
| I32 | Dennis Stanton | Email | 6/1/2023 |
| I33 | Ray Welch | Email | 6/1/2023 |
| I34 | Nick Arreguy | Email | 6/2/2023 |
| I35 | Jerry Cannella | Email | 6/2/2023 |
| I36 | Brad and Annette Clausen | Email | 6/2/2023 |
| I37 | Temujin Kuechle | Email | 6/2/2023 |
| I38 | Derek Leffers | Email | 6/2/2023 |
| I39 | Johanna Lighthill | Email | 6/2/2023 |
| I40 | Debie and Brad Macdonald | Email | 6/2/2023 |
| I41 | Becky Steinbruner | Email | 6/2/2023 |
| I42 | Elissa Wagner | Email | 6/2/2023 |
| I43 | Linda Wilshusen | Email | 6/2/2023 |
| I44 | Susan Wright | Email | 6/2/2023 |
| PH | Public Hearing | Transcript | 5/4/2023 |
| CC | Comment Cards | Written | 5/4/2023 |

# Master Responses

### Master Response 1: Tree Removal

Commenters expressed multiple concerns regarding tree removal in the project area. Comments and concerns regarding tree removal were reviewed by the project development team. Caltrans recognizes the importance of protecting trees and vegetation to the maximum extent possible.

Commenters noted that the removal of large trees along Moosehead Drive, including 56 Santa Cruz County Significant Trees in the Moosehead redwood grove are not shown in the Draft Environmental Impact Report/Environmental Assessment. Several tree surveys were conducted for the project components, including a survey for the State Route 1 impacts, and a survey for construction of both the optional first phase and ultimate trail configuration for Segment 12 of the coastal rail trail. In the Draft Environmental Impact Report/Environmental Assessment the tree removal numbers were disclosed for each of the project components and the total tree removal that would be required for the whole project. The number of trees to be removed was counted by surveying trees within the temporary and permanent impact areas of the project. These numbers are conservative and will be refined during the final design phase. Tree surveys were first conducted in 2021. A supplemental tree survey was conducted in September 2023, to inventory the trees that would be removed along Moosehead Drive. The results of this supplemental survey have been included in this Final Environmental Impact Report/Environmental Assessment. This added information does not change any conclusions in the environmental document and recirculation is not required.

Commenters noted that the tree survey for the State Route 1 component of the project was provided on the project website, but that the tree survey for the coastal rail trail portion of the project was not. Commenters are correct that the State Route 1 tree survey was included as an appendix to the natural environment study. A separate firm conducted the tree survey for the coastal rail trail component, and the differences between the ultimate and optional first phase were identified by the project engineers. The tree survey information is in geographic information system format and a memorandum summarizing results was not prepared. Similarly, for the supplemental tree survey conducted in September 2023, the results were tabulated in geographic information system and a formal memorandum was not prepared. The results of all tree surveys are summarized in the environmental document. Several commenters incorrectly stated that the number of Santa Cruz County Significant Trees was not provided. The number of Santa Cruz County Significant Trees that are within the impact area and could be removed were presented in Draft Environmental Impact

Report/Environmental Assessment Section 2.3.1, *Natural Communities*, and have been updated to reflect the supplemental tree survey conducted in September 2023.

Several commenters expressed concerns related to the aesthetic effects of tree removal, including the concern that the amount of tree removal would result in a change in the scenic highway designation of State Route 1. State Route 1 is an eligible state scenic highway and is recognized in the County of Santa Cruz General Plan as a local scenic roadway. The County of Santa Cruz General Plan and Local Coastal Program Policy 5.10.2 require a review of projects for visual impacts. The zoning ordinance states that development, including walls, should be sited and designed so that it does not block or significantly affect significant public views and scenic character adversely. Environmental Impact Report/Environmental Assessment Section 2.1.4 includes avoidance, minimization, and mitigation measures VA-1 through VA-16 for impacts related to soundwalls and the loss of vegetation, including tree removal. These measures are in line with the design criteria of Section 13.20.130 of the County of Santa Cruz Zoning Ordinance.

The California Coastal Commission requested that Caltrans propose compensatory mitigation due to the visual impacts of tree removal. The project design team has prioritized tree impact minimization and maintaining the scenic look of the highway for both cost and environmental reasons. The large project area nonetheless results in many trees proposed for removal. The entire project is within the Coastal Zone in the County of Santa Cruz, and 1,712 trees are identified within the project's temporary and permanent impact area. The total amount to be removed will be determined during the final design phase. Within the County's Urban Services Line, per County Code Section l6.34.030, a "significant tree" is any tree which is equal to or greater than 20 inches diameter at breast height. Of the total trees that could be removed, 325 would meet the definition of a significant tree.

Avoidance, minimization, and/or mitigation measures to address visual impacts due to loss of vegetation, pavement widening, altered views of the adjacent landscape and neighborhoods, and the construction of new bridges, retaining walls, and soundwalls are included in Sections 2.1.8 and 2.3.1 of the environmental document. Compensatory mitigation plantings are described further under Mitigation Measure BIO-22 in Environmental Impact Report/Environmental Assessment Section 2.3.1. Additional coordination will take place with the California Coastal Commission during the final design phase, and details such as the type of plantings, compensation, the area of plantings, and other requirements will be determined.

Several commenters stated that there is no alternative to reduce the number of trees to be removed, and several inquired about the feasibility of not removing the trees along Moosehead Drive. The original project design was completed in 2021. Since then, the project has been redesigned to minimize encroachment into the right-of-way to reduce tree removal. The original design included widening both sides of State Route 1 and replacing the existing Aptos Creek Bridge with a longer bridge, which would also require modification or replacement of the Valencia Creek arch culvert. This design was revised to avoid impacts on riparian habitat surrounding Aptos Creek and Valencia Creek. Design revisions that reduce impacts on right-of-way and vegetation/tree removal include the following elements.

- Reduced widening to only the southbound side on State Route 1.
- Reduced inside shoulder widths to reduce the widening and minimize impacts on the outside of the freeway.
- Limiting vegetation and tree removal in riparian habitat at Aptos and Valencia Creeks.

As stated in the approved Monterey Bay Sanctuary Scenic Trail Network Master Plan, a multi-use paved path is a derivative of the Caltrans-defined Class I bike path. Unless otherwise noted, the terms “trail” and “path” in these responses and document are used synonymously to refer to paved bike/pedestrian multi-use facility defined by Caltrans as a Class I Bikeway (Bike Path) in the Caltrans Highway Design Manual, Chapter 1000, Bicycle Transportation Design. A Class I bike path provides bicycle travel on a paved right-of-way, completely separated from any street or highway. A multi-use paved path permits a variety of users, in addition to bicyclists, including walkers, joggers, wheelchair users, and non-motorized scooter users. Per the Monterey Bay Sanctuary Scenic Trail, typical design may include paved surface of 8 to 12 feet wide or wider if right-of-way exists and/or high use is anticipated. Per Caltrans Highway Design Manual, Chapter 1000, the minimum paved width of travel way for a two-way bike path shall be 8 feet. Additionally, a minimum 2-foot-wide shoulder, composed of the same pavement material as the bike path or all-weather surface material that is free of vegetation, shall be provided adjacent to the traveled way of the bike path when not on a structure. As stated in Environmental Impact Report/Environmental Assessment Chapter 2, Coastal Rail Trail Segment 12 would be designed as a multi-use paved path per the guidelines identified in Chapter 5 of the Monterey Bay Sanctuary Scenic Trail Network Master Plan. The paved trail would be 12 feet wide, except where there are existing constraints.

Regarding alternatives that reduce the number of trees, as shown in Draft Environmental Impact Report/Environmental Assessment, Chapter 1, Section 1.6, both

a coastal and a hybrid alignment were considered for Segment 12 of the Coastal Rail Trail. These alignments for the trail had more severe impacts on properties and required additional retaining walls that would affect views and result in additional tree and vegetation removal in the Aptos and Valencia Creek riparian areas. Alternatives regarding the highway component are physically limited, but an outside widening alternative was considered and dismissed, as it would have substantial impacts on adjacent creeks, trees, and environmentally sensitive areas including Valencia Lagoon. This alternative would have greater right-of-way impacts than the Build Alternative.

Finally, several commenters expressed concern about the cultural and historic value of large trees, particularly the redwoods along Moosehead Drive. In 2014, the California Environmental Quality Act (CEQA) was amended by Assembly Bill 52, which identified Tribal Cultural Resources as a new resource to be analyzed under CEQA. A Tribal Cultural Resource is considered a site, feature, place, cultural landscape, sacred place, or object included or determined to be eligible for the California Register or local register, or as defined by a California Native American Tribe. While trees could be considered a contributing factor to a cultural landscape, no cultural landscape has been identified in the study area, as described in Section 2.1.9 of the Draft Environmental Impact Report/Environmental Assessment. Please see Section 2.1.9, of the Draft Environmental Impact Report/Environmental Assessment, for further discussion of eligible resources in the study area, and Chapter 4 for information on consultation with tribes to date.

**Master Response 2: Tiering**

Commenters expressed the concern that the Draft Environmental Impact Report/Environmental Assessment is tiered from the Santa Cruz Route I Tier I-Corridor Analysis of High Occupancy Vehicle Lanes and Transportation System Management Alternatives and Tier II Environmental Impact Report/Environmental Assessment (Federal Highway Administration and Caltrans, 2018), which was decertified after litigation. The present Environmental Impact Report/Environmental Assessment is a standalone document and does not tier from the invalidated document.

New technical studies were conducted specifically to analyze environmental impacts in the project area between the Freedom Boulevard and State Park Drive interchanges, including the following.

- Visual Impact Assessment
- Community Impact Assessment
- Natural Environment Study

- Jurisdictional Wetland Evaluation
- Air Quality Study
- Archaeological Survey Report
- Historic Resources Evaluation Report
- Historic Property Survey Report
- Energy Analysis Report
- Geotechnical Design Report
- Initial Site Assessment
- Paleontological Evaluation Report
- Water Quality Study
- Traffic Study
- Supplemental Vehicle Miles Traveled Analysis
- Noise Study Report
- Noise Abatement Decision Report
- Location Hydraulic Study

As allowed by CEQA, the Draft Environmental Impact Report/Environmental Assessment makes use of pertinent existing studies and references (CEQA Guidelines Sections 15147 and 15148). The technical studies conducted for this project are not part of the Tier I environmental analysis, which was overturned. The analysis in the technical reports is still relevant and usable. Any reference to the Tier I document or supporting technical studies refers to facts and technical information contained in the Tier I document and studies but does not rely on the conclusions presented in the Tier I document and studies. As a standalone document, the Draft Environmental Impact Report/Environmental Assessment draws its own independent conclusions from the data. Furthermore, the Traffic Operations Analysis Report does not tier from the Tier I document, but uses traffic information and methodology already compiled for the Tier I analysis. This is described in detail in Section A.3 of the Traffic Operations Analysis Report.

Under the National Environmental Policy Act (NEPA), the proposed project has independent utility and logical termini. Independent utility is a Federal Highway Administration requirement that calls for a highway project to be “usable” and a “reasonable expenditure,” even if no additional transportation improvements are made.

As stated in Draft Environmental Impact Report/Environmental Assessment, Section 1.2.3, the project would not result in additional investments along the corridor upon completion and would not restrict or prevent other transportation improvements in the corridor. Furthermore, the proposed project would achieve its objectives (i.e., reduce congestion, reduce cut-through traffic, enhance bicycle and pedestrian connectivity, address roadway deficiencies, decrease travel times, and increase the reliability of transit within the project limits, regardless of other transportation projects within the County).

The proposed project also has logical termini, which are defined as the rational end points for a transportation improvement and for a review of environmental impacts. The project limits would extend from post mile 8.1 to post mile 10.7, approximately 2.6 miles (i.e., Freedom Boulevard interchange to State Park Drive interchange). The proposed improvements would not restrict the consideration of alternatives for other reasonably foreseeable transportation improvements. Continuing coordination between Caltrans, Santa Cruz County Regional Transportation Commission, and the County of Santa Cruz would avoid potential conflicts with alternatives for this project and other planned area transportation improvements. Consequently, the project and its environmental analysis stands alone. The project would also provide its own set of benefits in terms of improved traffic operations.

Similarly, CEQA Guidelines section 15378(a) defines a project as “the whole of an action, which has a potential for resulting in either a direct physical change in the environment, or a reasonably foreseeable indirect physical change in the environment . . .” As previously described, Section 1.2.3 of the Draft Environmental Impact Report/Environmental Assessment states that the project would not result in additional investments along the corridor upon completion. In terms of the “whole of the action” under CEQA, this means that the project would not result in implementation of any other components identified in the Santa Cruz Route I Tier I-Corridor Analysis of High Occupancy Vehicle Lanes and Transportation System Management Alternatives and Tier II Environmental Impact Report/Environmental Assessment. Therefore, none of the other improvements considered in the Tier I-Corridor Analysis of High Occupancy Vehicle Lanes and Transportation System Management Alternatives and Tier II Environmental Impact Report/Environmental Assessment are reasonably foreseeable consequences of the proposed project. As a result, the project as defined in the Draft Environmental Impact Report/Environmental Assessment constitutes the “whole of the action” and, therefore, is the project under CEQA.

CEQA Guidelines section 15088 requires the lead agency to respond to comments raising environmental issues. The comments related to tiering do not raise environmental

issues with the analysis in the EIR, which does not rely on tiering. Therefore, no additional response is required.

**Master Response 3: Vehicle Miles Traveled**

Several commenters expressed concerns regarding the vehicle miles traveled analysis. The Office of Planning and Research guidance stipulates under the discussion of Project Types Not Likely to Lead to a Measurable and Substantial Increase in Vehicle Travel, “Addition of an auxiliary lane of less than one mile in length designed to improve roadway safety.” The auxiliary lane sections included in this project are all under 1 mile long. The measurements of the length of the auxiliary lane segments, included in this project prepared by the engineering firm, confirmed that none of the segments exceed 1 mile. In addition, the Senate Bill 743 Program - Director’s Office of Equity, Sustainability, and Tribal Affairs concurred with this finding (pers.comm. Kuzak). Therefore, the project is not required to prepare a vehicle miles traveled analysis.

Several commenters expressed their opinion that the project would increase capacity of the highway. Capacity increases would occur on the segments where the auxiliary lanes are added, which would be between the freeway interchanges. The purpose of the auxiliary lanes is to improve traffic operations such as merging and to reduce collisions. There would be no capacity increase at the interchange locations, which control the amount of total travel that can be accommodated by the freeway. Increases in capacity would be local in nature and not regional; therefore, they would not result in increased vehicle miles traveled. As a result, the project is not a highway capacity expansion or capacity increasing project. As summarized in the additional traffic analysis of April 4, 2023, which is included as part of the environmental record, the improved operations on the freeway would likely result in some diversion of trips from adjacent parallel surface street routes, the net result of which would be an increase in total freeway traffic by segment and a corresponding decrease in traffic on the parallel routes (CDM Smith 2023). This shift in traffic is not likely to result in an increase in vehicle miles traveled. However, as also noted in the analysis, the bus-on-shoulder and rail trail elements of the project would result in vehicle miles traveled reductions, so the project would result in an overall vehicle miles traveled reduction. The reduction in regional vehicle miles traveled is supportive of California’s 2017 Climate Change Scoping Plan.

As previously discussed, the project would be exempt from the requirement to provide a vehicle miles traveled analysis. The analysis provided, while not meeting the Office of Planning and Research's requirements (because it was not conducted using the regional travel model), was developed using accepted methods. For example, the analysis was accepted by state and federal officials when it was used in successful

grant applications for project funding. The vehicle miles traveled analysis was based on Caltrans' policy and procedures for conducting such analyses. Caltrans has prepared the Transportation Analysis Framework and Transportation Analysis under CEQA published in September 2020 to guide transportation impact analysis for projects on the State Highway System as part of the CEQA process. Caltrans prepared these documents to guide implementation of Senate Bill 743 (Steinberg 2013). The Transportation Analysis Framework provides guidance on the methodology to be used in measuring the vehicle miles travelled impacts for projects on state highways.

The project would improve traffic operations and safety in the areas between the freeway interchanges, as described in Section 1.2 and Section 2.1.7 of the Draft Environmental Impact Report/Environmental Assessment.

## Agency Comments

### *Response to Comments from US Environmental Protection Agency, Mark Pertschuk*

#### Comment A1-1

The U.S. Environmental Protection Agency has reviewed the California Department of Transportation's Draft Environmental Impact Report/Environmental Assessment pursuant to the California Environmental Quality Act and the National Environmental Policy Act. Our review and comments are provided for the Draft Environmental Assessment for the project, pursuant to NEPA, Council on Environmental Quality regulations (40 CFR Parts 1500-1508), and Section 309 of the Clean Air Act.

Caltrans, in cooperation with the Santa Cruz County Regional Transportation Commission and the County of Santa Cruz, proposes to reduce congestion, improve safety, and encourage alternative transportation modes by widening State Route 1 to include auxiliary lanes, accommodate Bus-on-Shoulder operations between the Freedom Boulevard and State Park Drive interchanges, and construct Coastal Rail Trail Segment 12. We recognize Caltrans has integrated our previous scoping comments and recommend Caltrans consider our further comments regarding air quality, aquatic resources, biological resources, and environmental justice when preparing the final Environmental Assessment. These impacts are discussed further below.

Air Quality

Santa Cruz County is in attainment and not in violation of the National Ambient Air Quality Standards. We note that in the draft Environmental Impact

Report/Environmental Assessment for the project Caltrans committed to construction phase mitigation measures such as diesel equipment idling avoidance, fugitive dust mitigation, and other measures near sensitive receptors. In the Draft Environmental Assessment, Caltrans identifies Seacliff Village Park, Aptos Village Park, the Tennis Club of Rio del Mar, and Valencia Elementary School as Environmentally Sensitive Areas with sensitive receptors vulnerable to construction emissions. We recommend Caltrans consider adopting any additional mitigation measures that apply and are practicable from the following list.

Recommendations:

Fugitive Dust Source Controls

- Develop a dust control plan documenting sprinkling, temporary paving, speed limits, and expedited revegetation of disturbed slopes as needed to minimize construction impacts on existing communities. Apply water or dust palliative to the site and equipment as frequently as necessary to control fugitive dust emissions.
- Spread soil binder on any unpaved roads used for construction purposes and on all project construction parking areas.
- Wash off trucks as they leave the right-of-way as necessary to control fugitive dust emissions.
- Stabilize open storage piles and disturbed areas by covering and/or applying water or chemical/organic dust palliative where appropriate, including during workdays, weekends, holidays, and windy conditions.
- Install wind fencing and phase grading operations where appropriate and operate water trucks for stabilization of surfaces under windy conditions.
- Route and schedule construction traffic to avoid peak travel times as much as possible to reduce congestion and related air quality impacts caused by idling vehicles along local roads.

Mobile and Stationary Source Controls

- Properly tune and maintain construction equipment and vehicles.
- Use low-sulfur fuel in all construction equipment.
- Limit on-road and off-road diesel equipment idling time to no more than 5 minutes. Post signs in the designated queuing areas and/or job sites to remind drivers and operators of the 5-minute idling limit.

- Lease or buy newer, cleaner equipment using the best available emissions control technologies.
- Use lower-emitting engines and fuels, including electric, liquified gas, and/or alternative diesel formulations if feasible.
- Consider the potential near-roadside air pollution mitigation benefits from sound walls and vegetative barriers outlined in emergent research.

**Response to Comment A1-1**

The control measures recommended by the U.S. Environmental Protection Agency were reviewed by the Lead Agency. Included here are some of the recommended measures included in the Environmental Impact Report/Environmental Assessment.

- Develop a dust control plan documenting sprinkling, temporary paving, speed limits, and expedited revegetation of disturbed slopes as needed to minimize construction impacts on existing communities. A dust control plan is included on page 245 of the Environmental Impact Report/Environmental Assessment as part of the project.
- Apply water or dust palliative to the site and equipment as frequently as necessary to control fugitive dust emissions. This measure is included on page 244 of the Environmental Impact Report/Environmental Assessment as part of the project.
- Spread soil binder on any unpaved roads used for construction purposes and on all project construction parking areas. This measure is included on page 244 of the Environmental Impact Report/Environmental Assessment as part of the project.
- Wash off trucks as they leave the right-of-way as necessary to control fugitive dust emissions. This measure is included on page 244 of the Environmental Impact Report/Environmental Assessment as part of the project.
- Stabilize open storage piles and disturbed areas by covering and/or applying water or chemical/organic dust palliative where appropriate, including during workdays, weekends, holidays, and windy conditions. This measure is included on page 244 of the Environmental Impact Report/Environmental Assessment as part of the project.
- Install wind fencing and phase grading operations where appropriate and operate water trucks for stabilization of surfaces under windy conditions. The use of water to control dust is included on page 244 of the Environmental Impact Report/Environmental Assessment as part of the project. Wind fencing is not necessary given the implementation of a dust control plan and the other dust control measures included on pages 244 and 245 of the Environmental Impact Report/Environmental Assessment.

- Route and schedule construction traffic to avoid peak travel times as much as possible to reduce congestion and related air quality impacts caused by idling vehicles along local roads. This measure is included on page 245 of the Environmental Impact Report/Environmental Assessment as part of the project.

Mobile and Stationary Source Controls

- Properly tune and maintain construction equipment and vehicles. This measure is included on page 244 of the Environmental Impact Report/Environmental Assessment as part of the project.
- Use low-sulfur fuel in all construction equipment. This measure is included on page 245 of the Environmental Impact Report/Environmental Assessment as part of the project.
- Limit on-road and off-road diesel equipment idling time to no more than 5 minutes. Post signs in the designated queuing areas and/or job sites to remind drivers and operators of the 5-minute idling limit. This measure is included on page 245 of the Environmental Impact Report/Environmental Assessment as part of the project.
- Lease or buy newer, cleaner equipment using the best available emissions control technologies. The project would comply with California Air Resources Board regulation for the In-Use Off-Road Diesel-Fueled Fleets Regulation (Off-Road Regulation). This regulation reduces emissions by requiring that fleets phaseout operation of their oldest and highest emitting off-road diesel vehicles, prohibiting the addition of high-emitting vehicles to a fleet, and requiring the use of R99 or R100 renewable diesel in off-road diesel vehicles. There are also requirements applicable to prime contractors and public works awarding bodies to obtain and retain a fleet's valid Certificate of Reported Compliance prior to awarding a contract or hiring a fleet.
- Use lower-emitting engines and fuels, including electric, liquified gas, and/or alternative diesel formulations if feasible.
- Consider the potential near-roadside air pollution mitigation benefits from sound walls and vegetative barriers outlined in emergent research (Caltrans prioritizes construction of sound walls when possible for this reason).

The Environmental Impact Report/Environmental Assessment does not identify a significant or adverse effect related to air pollution, and additional control measures are not necessary for the project.

**Comment A1-2**

Aquatic Resources

We recognize that Caltrans and its partners have completed an analysis of the potential upstream hydrologic impacts of the proposed project, including the growing risks associated with climate change. Receiving waters for the project are Aptos Creek, Valencia Creek, Valencia Lagoon, and the Pacific Ocean; Aptos Creek and Valencia Creek are creeks within designated Federal Emergency Management Area floodplains and located within the project's footprint. Most of the project site, however, is outside of Federal Emergency Management Agency's special flood hazard areas and represents minimal flood hazard. The project would not be a significant encroachment on the base floodplain. The overall existing land use of the project watershed area would be maintained. The effect of the proposed project on water surface elevation and stream flow are anticipated to be negligible and there would be no significant floodplain encroachment.

**Response to Comment A1-2**

This comment reiterates the analysis included in the Draft Environmental Impact Report/Environmental Assessment to identify project impacts related to flood hazard areas. No changes are required.

**Comment A1-3**

Climate Adaptation

Climate change is expected to produce increased variability in precipitation, rising temperatures, rising sea levels, variability in storm surges and their intensity, and in the frequency and intensity of wildfires. Accordingly, Caltrans considers these types of climate stressors in how transportation projects are planned, designed, built, operated, and maintained. We note the Caltrans Climate Change Vulnerability Assessment for District 5 found that no roadway segments in the County of Santa Cruz, including the project area, would be affected by up to 6 feet of sea level rise, and that no locations in the project area would be affected by a combination of sea level rise and storm surge. We also note that Caltrans analyzed the hydrologic flow through the project area and considered the risks of extreme precipitation in the uplands with landslide effects downstream and found the proposed project area would not be significantly adversely affected by heavy precipitation events. Caltrans' hydrological assessment evaluated whether the project would affect 100-year water surface elevations within the project vicinity. The sea level rise analysis and the floodplain evaluation report both concluded

that the project would not be vulnerable to inundation by sea level rise of 7 feet plus 100-year storm surge at about 2100 under the medium-high risk aversion scenario. The project's water quality assessment found that minimal net impervious area would drain to the different receiving waters within project limits and would not change water surface elevation upstream of State Route 1 during a 100-year event with sea level rise. Bridge freeboard within the project area was found to be more than adequate to pass any increased flows. New drainage systems would be designed to convey 100-year flow, existing undersized culverts would be replaced, and treatment Best Management Practices and hydromodifications to enhance percolation would be conducted in accordance with requirements of Caltrans, Santa Cruz County, and the Central Coast Regional Water Quality Control Board. Accordingly, the project is not likely to be affected by the projected changes in 100-year storm precipitation.

**Response to Comment A1-3**

This comment reiterates the measures identified in the Draft Environmental Impact Report/Environmental Assessment to identify project impacts related to climate adaptation. No changes are required.

**Comment A1-4**

Biological Resources

We note that Caltrans is already planning to study potential impacts to federally listed animal species, California Rare Plant Rank species, California Species of Special Concern, and nesting native birds in the project area. Caltrans will also complete a fish passage assessment in the biological study area and consult with the US Fish and Wildlife Service and National Marine Fisheries Service. The Draft Environmental Assessment also states that Caltrans is also coordinating and consulting with the California Coastal Commission, California Department of Fish and Wildlife, U.S. Army Corps of Engineers, and the Regional Water Quality Control Board on potential impacts to wildlife.

Recommendations:

- We recommend Caltrans continue its ongoing consultation and collaboration with the US Fish and Wildlife Service, National Marine Fisheries Service, California Coastal Commission, California Department of Fish and Wildlife, US Army Corps of Engineers, and Regional Water Quality Control Board to analyze, minimize, and mitigate impacts to wildlife in the project area.

- Include a wide enough representative area of the watershed to adequately assess the biological impacts of the proposed project.
- Protect migratory and nongame birds, their occupied nests, and their eggs by avoiding construction during the nesting season, stopping all work within a 100-foot radius of a discovery, notifying the project engineer, and implementing protective measures.
- Prepare/finalize a Mitigation and Monitoring Plan, consistent with federal, state, and local regulatory requirements, to avoid and mitigate impacts on vegetation and natural habitats, amended with any required regulatory permit conditions.
- Prior to any ground-disturbing activities, install environmentally sensitive area fencing around sensitive waters and the dripline of trees to be protected within project limits.
- Monitor compliance with avoidance and minimization measures within the project environmental documents.
- Ensure that the spread or introduction of invasive exotic plant species is avoided to the maximum extent possible. When practicable, remove and properly dispose of invasive plants in the project site.
- Following construction, restore temporary impacts on streamside vegetation used as sheltering areas or streambed sandbars, gravels, and cobbles used by fish species to their preconstruction conditions, at a minimum.
- If any construction activities are proposed to occur during the typical nesting season (February 15 to September 15), conduct a nesting bird survey of the area of disturbance to determine presence/absence of nesting birds within the project area.
- Establish environmentally sensitive areas to minimize the impact on California red-legged frog, California giant salamander, and Santa Cruz black salamander habitat. If regulatory agency approval allows, qualified biologists shall capture and relocate any Santa Cruz black salamanders (if present) or other sensitive species to suitable habitat outside of the area of impact.
- Conduct preconstruction surveys for bats species that could be utilizing existing structures or trees for roosting habitat. If bats are identified as utilizing areas within the biological study area for day or night roosting, a qualified biologist shall identify the species of bat present.
- If construction activities are scheduled to occur within potentially suitable monarch butterfly habitat between October 1 and March 1, conduct pre-construction surveys for overwintering monarch butterflies in appropriate habitat. If an active roost or

aggregation is present, prohibit construction grading or other development within 100 feet of the active roost between October 1 and March 1. If feasible, avoid eucalyptus tree removal or other disturbance of eucalyptus habitat from October 1 to March 1 to avoid potential impacts on winter roosting monarch butterflies.

**Response to Comment A1-4**

The commenter's recommendations are being carried forward by the project team. Caltrans is continuing consultation and collaboration with applicable agencies regarding potential impacts on wildlife in the project area, as described in Environmental Impact Report/Environmental Assessment Section 2.3. As stated in Environmental Impact Report/Environmental Assessment Section 2.3.1, the biological study area watershed includes all areas that could be affected by the project, either temporarily or permanently. Migratory birds with potential to occur in the study area are described in Environmental Impact Report/Environmental Assessment Section 2.3.4, including mitigation to avoid potential impacts (Avoidance, Minimization, and/or Mitigation Measure BIO-84 through Avoidance, Minimization, and/or Mitigation Measure BIO-88). As stated in Avoidance, Minimization, and/or Mitigation Measure BIO-86, a radius greater than 100 feet would be implemented if nesting birds are discovered during construction. Fencing environmentally sensitive areas is described in Avoidance, Minimization, and/or Mitigation Measure BIO-3, and measures to reduce the spread of invasive plants are found in Avoidance, Minimization, and/or Mitigation Measure BIO-62. Avoidance, Minimization, and/or Mitigation Measure BIO-72 ensures restoration after construction. Avoidance, Minimization, and/or Mitigation Measure BIO-29 discusses nesting bird surveys that would be required if any construction activities are proposed to occur during the typical nesting season. The mitigation and monitoring plan would be prepared and finalized during project design.

**Comment A1-5**

Environmental Justice

The proposed project shares a geographic area with the communities of Aptos and Rio del Mar and other unincorporated areas of Santa Cruz County. Environmental Protection Agency Environmental Justice Screen shows a slight overlap between above 80$^{th}$ percentile unemployed population, above 90th percentile over-64 years of age, and above 90th percentile proximity to traffic and associated vehicle emissions in the proposed project area.

**Response to Comment A1-5**

As described in Environmental Impact Report/Environmental Assessment Chapter 2, Caltrans prepared a Community Impact Assessment in September 2022 that evaluated whether minority and/or low-income populations were present in the project area. The Community Impact Assessment found that the population of the study area does not include low-income or minority populations greater than the minority or low-income population percentages in the general population of Santa Cruz County. Since the populations of concern were not identified in the study area, there would not be disproportionate and adverse impacts on these populations under the proposed project as defined by provisions of Executive Order 12898. Nonetheless, all avoidance, minimization and mitigation measures to reduce air quality emissions during construction and operation would be implemented equally across the project area. Additionally, the proposed project includes bus-on-shoulder and trail elements that would encourage non-vehicular and non-single-passenger vehicular trips.

**Comment A1-6**

The Draft Environmental Assessment indicates that the affected environment for potential impacts related to land use includes properties adjacent to the proposed Coastal Rail Trail Segment 12, which would be impacted by land acquisitions and temporary construction easements. The proposed project would require temporary easements for construction activities associated with the proposed improvements, including the construction of sound walls and retaining walls along north and southbound State Route 1. The Build Alternative would require full or partial property acquisitions for the construction of the rail trail segment within the existing right of way of the Santa Cruz Branch Rail Line. The acquisition of property would occur along Soquel Road, north of State Route 1, and east of the existing rail segment, south of State Route 1.

**Response to Comment A1-6**

This comment reiterates the information identified in the Draft Environmental Impact Report/Environmental Assessment related to land acquisitions and temporary construction easements. No changes are required.

As described in Environmental Impact Report/Environmental Assessment Section 2.1.5, *Relocations and Real Property Acquisition*, the proposed project would require sliver, partial, and permanent acquisitions for construction of the State Route 1 and bus-on-shoulder improvements and Coastal Rail Trail Segment 12. Partial sliver property acquisitions would be required for construction of State Route 1 and bus-on-shoulder

improvements, and the retaining wall and roadway realignment. Temporary construction easements for construction at the noise barrier locations may also be required. In addition, construction of the Coastal Rail Trail Segment 12 may require permanent partial acquisitions and temporary construction easements.

**Comment A1-7**

We understand that the project is not expected to alter land use patterns or change land uses beyond the minor land acquisition needed to construct Coastal Rail Trail Segment 12 and is consistent with adopted local planning goals and policies for improving the existing State Route 1 corridor. The project alignment has been adjusted to fit within existing right of way where feasible. The proposed project would be subject to the policies and programs set forth in the Santa Cruz County 1994 General Plan/Local Coastal Program and other state and local transportation and land use plans.

**Response to Comment A1-7**

This comment reiterates the information in the Draft Environmental Impact Report/Environmental Assessment related to the land use and coastal program. The commenter is accurate in noting that the proposed project would be subject to the policies and programs set forth in the Santa Cruz County 1994 General Plan/Local Coastal Program and other state and local transportation and land use plans, as identified in the Environmental Impact Report/Environmental Assessment. No changes are required.

**Comment A1-8**

Recommendations:

Environmental Protection Agency recommends that Caltrans continue to coordinate with local government agencies to harmonize the proposed project with local active transportation plans.

**Response to Comment A1-8**

Caltrans has provided relevant agencies and/or local governments with the opportunity to coordinate and comment on the proposed project and Draft Environmental Impact Report/Environmental Assessment. In addition, as is recommended and policy for Caltrans, the agency will continue to coordinate with local agencies for opportunities regarding the project regarding local active transportation plans. No changes are required.

**Comment A1-9**

Recommendations (cont'd)

Assess and disclose any potential impacts of the project on sensitive populations and communities with environmental justice concerns. We recommend Caltrans continue to work with local government agencies and community representatives to include these populations in community outreach and communication for the proposed project.

**Response to Comment A1-9**

The Environmental Impact Report/Environmental Assessment has assessed impacts on the surrounding community and project area in accordance with CEQA and NEPA. Caltrans has provided federal, state, regional and local agencies, organizations, and members of the public with the opportunity to coordinate and comment on the proposed project and the Draft Environmental Impact Report/Environmental Assessment. No changes are required.

**Comment A1-10**

Implement and maintain erosion control measures, including sediment barriers (e.g., fiber rolls and straw bales) between the project site and adjacent streams, wetlands and other waters, checked and maintained daily throughout the construction period.

**Response to Comment A1-10**

Erosion control measures would be implemented, as described in AMM-GEO-2. No changes are required.

**Comment A1-11**

To the greatest practicable extent, conduct work within stream channels during the dry season (June 1–September 30). If in-stream work will be necessary, a Diversion and Dewatering Plan will be prepared, submitted for agency approval, and implemented.

**Response to Comment A1-11**

As stated in Avoidance, Minimization, and/or Mitigation Measure BIO-10, work will occur within stream channels during the dry season if possible, and a Diversion and Dewatering Plan will be implemented if needed. No changes are required.

**Comment A1-12**

During project activities, clean and refuel mobile equipment and vehicles only within a designated staging area and at least 100 feet from wetlands, other waters, or other aquatic areas. This staging area will conform to Best Management Practices applicable to attaining zero discharge of stormwater runoff.

**Response to Comment A1-12**

Avoidance, Minimization, and/or Mitigation Measure BIO-12 includes restrictions for cleaning and refueling mobile equipment and vehicles 100 feet from wetlands and other waters, as well as conforming to best management practices to attain zero discharge or stormwater runoff. No changes are required.

**Comment A1-13**

Stormwater

We see from the Draft Environmental Assessment that because the project would disturb more than 1 acre of land, and a construction stormwater general permit would be required for the build alternative. In compliance with the Caltrans and Phase 2 Municipal Separate Storm Sewer System (MS4) permits, the project is required to adopt permanent Best Management Practice design features that reduce potential negative impacts. We recommend Caltrans review the Best Management Practices in the MS4 permit for the proposed project and include any additional Best Management Practices that are applicable and practicable from the EPA's National Menu of Best Management Practices. Also consider adding any of the following recommendations as they apply and are practicable for the proposed project.

Recommendations:

- Prior to the onset of work, prepare a Hazardous Materials Response Plan to allow a prompt and effective response to any accidental spills. Inform all workers of the importance of preventing spills and of the appropriate measures to take should a spill occur.
- Comply with the conditions of the Construction General Permit, including the preparation and implementation of a Stormwater Pollution Prevention Plan.
- Conserve natural areas, including existing trees, stream buffer areas, vegetation, and soils.
- Minimize disturbances of natural drainages.

- Design and construct pervious areas to effectively receive runoff from impervious areas, taking into consideration the pervious area's soil conditions, slope, and other design factors.
- Implement landscape and soil-based Best Management Practices such as amended soils and vegetated strips and swales where feasible.
- Use climate-appropriate landscaping that minimizes irrigation and runoff. This promotes surface infiltration and minimizes the use of pesticides and fertilizers.
- Implement the California Office of Emergency Services' Hazardous Material Incident Contingency Plan.

**Response to Comment A1-13**

The best management practices suggested are already included in the Environmental Impact Report/Environmental Assessment. The hazardous materials response plan is described in Avoidance, Minimization, and/or Mitigation Measure BIO-11. The project was designed to reduce impacts on natural areas and vegetation to the extent feasible. Various measures throughout Environmental Impact Report/Environmental Assessment Section 2.3 and other sections of the Environmental Impact Report focus on conserving and restoring natural areas that would be temporarily or permanently affected, including compensatory mitigation. Preparation of a Stormwater Pollution Prevention Plan is described in Environmental Impact Report/Environmental Assessment Sections 2.2.3 and 3.2.10. No changes are required.

***Response to Comments California Transportation Commission, Cherry Zamora***

**Comment A2-1**

The California Transportation Commission (Commission) has received the California Department of Transportation's Draft Environmental Impact Report/Environmental Assessment for the State Route 1 Auxiliary Lanes and Bus-on-Shoulder Improvements—Freedom Boulevard. to State Park Drive—and Coastal Rail Trail Segment 12 Project. Commission staff do not have comments at this time.

**Response to Comment A2-1**

Caltrans thanks the Commission for its review and comment. No changes are required.

## *Response to Comments California Coastal Commission, Nolan Clark*

### Comment A3-1

Thank you for the opportunity to provide comments on the Draft Environmental Impact Report for the proposed Highway 1 Auxiliary Lanes and Bus-on-Shoulder Improvements—Freedom Boulevard to State Park Drive—and Coastal Rail Trail Segment 12 Project (project). As a preliminary matter, we would like to emphasize that we continue to be very supportive of the development of the Monterey Bay Sanctuary Scenic Trail as a critical component and central “spine” of the California Coastal Trail network and for expanding multi-modal transportation opportunities in the region. The Monterey Bay Sanctuary Scenic Trail/California Coastal Trail are envisioned as key ingredients of a sustainable and interlinked transportation system in the coastal zone, a goal echoed in federal, state, and local policies and programs alike, including the California Coastal Act and the Santa Cruz County Local Coastal Program.

Improving transportation in Santa Cruz County by offering safer, greener, and healthier options for bicycling, walking, and public transit in ways that connect residential areas with employment areas, schools, parks, beaches, and community centers along the coast would provide many benefits. Designed with these factors in mind, the Monterey Bay Sanctuary Scenic Trail/California Coastal Trail can also help advance the state and local sustainability measures of improved coastal access and recreation, mobility, environmental conditions, safety, economic vitality and health, as well as to reduce vehicle miles traveled and greenhouse gas emissions.

### Response to Comment A3-1

Caltrans thanks the California Coastal Commission for its support of the development of the Monterey Bay Sanctuary Scenic Trail.

### Comment A3-2

At the same time, we also recognize that a project of this nature invariably raises some questions and issues, and we appreciate that the CEQA process can help identify and address such questions and issues, provide a forum for public discussion, and develop materials to help facilitate the forthcoming coastal development permit processes. With that in mind, we offer the following comments to consider in the development of the final Environmental Impact Report and subsequent project development.

Project Description

The project will construct northbound and southbound auxiliary lanes between the State Park Drive and Freedom Boulevard interchanges, replace the two existing overhead railroad bridges between the State Park Drive and Rio del Mar interchanges, and widen the Aptos Creek bridge. The auxiliary lanes will connect the on-ramps with the next off-ramp to improve traffic operations and reduce cut-through traffic diverting to local streets and neighborhoods. The existing railroad bridges will be replaced with longer span bridges to accommodate the addition of auxiliary lanes. The new bridges will also be able to accommodate future high-capacity public transit and freight operations. This project includes construction of Segment 12 of the Coastal Rail Trail, a bicycle and pedestrian trail along an approximately 1.14-mile segment of the Santa Cruz Branch Rail Line right-of-way from State Park Drive to Rio Del Mar Boulevard. Additionally, independent bicycle and pedestrian bridges adjacent to the Santa Cruz Branch Rail Line bridges will be constructed over Highway 1, Aptos Creek, and Valencia Creek. The new bridges, soundwalls, and retaining walls will incorporate aesthetic treatments consistent with the visual character of the corridor and the adjacent community.

**Response to Comment A3-2**

This is not a comment on the Draft Environmental Impact Report/Environmental Assessment or the document's analysis. Rather, this is an introduction to comments. No further response is needed.

**Comment A3-3**

Jurisdiction and Permitting

Based on the map of the proposed project boundaries in Figure 1-2, it appears that all of the proposed project except the segment of Rail Trail inland of Highway 1 is located within the Coastal Zone. The portions of the project within the Coastal Zone appear to be located within the Local Coastal Program jurisdiction of Santa Cruz County. Due to the project size, location, and potential funding sources, there are several possible regulatory pathways for securing Coastal Act approval for the project (e.g., County Coastal Development Permit, Federal Consistency). As such, we suggest that Caltrans coordinate with Coastal Commission staff and Santa Cruz County staff to determine the most efficient and appropriate permitting pathway to meet regulatory requirements. Please be aware that staging, storage, signage, traffic diversion, and other construction-related activities that constitute development would also be considered part of the project area for the purposes of Coastal Act approval.

**Response to Comment A3-3**

The California Coastal Commission is correct that the proposed project is located within the Local Coastal Program jurisdiction of Santa Cruz County. Caltrans is working with the California Coastal Commission staff and Santa Cruz County staff regarding permits and will continue to do so throughout the final design and permitting phases of the project.

**Comment A3-4**

This area also falls within the Commission's appeal jurisdiction. First, pursuant to Coastal Act Section 30603(a)(2) and 30603(a)(3), those portions of the project area within 100 feet of wetlands or within sensitive coastal resource areas are within the Commission's appeal jurisdiction. Ultimately, Coastal Act Section 30603(a)(5) establishes that the Coastal Commission has appeal jurisdiction over all major public works projects, including this project in its entirety. As such, we suggest revising Figure 2-1 to accurately reflect these appeal jurisdictions.

**Response to Comment A3-4**

The California Coastal Commission is correct that the proposed project is located within the commission's appeal jurisdiction, and Figure 2-1 has been revised accordingly. This change does not affect the analysis and conclusions presented in the Environmental Impact Report/Environmental Assessment.

**Comment A3-5**

Sea Level Rise. We applaud the inclusion of a robust analysis of the potential impacts of sea level rise and associated coastal hazards on the proposed project. In particular, we observe that the Draft Environmental Impact Report considers a range of sea level rise scenarios for the project area based on the 2018 California Ocean Protection Council Sea Level Rise Guidance. Using these projections, the Draft Environmental Impact Report summarizes a hydraulic analysis which considers future stream elevations in Aptos Creek resulting from a combination of sea level rise and a 100-year storm. The Draft Environmental Impact Report concludes with a clear description of the remaining freeboard from the highway bridge soffit under multiple scenarios, including finding that the bridge would not be impacted by the sea level rise projected in the Extreme Risk Aversion scenario for 2100 plus a 100-year storm. Such analysis is precisely what California's modern sea level rise policy obliges for critical infrastructure projects. We commend Caltrans' inclusion of the analysis in the Draft Environmental

Impact Report, and we believe it will greatly inform efficient regulatory review of the project.

**Response to Comment A3-5**

Caltrans thanks the California Coastal Commission for its comment regarding the sea level rise analysis. No further response is required.

**Comment A3-6**

Sensitive Habitat and Wetlands. The proposed project will have both temporary and permanent effects on the natural environment and a number of special status species within the Coastal Zone that are protected under both the Coastal Act and the Local Coastal Program, including riparian non-wetlands, wetlands, coast live oak, tidewater goby, central coast steelhead trout, Santa Cruz long-toed salamander, California red-legged frog, monarch butterfly, and others. As a general matter, we recommend that the final Environmental Impact Report further define “temporary” and “permanent” impacts as understood both physically and temporally; ecology is not only a function of space, but also a function of time. Typical Coastal Commission guidance recommends “temporary” impacts be understood as those where there is no significant ground disturbance or killing of native vegetation, and the vegetation recovers to its pre-disturbance state within one year; everything else is considered “permanent”. For example, if from the point of initial disturbance, vegetation will take more than one year to recover, the temporal losses of important ecological functions such as successional processes, plant maturity, shading, and seedbanking may require years to recover even from relatively temporary disturbances. Further defining and considering the temporal aspects of impacts may better serve the natural environment being affected and provide clearer guidance on any necessary mitigation measures.

**Response to Comment A3-6**

While riparian non-wetlands were mapped in the biological study area, there are no impacts on wetlands because none are located in the biological study area. It was also determined that there were no impacts on Santa Cruz long-toed salamander. As described in Section 2.3.1 of the Environmental Impact Report/Environmental Assessment, impacts from dewatering the creek will be a short-term impact on benthic macro invertebrates, which will lead to a temporal loss of habitat for steelhead. Typically, temporary impacts do involve vegetation removal, which will be restored after construction. With all temporary impacts, there is a temporary loss of habitat. Avoidance and minimization measures are put in place to minimize the affected areas and the duration of this impact. For example, avoidance and minimization measures BIO-1

through BIO-16 would avoid potential impacts on riparian areas and other waters, and Mitigation Measure BIO-17 would compensate for impacts on jurisdictional waters. Other avoidance and minimization measures are included in Sections 2.3.1, 2.3.4, and 2.3.5 of the Environmental Impact Report/Environmental Assessment.

As stated in Section 2.3.1 of the Environmental Impact Report/Environmental Assessment, implementation of the Build Alternative would result in a total permanent impact of 6.897 acres and total temporary impact of 13.663 acres on land cover in the Biological Study Area. The temporary impacts come from the temporary construction easements, which are also described in Chapter 1 of the Environmental Impact Report/Environmental Assessment. This area typically provides working room for a contractor during the construction phase. Ground-disturbing activities would not occur in the temporary construction easement area.

**Comment A3-7**

The Draft Environmental Impact Report contains a fairly detailed description of the project's potential impacts on habitat and wetlands. We observe that Caltrans anticipates that the project would result in a total permanent impact of 6.897 acres and total temporary impact of 13.663 acres. Approximately half of the permanent impacts would be to already landscaped areas, while the remainder would be to various natural communities. The project would also result in temporary impacts to 1.473 acres and permanent impacts to 0.061 acres of wetlands. These potential impacts would be associated with significant project features. In Aptos Creek, for example, environmentally sensitive habitat area and wetlands impacts would result from the implementation of temporary creek diversions and the construction of new foundations for the existing highway bridge columns.

We appreciate the careful consideration of wetlands and riparian non-wetlands as they pertain to the Coastal Zone. Dividing waters by jurisdiction, as is done in the Draft Environmental Impact Report, aids the regulatory review process. We recommend that a similar approach pertaining to other types of habitats is included in the final Environmental Impact Report. For example, identification and quantification of the habitat area impacted within the Coastal Zone that qualifies specifically as environmentally sensitive habitat area1 under the Local Coastal Program can enable Caltrans to better evaluate the project for consistency with Local Coastal Program and Coastal Act environmentally sensitive habitat area policies.

We note that the Draft Environmental Impact Report does not include mitigation proposals to compensate for these anticipated impacts, but instead defers developing

such proposals to the permitting process. While Caltrans does propose to mitigate permanent impacts at a 3:1 ratio and temporary impacts at a 1:1 ratio, we suggest Caltrans quickly move beyond these ratios and include substantive mitigation proposals as part of the project, and coordinate early with Coastal Commission and Santa Cruz County staff to develop a full and adequate mitigation proposal. Mitigation remains a consistent source of permitting delays in the Coastal Zone, and early coordination is essential. Incorporating the necessary mitigation into the overall project will allow permitting staff to evaluate the entire project for consistency with Coastal Act and Local Coastal Program policies so that the project may be permitted efficiently. Generally, mitigation may include, but is not limited to, onsite restoration and habitat enhancement for temporary impacts and commensurate offsite compensatory restoration and habitat enhancement and/or creation for permanent impacts. We recommend that the final Environmental Impact Report identify potential sites for compensatory mitigation and analyze the feasibility of habitat restoration, enhancement, and creation at these sites to ensure that proper mitigation can be achieved.

**Response to Comment A3-7**

The majority of the project is located within the Commission's appeal jurisdiction, which has been added to Figure 2-1. Therefore, the impacts on habitat as shown in the Environmental Impact Report/Environmental Assessment would be the same as impacts on habitat in the coastal zone. At the time the Draft Environmental Impact Report/Environmental Assessment was prepared, it was based on a 30% engineering design. As the engineering design progresses, temporary and permanent impacts will be refined to reflect actual project impacts. The project development team, as part of final design, will continue to look for opportunities to reduce tree impacts within the project area. At that time, mitigation design (including but not limited to onsite restoration and habitat enhancement) and proposals will be provided to applicable agencies. County of Santa Cruz is part of the project development team and is apprised monthly of the status of the project design, environmental impacts, and mitigation strategies.

The Draft Environmental Impact Report/Environmental Assessment does not defer mitigation, rather it provides information on temporary and permanent impacts and tree removal in the coastal zone and identifies performance standards and metrics/ratios for compensatory mitigation as allowed by CEQA. Mitigation Measure BIO-17 would compensate for impacts on jurisdictional waters. As part of the coastal development permit, a Condition of Approval will be determined to require specific replacement ratios, as well as type of replacements (i.e., tall California native varieties) and locations meeting applicable Caltrans clearance and landscaping requirements.

The mitigation measure as written provides specific performance standards (i.e., a 1 to 1 ratio for temporary impacts and mitigated at a 3 to 1 ratio for permanent impacts) that have been proven to be effective on other similar Caltrans projects such as the State Route 1 Auxiliary Lanes from Bay Porter Avenue to State Park Drive project. Santa Cruz Regional Transportation Commission, the permittee, is responsible for implementing all conditions of approval for their permits, which will be negotiated during the permitting phase. As stated in Mitigation Measure BIO-17, compensatory mitigation will be implemented immediately following project completion. Compensatory mitigation plantings will be monitored on a quarterly basis. Any required maintenance will also occur on a quarterly basis. Maintenance activities will include weeding, debris removal, replanting (if necessary), repair of any vandalism, fertilizing, and/or pest control. Maintenance activities will be dictated by the results of the quarterly monitoring effort. Santa Cruz County Regional Transportation Commission will be responsible for submitting quarterly reports and annual monitoring reports to Caltrans and the affected regulatory agencies. The annual monitoring report submitted at Year 5 will serve as a final completion report should the mitigation be successful.

**Comment A3-8**

We are also surprised by the absence of detail regarding the proposed fish passage improvements at Valencia Creek. As noted on page S-11, fish passage barrier remediation at Valencia Creek is a statutorily required component of this project under Senate Bill 857 and Streets and Highways Code Sections 156.3 and 156.4. In our experience, remediating fish passage barriers can be a significant undertaking warranting detailed planning and analysis. However, based on the text of page 303, this component of the project is still in its earliest stages. In this respect, the project proposed in the Draft Environmental Impact Report appears to be incomplete insofar as it does not establish even basic parameters around which to evaluate the contemplated fish passage improvements. We urge that Caltrans provide additional detail in the final Environmental Impact Report to allow for meaningful agency analysis and public review of this important project component.

**Response to Comment A3-8**

Caltrans will oversee and coordinate preparation and implementation of a fish passage annual monitoring and maintenance plan for the duration of the interim measures to confirm that the culvert meets permitted performance standards. Post construction the culvert will be routinely inspected and maintained to provide performance targeting fish passage flows. Performance standards consistent with published criteria as defined by CDFW (2002) and NMFS (2023), or as modified by agency input will be implemented.

In any years in which the performance standards are not met, causes for the failure, such as inadequate maintenance, baffle failure, unanticipated environmental conditions (e.g., excessive deposition of sediment or woody material, trash) will be assessed. Added mitigation or maintenance will be considered as needed. Caltrans will submit annual monitoring reports to California Department of Fish and Wildlife Service and National Marine Fisheries Service for review and verification that the culvert remains in compliance with the passage standards design criteria.

If additional analysis is needed or design of the fish passage changes significantly than what is conceptualized at this time, additional CEQA and NEPA review will be conducted, as necessary.

If additional analysis is needed or design of the fish passage changes significantly than what is conceptualized at this time, additional CEQA and NEPA review will be conducted, as necessary.

**Comment A3-9**

Specific to the Rail Trail portion of the project, the major impacts would include vegetation removal in the County right-of-way (including the removal of an estimated 121 significant trees) and net new impervious surfaces totaling 6.51 acres (3.84 of new impervious surface) under the Ultimate Trail configuration.

With respect to vegetation removal, the Draft Environmental Impact Report states that tree surveys were completed for both the Highway 1 improvement areas and the Rail Trail Segment 12 areas, but only the tree survey for the Highway 1 improvement areas was included. The final Environmental Impact Report should include the tree survey for the Rail Trail Segment 12 project areas and identify all significant trees consistent with the numbers reported in the Draft Environmental Impact Report.

**Response to Comment A3-9**

Please see Master Response 1 regarding tree removal.

**Comment A3-10**

With respect to new impervious surfaces, the Draft Environmental Impact Report states that treatment for surface runoff of the additional impervious surfaces along the County right-of-way will not be necessary due to its pedestrian and bicycle use (Apart from 0.23 acre within the County's right-of-way that intersect vehicular use area). Still, the 6.51 acres of net new impervious surface area expected under the Ultimate Trail Configuration has the potential to affect drainage patterns as these would be newly

paved areas over previously pervious surfaces. Therefore, we recommend that the final Environmental Impact Report and subsequent project design include a drainage analysis for Segment 12 of the Rail Trail in addition to the drainage analyses for the Highway 1 improvements due to its proximity to Aptos Creek and Valencia Creek. Such an analysis will better constrain runoff pathways from these paved areas into these wetland and riparian habitats.

**Response to Comment A3-10**

A project goal is to maintain the drainage pattern. The drainage analysis and design will be performed in accordance with Santa Cruz County and Caltrans. The proposed drainage facilities will be designed and constructed according to the Caltrans and Santa Cruz County standards. Detailed drainage analysis will be performed in the Plans, Specifications, and Estimates phase when survey information becomes available. The drainage design will consider metering flows for additional runoff from the newly created impervious surfaces as necessary to minimize impacts on wetlands and riparian habitats.

**Comment A3-11**

Visual Resources/Aesthetics. Coastal Act Section 30251 requires that the scenic and visual resources of the coastal area around Highway 1 be protected as a resource of public importance, and that development be visually compatible with the character of the surrounding area, and sited and designed to minimize alteration of natural landforms. The policies of the Santa Cruz County Local Coastal Program mirror these policies and provide additional policy direction for projects along Highway 1 and in Seacliff Village.

We appreciate that Caltrans is proposing multiple measures to avoid and minimize the potential visual impact of the project, including aesthetically treating the proposed soundwalls, planting screening vegetation to gradually hide new hardscape elements, and other project elements that serve to blend the project with the surrounding landscape to the extent feasible. We also appreciate that several project elements, including the proposed rail-trail highway crossings, will provide some visual benefit in the form of a more visually pleasant design than the existing crossings. Nevertheless, we recognize that the Draft Environmental Impact Report concludes that the proposed project would have significant and unavoidable impacts on aesthetics, including scenic views of and from Highway 1. In particular, the two soundwalls, gore paving, and inside shoulder paving would result cumulatively in a more build landscape evocative of urbanized areas and at odds with the surrounding tree canopies, forests, and parklands.

We strongly advise that Caltrans identify and propose visual mitigation to compensate for these unavoidable impacts. Compensatory mitigation—which is not included the project, despite the enumeration of several so-named "Mitigation Measures"—is necessary to ensure that highway projects in the vicinity do not substantially alter the scenic value of the highway in a manner that is impermissible under the policies of the Local Coastal Program and the Coastal Act.

**Response to Comment A3-11**

The project design has prioritized tree impact minimization and maintaining the aesthetic value of the highway. The large project area nonetheless results in many trees proposed for removal. Within the county's Urban Services Line, per County Code Section 16.34.030, *Definitions*, a "significant tree" is any tree which is equal to or greater than 20 inches diameter at breast height. The project will comply with applicable permit requirements.

While the commenter states that compensatory mitigation should be provided, it provides no direction on what the appropriate compensatory mitigation should be. The Draft Environmental Impact Report/Environmental Assessment included avoidance, minimization, and mitigation measures VA-1 through VA-18 to address visual impacts due to loss of vegetation, pavement widening, altered views of the adjacent landscape and neighborhoods, and the construction of new bridges, retaining walls, and soundwalls. Caltrans and Santa Cruz Regional Transportation Commission have evaluated the need for soundwalls and performed a performance benefit and efficacy analysis to minimize wall height to the extent feasible. The wall will be constructed of a stacked and staggered mixed-block design, and creeping vines will be planted to green the wall. Existing vegetation to be removed will be replaced with a select and primarily native plant list. Caltrans and Santa Cruz Regional Transportation Commission have worked with local communities through public outreach and noticing, focus groups, and open houses to develop guidelines concerning aesthetic treatments related to vegetation, soundwalls, retaining walls, guardrails, bridges, fences or other barriers, landscaping, site furnishings, and stormwater treatment facilities. Mitigation measures also include a 3-year maintenance period for the establishment of vegetation. Caltrans and Santa Cruz Regional Transportation Commission have performed extensive community and stakeholder outreach and evaluated impacts, alternatives, and tradeoffs thoroughly.

Construction of the soundwall would require removing trees and vegetation in the project area, but clinging vines (creeping fig vines) would be planted to add texture and

color to the soundwall. Additionally, the soundwall would be constructed of a tan and sand gray mixed-block design, adding texture, and improving its appearance.

Regarding policies of the Santa Cruz County Local Coastal Program, a consistency analysis is provided in Section 2.1.1 of the Draft Environmental Impact Report/Environmental Assessment and includes additional policies that were added in response to comment A3-14, below.

The commenter incorrectly states that the project does not include compensatory mitigation. Please see Master Response 1 regarding tree removal and compensatory mitigation.

**Comment A3-12**

Public Access. The Coastal Act and the Santa Cruz County Local Coastal Program contain policies protecting and promoting public coastal access. As the primary arterial through the Central Coast, Highway 1 is a critical resource for providing public access to and along the coast. While CEQA does not consider a project's impacts on public coastal access, in our experience it has become commonplace for Caltrans to include in its CEQA documents an analysis of a project's consistency with relevant Coastal Act and Local Coastal Program public access policies. The inclusion of such an analysis in the CEQA document allows for timely identification and remediation of any potential public access impacts associated with the project, which may be more difficult for Caltrans to address in later stages of project development. Given this traditional practice, the omission of public access from the Draft Environmental Impact Report, aside from the glancing reference to Public Resources Code Section 30252 on page 56, strikes us as an oversight that should be corrected in the final Environmental Impact Report.

**Response to Comment A3-12**

The project includes construction and operation of Coastal Trail segment 12, which is a segment of Monterey Bay Sanctuary Scenic Trail. Therefore, the project furthers the goal of coastal access for pedestrians and bicyclists.

A detailed analysis of the project's consistency with local plans and policies, including the Local Coastal Program, can be found in Environmental Impact Report/Environmental Assessment Section 2.1.1. Consistency with policies related to access, including Policy 3.14.2 of the Local Coastal Program and Section 30210 of the California Coastal Act, can also be found in Section 2.1.1. Additional policies in the 1994 General Plan/Local Coastal Program related to public access, and an analysis of

whether or not the project is consistent with the policies, are included here and have been added to Final Environmental Impact Report/Environmental Assessment Section 2.1.1. The inclusion of additional relevant policies does not present significant new information, nor does it affect the analysis and conclusions presented in the Draft Environmental Impact Report/Environmental Assessment; therefore, recirculation is not required.

**Policy 7.5.5:** Recreation Within Watershed Reserves. Provide public opportunities for wilderness recreation experiences by allowing public access to major publicly-owned domestic watershed reserves, where such use can be accomplished without harm to the watershed function of the areas. Develop trail systems, interpretive signing, and camping sites where feasible.

> The Build Alternative is consistent with this policy because it includes construction of Coastal Rail Trail Segment 12, which will further public opportunities for wilderness recreation experiences. The trail crosses Valencia and Aptos Creeks and would provide trail users the opportunity to view these areas without harm to the watershed function. The Build Alternative has been designed to reduce the project footprint to the maximum extent feasible to reduce impacts on the surrounding natural areas. As described in Environmental Impact Report/Environmental Assessment Section 2.3, there are no adverse impacts related to biological resources or natural communities with mitigation implemented.

**Policy 7.5.6:** Access to Major Inland Water Bodies. Provide for public access around the margins of all major natural inland water bodies sufficient to allow the development, where appropriate, of a safe equestrian, hiking, and/or bicycle trail without major disturbance to the shoreline.

> The Build Alternative supports this policy because it includes construction of Coastal Rail Trail 12, which will increase accessibility throughout the area as connections to the overall Monterey Bay Scenic Trail are added. The ultimate trail configuration (including the optional first phase and removal of optional first phase) has the potential to enhance neighborhood cohesion by providing new pedestrian and bicycle access within the project corridor. With two new pedestrian and bicycle overcrossings of State Route 1, Coastal Rail Trail Segment 12 would support pedestrian and bicycle connections between Aptos Village and neighborhoods located on the other side of State Route 1.

**Programs (Local Coastal Program).** Support the development of the state trails system linking state beaches with the state mountain parks, subject to policy 7.6.2. (Responsibility: Board of Supervisors, Parks Commission, Planning Department, County Parks)

The project, including Coastal Rail Trail Segment 12, is not in the immediate vicinity of a state beach or state mountain park. Parks and recreational uses in the project vicinity are described in Environmental Impact Report/Environmental Assessment Section 3.2.

**Objective 7.7b Shoreline Access (Local Coastal Program):** To provide a system of shoreline access to the coast with adequate improvements to serve the general public and the coastal neighborhoods which is consistent with the California Coastal Act, meets public safety needs, protects natural resource areas from overuse, protects public rights and the rights of private property owners, minimizes conflicts with adjacent land uses, and does not adversely affect agriculture, subject to policy 7.62.

The project would not impede on shoreline access to the coast or otherwise conflict with this policy. The Build Alternative would increase accessibility in the study area for bicyclists and pedestrians with the Coastal Rail Trail Segment 12 connection and would also reduce delay in the project corridor, while also increasing transit opportunities.

**Objective 7.7c Beach Access (Local Coastal Program):** To maintain or provide access, including visual access, to every beach to which a granted access exists or to which the public has acquired a right of access through use, as established through judicial determination of prescriptive rights, and acquisition through appropriate legal proceedings, in order to ensure one access to every pocket beach and convenient, well distributed access to long sandy beaches, subject to policy 7 .6.2.

As stated above, the project would not impede on beach access to the coast or coastal views, or otherwise conflict with this policy. The Build Alternative would increase accessibility in the study area for bicyclists and pedestrians with the Coastal Rail Trail Segment 12 connection, and it would also reduce delay in the project corridor, while also increasing transit opportunities.

**Policy 7.7.11 Vertical Access (Local Coastal Program):** Determine whether new development may decrease or otherwise adversely affect the availability of public access, if any, to beaches and/or increases the recreational demand. If such impact will occur, the County will obtain, as a condition of new development approval, dedication of vertical access easements adequate to accommodate the intended use, as well as existing access patterns, if adverse environmental impacts and use conflicts can be mitigated, under the following conditions:

(a) Outside the Urban Services Line:

- to pocket beaches if there is no other dedicated vertical access;
- to long sandy beaches if there is no dedicated vertical access within one-half mile;

- to bluffs which are large enough and of a physical character to accommodate safety improvements, and which provide room for public use as a vista point

(b) Within the Urban Services Line:

- from the first public roadway to the shoreline if there is not dedicated access within 650 feet;
- through properties inland of the first public roadway if there is evidence that residents have been using the property to gain access to the shoreline, and if closure of the pathway would require residents to detour more than one-eighth mile.

(c) All dedications required shall comply with policy 7.6.2 and the other policies of this chapter.

The Build Alternative includes adding auxiliary lanes and a bus-on-shoulder component to the segment of State Route 1, between Freedom Boulevard and State Park Drive, and construction of Coastal Rail Trail Segment 12. While the project would not affect public access to beaches, it would reduce delay on State Route 1 in the project corridor, increase transit reliability and transit ridership, and increase connectivity for bicyclists and pedestrians via the trail. The Build Alternative would not induce population; therefore, it would not induce recreational demand. The project is intended to improve bottlenecks and delay on State Route 1 for existing and future users.

**Comment A3-13**

Setting aside this misstep, Commission staff support the overall goal of the project to provide a safe and reliable roadway through the project area while minimizing environmental impacts. At the same time, we are mindful that road and ramp closures (as mentioned on page 61) have the potential to cumulatively, if temporarily, impact public coastal access by constricting highway traffic. Given the importance of Highway 1 to public coastal access throughout the project area, we suggest that the proposed Traffic Management Plan schedule any traffic restrictions to avoid the summer season, when coastal visitorship is highest, particularly on weekends and holidays. This measure will help avoid significant impacts to public access and ensure the project's consistency with the public access policies of the Coastal Act and the Santa Cruz County Local Coastal Program.

**Response to Comment A3-13**

The traffic management plan, including acceptable temporary lane closure hours during construction for the freeway, ramps, and local streets, will be fully developed during the design phase with input from Caltrans and other applicable agencies. Typically, lane closures are avoided on holidays. According to Caltrans' Transportation Management Plan Guidelines, work hours are typically performed during off-peak periods to minimize work zone impacts and are restricted during periods of peak travel demand and congestion (such as holidays) (Caltrans 2015). In addition, the purpose of the project is to improve traffic operations and local circulation which would improve coastal access.

**Comment A3-14**

Project Design

Coastal Rail Trail Segment 12 would require four bridges: Two crossings over Highway 1, one crossing over Aptos Creek, and another over Valencia Creek. Currently, there are existing Santa Cruz Branch Rail Line bridges at all of these crossings, yet the project proposes to build separate, independent bridge structures for the Rail Trail. The Draft Environmental Impact Report states that where the Santa Cruz Branch Rail Line crosses over Aptos Creek and Valencia Creek, there is not enough data to cantilever the Rail Trail on these existing bridges. Similarly, where new Santa Cruz Branch Rail Line bridges are proposed over Highway 1, the Ultimate Configuration for the Rail Trail would include separate, independent bridge structures as well. We recommend that the final Environmental Impact Report identifies in full the potential for cantilevering the Rail Trail on the Santa Cruz Branch Rail Line crossings at all four locations, as we believe this may potentially limit the overall development footprint of the project, especially with respect to any necessary grading and installation of structural supports adjacent to riparian non-wetlands and stream channels.

**Response to Comment A3-14**

The feasibility of cantilevering pedestrian bridges off of the existing Santa Cruz Branch Line piers over Valencia Creek and Aptos Creek was examined as a part of the Trail Rail Evaluation - Structure Concept Development - MP12-71ab (Aptos Creek Santa Cruz Branch Rail Line Bridge) and Trail Rail Evaluation - Structure Concept Development - MP12-34 and MP12-39 (Valencia Creek Santa Cruz Branch Rail Line Bridge). These reports found numerous seismic vulnerabilities and inadequate superstructure capacity to carry a trail section cantilevered off the existing structure. Additionally, the reports noted an unknown foundation condition resulting in a strong desire to avoid adding any dead load to the structure that would alter the foundation

loading. Existing foundations are unlikely to meet the requirements of current seismic design codes and could be vulnerable during a seismic event. The existing bridge bearings require replacement, and the existing structure was not designed to support both the American Railway Engineering and Maintenance-of-Way Association loading and a new pedestrian trail structure and pedestrian loading. For these reasons, standalone pedestrian bridges over Valencia Creek and Aptos Creek were advanced and cantilevering the existing pedestrian bridges were determined infeasible and dismissed.

The feasibility of cantilevering pedestrian bridges off of the proposed Santa Cruz Branch Line replacement structures over State Route- 1 was examined as a part of the Final Value Analysis Study Report that examined combined structures at both locations. While it was found that a combined structure would present some cost savings, the savings were not significant due to the high cost of the replacement Santa Cruz Branch Line structures over State Route 1 compared to low costs to construct stand-alone pedestrian overcrossings. Based upon the minimal savings, the project Development team deemed separating the structures to be the preferable alternative to be able to maintain structural separation between the structures to provide a more pleasing pathway for trail users, which supports policies in the County of Santa Cruz 1994 General Plan and Local Coastal Program. Combining the structures would not significantly reduce the project footprint or affect the trail alignment and, therefore, would not reduce environmental impacts. CEQA Guidelines Section 15126.6 states that factors that may be used to eliminate alternatives from further analysis include failure to meet the basic project objectives, infeasibility, or inability to avoid environmental impacts.

### *Response to Comments Santa Cruz County Department of Community Development and Infrastructure, Stephanie Hansen*

**Comment A4-1**

Please accept these revised comments on the County of Santa Cruz's historic resources. Santa Cruz County Community Development and Infrastructure Department is providing the following comments on the Draft Environmental Impact Report for the Coastal Rail Trail Segment 12:

The Historic Property Survey Report, page 5, provided as a technical study in the Environmental Impact Report, comments that a list of multiple properties within the Area of Potential Impact for the project were evaluated and found not eligible for inclusion in the National Register of Historic Places.

However, three of the properties referenced in the list are designated in the County's Inventory of Historic Resources as historic resources of local significance:

7992 Soquel Drive, Aptos (Rice House): Assessor's Parcel Number 039-232-03. Rated National Register-3, eligible in the opinion of the Historic Resources Commission for listing on the National Register.

7996-A Soquel Drive, Aptos (Jose Arano House): Assessor's Parcel Number 039-232-01. Rated National Register-4, a property which may become eligible for listing on the National Register if additional research provides a stronger statement of significance, or if the architectural integrity is restored.

Southern Pacific Railroad Bridge 36-0011, Hwy 1 Over Aptos Creek, located at the Intersection of Soquel Drive and Spreckels Drive (Aptos Creek Bridge). Rated National Register-3, eligible in the opinion of the Historic Resources Commission for listing on the National Register.

Projects affecting these properties are subject to review by the Community Development and Infrastructure under Chapter 16.42 of the Santa Cruz County Code, which provides criteria and permit requirements for demolition, new construction, and exterior alterations on designated historic properties.

To protect these historical properties, it is also recommended that structures on these sites be protected during construction activities occurring on the subject parcel or adjacent sites, including temporary fencing as appropriate.

The related DPR forms adopted by the County for the three designed historic properties referenced above are attached to this email.

**Response to Comment A4-1**

The bridge over Aptos Creek located at the intersection of Soquel Drive and Spreckles Drive (known as Aptos Creek Bridge) is outside the project footprint and area of potential effects identified for the project, and it would not be directly or indirectly affected by the project. Santa Cruz County is incorrect in referencing the bridge as Southern Pacific Railroad Bridge 36-0011, which is a different bridge.

On June 13, 2022, Brunzell Historical on behalf of Caltrans emailed a letter with project map requesting information on resources in the area. No response from the County was received in 2022. In early January 2023, Brunzell followed up with phone calls and emails; additional information was promised by the County but not sent. On June 2,

2023, the County provided a comment on the Draft Environmental Impact Report/Environmental Assessment, at which time the information about local status of these properties became known.

In subsequent correspondence with the County to gain more information on the two properties (Regarding 7992 Soquel Drive, Aptos (Judge Rice House): Assessor's Parcel Number 039-232-03 and 7996-A Soquel Drive, Aptos (Jose Arano House): Assessor's Parcel Number 039-232-01), it became known that both properties were added to the County's Historic Resources Inventory in 1986. A review of the Department of Parks and Recreation Forms prepared in 1986 (and verified in 1994) determined that the forms did not evaluate the resources under California Register of Historic Resources criteria as required by Office of Historical Preservation's Instructions for Recording Historical Resources and currently accepted professional standards. This criteria and why these resources do not meet CEQA's standard for historical significance is discussed below.

In 2018, Caltrans completed the Final Environmental Impact Report/Environmental Assessment for Santa Cruz Route 1 Tier I – Corridor Analysis of High Occupancy Vehicle (HOV) Lanes and Transportation System Management Alternatives and Tier II – Build Project Analysis of 41st Avenue and Soquel Avenue/Drive Auxiliary Lanes and Chanticleer Avenue Pedestrian-Bicycle overcrossing (referred to as Highway 1 High Occupancy Vehicle Lane Project) project that evaluated these two properties (Judge Rice House and Jose Arano House) in accordance with Section 15064.5(a)(2)-(3) of the State CEQA Guidelines, using the criteria outlined in Section 5024.1 of the California Public Resources Code and concluded that these properties do not appear to meet the significance criteria as outlined in these guidelines. Additionally, the properties do not appear to meet any of the significance criteria of either the National Register of Historic Places or California Register of Historic Places, and as the CEQA lead agency, Caltrans has determined that these properties are not considered historical resources for the purposes of CEQA.

The cultural resources evaluation and findings were concurred by the Office of State Historic Preservation. On January 6, 2004, JRP Consulting, on behalf of Caltrans, invited the Santa Cruz Historic Resources Commission and Santa Cruz Historic Preservation Commission to comment on the evaluation as Interested Parties ( Historical Resources Evaluation Report, 2010 available: https://sccrtc.org/external/hwy1corridorEnvDocs/TechnicalStudies/06__08_SR_1_HPSR__HRER__attachments.pdf).

The 2023 Historical Properties Survey Report prepared for the proposed project reviewed the previous documentation prepared by Caltrans, conducted a windshield

survey in 2023, and included the following in the Historical Resources Evaluation Report.

> Nine historic-period properties within the Area of Potential Effects or the 0.25-mile radius around the Area of Potential Effects have been determined ineligible or recommended ineligible through survey evaluation: three bridges, one religious property, three single-family residences, one apartment building, and one commercial property. Most of the resources had been evaluated as part of the earlier Highway 1 High Occupancy Vehicle Lane Project (Bunse et al. 2010), which was a precursor to the current project. Those previously recorded and evaluated ineligible resources located within the current Area of Potential Effects include:
>
> - Jose Arano House 7996 Soquel Drive Assessor's Parcel Number: 039-232-01 (Map Reference #6)
> - Rice House 7992 Soquel Drive Assessor's Parcel Number: 039-232-03 (Map Reference #4)
>
> Caltrans has conducted subsequent surveys of and prepared Department of Parks and Recreation forms for the properties at7992 Soquel Drive, Aptos (Judge Rice House): Assessor's Parcel Number 039-232-03 and 7996-A Soquel Drive, Aptos (Jose Arano House): Assessor's Parcel Number 039-232-01. These resources have been determined ineligible, as the buildings do not qualify as historical resources in accordance with CCR Title 14 Section 15064.5. The Jose Arano House lacked integrity due to major architectural changes and the Rice House lacked the significance required for listing under any criterion of the National or California registers.

The Aptos Creek Bridge, located at the intersection of Soquel Drive and Speckles Drive, is a vehicle-bearing concrete bridge that is outside the project area and will not be affected by the project.

According to CCR Title 14 Section 15064.5:

> (a) For purposes of this section, the term "historical resources" shall include the following:
>
> (1) A resource listed in, or determined to be eligible by the State Historical Resources Commission, for listing in the California Register of Historical Resources (Pub. Res. Code §5024.1, Title 14 CCR, Section 14 CCR, Section 4850 et seq.).

(2) A resource included in a local register of historical resources, as defined in section 5020.1(k) of the Public Resources Code or identified as significant in an historical resource survey meeting the requirements section5024.1(g) of the Public Resources Code, shall be presumed to be historically or culturally significant. *Public agencies must treat any such resource as significant unless the preponderance of evidence demonstrates that it is not historically or culturally significant. (*italicized for emphasis*)*

(3) Any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California may be considered to be an historical resource, provided the lead agency's determination is supported by substantial evidence in light of the whole record. Generally, a resource shall be considered by the lead agency to be "historically significant" if the resource meets the criteria for listing on the California Register of Historical Resources (Pub. Res. Code, §5024.1, Title 14 CCR, Section 14 CCR, Section 4852) including the following:

(A) Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;

(B) Is associated with the lives of persons important in our past;

(C) Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or

(D) Has yielded, or may be likely to yield, information important in prehistory or history.

Therefore, the “preponderance of evidence” described above demonstrates that these resources do not meet CEQA’s standard for historical significance. The technical studies incorporated information that was provided by the County after reasonable and good faith efforts to obtain complete information, as well as more recent documentation prepared by JRP (2010 Historical Resources Evaluation Report) that qualifies as “historical resource survey meeting the requirements section 5024.1(g) of the Public Resources Code” for the purpose of 15064.5(a)(2). After considering the evidence and applying their own professional judgement, the qualified consultants and Caltrans subject matter experts in 2004 concluded that the two buildings do not qualify as historical resources. This same consideration of evidence would satisfy the preponderance of evidence standard refuting the County’s claim that inclusion in their inventory requires that Caltrans treat them as historical resources under CEQA. The

local listing of these resources does not alter the previous Caltrans determination that they do not qualify as historical resources pursuant to CEQA.

In August 2023, the substantial evidence Caltrans used to make its decision was provided to the County. This additional information merely clarifies the existing analysis and does not constitute significant new information; thus, no recirculation is required.

### *Response to Comments State of California Department of Fish and Wildlife, Erin Chappell*

**Comment A5-1**

The California Department of Fish and Wildlife (CDFW) has reviewed the Draft Environmental Impact Report (DEIR) for the State Route 1 Auxiliary Lanes Bus-on-Shoulder Improvements-Freedom Blvd. to State Park Dr.-and Coastal Rail Trail Segment 12 (Project) located in the Santa Cruz County, pursuant the California Environmental Quality Act (CEQA) and CEQA Guidelines.1 CDFW is submitting comments on the DEIR as a means to inform the California Department of Transportation (Caltrans) as the CEQA Lead Agency, of potentially significant impacts to sensitive resources associated with the proposed Project.

CDFW is California's Trustee Agency for fish and wildlife resources and holds those resources in trust by statute for all the people of the State. (Fish & G. Code, §§ 711.7, subd. (a) & 1802; Pub. Resources Code, § 21070; CEQA Guidelines, § 15386, subd. (a)). CDFW, in its trustee capacity, has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants, and habitat necessary for biologically sustainable populations of those species. (Id., § 1802). Similarly, for purposes of CEQA, CDFW is charged by law to provide, as available, biological expertise during public agency environmental review efforts, focusing specifically on projects and related activities that have the potential to adversely affect fish and wildlife resources.

CDFW is also submitting these comments as a Responsible Agency under CEQA. (Pub. Resources Code, § 21069; CEQA Guidelines, § 15381). CDFW expects that it may need to exercise regulatory authority over the Project pursuant to the Fish and Game Code. As proposed, for example, the Project may be subject to CDFW's Lake and Streambed Alteration (LSA) regulatory authority. (Fish & G. Code, § 1600 et seq.).

Likewise, to the extent the Project may result in "take," as defined by State law, of any species protected under the California Endangered Species Act (CESA) (Fish & G. Code, § 2050 et seq.), related authorization as provided by the Fish and Game Code will be required.

Project Location and Description

The Project is located in Santa Cruz County on State Route (SR) 1 from Post Mile (PM) 8.1, south of Freedom Boulevard, to PM 10.7, north of State Park Drive. The Project also includes 1.14 miles of trail along the Santa Cruz County Regional Transportation Commission-owned Santa Cruz Branch Rail Line between State Park Drive and Rio Del Mar Boulevard. The total length of the Project on SR-1 is 2.6 miles, and on the Santa Cruz Branch Rail Line is 1.14 miles. The Project will construct auxiliary lanes, structures along SR 1, retaining walls along SR-1, sound walls along SR-1, bus-on-shoulder features, signage, and construction along the Coastal Rail Trail.

Auxiliary Lanes

The Project includes the construction of auxiliary lanes on the northbound and southbound sides of SR-1 between the Freedom Boulevard to Rio Del Mar Boulevard interchanges and between the interchanges of Rio Del Mar Boulevard to State Park Drive. The auxiliary lanes will improve merging operations and reduce conflicts between traffic entering and exiting SR-1 by connecting the on-ramp of one interchange to the off-ramp of the next. The total roadway widening is 2.6 miles in length. Southbound, the auxiliary lanes will begin at the existing State Park Drive loop on-ramp and end at the existing off-ramp to Freedom Boulevard. Northbound, the auxiliary lanes will begin at the existing Freedom Boulevard on-ramp and end at the existing diagonal off-ramp to

State Park Drive. The new auxiliary lanes will be 12 feet wide. From Freedom Boulevard to Rio Del Mar Boulevard, the width needed for the new lane will be added in the median. The existing median barrier will be reconstructed in its current location. From Rio Del Mar Boulevard to State Park Drive, the width needed for the new lane will be added outside the existing shoulders; the outside shoulders will be standard 10 feet wide. Moosehead Drive to the south of SR-1, south of Aptos Creek, will be realigned where it runs parallel to SR-1 due to the outside widening of SR-1.

Structures, State Route 1

The Project will include the replacement of the two Santa Cruz Branch Rail Line railroad bridges over SR-1 and widening of the SR-1 bridge over Aptos Creek and Spreckels Drive to accommodate the proposed auxiliary lanes. The existing two-span Santa Cruz Branch Rail Line railroad bridges (underpass structures) will be replaced with longer spans. In addition to the railroad bridges, new trail overcrossings will be constructed adjacent to the new railroad bridges for the ultimate trail configuration of the Coastal Rail Trail Segment 12 for the SR-1 improvements. The widening of the SR-1 bridge over

Aptos Creek and Spreckels Drive will occur on the south side of SR-1 only and require abutment walls along the existing embankments along the south side of Aptos Creek and the embankment on the north side of Spreckels Drive. The widened bridge will accommodate six lanes, each 12 feet wide (four through-lanes plus an auxiliary lane in each direction), 10-foot-wide outside shoulders, and a 9-foot-wide median with a 2-foot-wide inside shoulder in the northbound direction and 5-foot-wide inside shoulder in the southbound direction.

Retaining Walls, State Route 1

The Project will include 10 retaining walls along SR-1 where existing hillsides need to be set back to allow for freeway widening and where fill will be brought into embankments. The total length of all the retaining walls combined will be 3,786 feet or 0.72 miles long. The retaining walls range from 8 feet high to 27 feet high, averaging 19.2 feet.

Sound Walls, State Route 1

Two sound walls will be installed during the Project. A 606-foot-long ,16-foot-high sound wall will be installed on northbound SR-1 along PM 9.7 to PM 9.8. Another sound wall that is 885 feet long, 14 feet high will be installed along the southbound SR-1 near PM 9.95 to PM 10.1.

Bus-on-Shoulder Features

The Project will include construction of transit-only shoulder lanes within interchanges (off-ramp to on-ramp). The shoulder improvements would allow buses to drive on the new auxiliary lanes between interchanges and the outside shoulder through the interchanges. At the Freedom Boulevard, Rio Del Mar Boulevard, and State Park Drive interchanges, the Project will widen and improve SR-1 shoulders.

Other Features, State route 1 Bus-on-Shoulder

New signs will be installed to advise motorists that only buses are allowed to use the highway shoulders through interchanges during peak traffic hours. Along northbound SR-1, a sign would be provided south of each of the three interchanges in the Project area. Along southbound SR-1, a sign will be installed north of each interchange.

Coastal Rail Trail Segment 12

The ultimate trail configuration includes construction of a paved bicycle and pedestrian shared-use trail alongside the existing railroad track alignment. New trail bridge

crossings of SR-1 at two locations and adjacent to the existing railroad bridges at Aptos Creek/Soquel Drive, and Valencia Creek/Soquel Drive will be constructed. New at-grade trail crossings will be constructed at Aptos Creek Drive, Parade Street, and Trout Gulch Road.

Structures

At the two locations where the existing railroad bridges cross over SR-1, the Rail Trail will be placed adjacent to the reconstructed rail underpasses on separate independent structures. Where the Rail Trail crosses over Aptos Creek, Valencia Creek, and Soquel Drive, the existing structures have been evaluated for their loadbearing capacities, and it has been determined there is not enough data to cantilever the Rail Trail. Therefore, the Project will include construction of new Rail Trail bridges adjacent to the existing railroad structures on separate independent structures.

Fencing

Fencing will be used to separate trail users and the railroad for the ultimate trail improvements. In accordance with the Federal Railroad Administration guidelines, there will be a 10-foot offset from the centerline of the railroad to the edge of the trail, although an 8-foot, 6-inch offset from the centerline of the railroad may be allowed in some circumstances. The fencing type is undetermined at this time but will be constructed using concrete posts (4 feet, 6 inches in height) etched to resemble wood, and multiple smooth wire strands. Fence post construction will require 3-foot-deep excavation. The new trail bridges over Aptos Creek, Valencia Creek, and Soquel Drive will include a railing.

REGULATORY REQUIREMENTS

Lake and Streambed Alteration Agreement

CDFW requires an LSA Notification, pursuant to Fish and Game Code section 1600 et seq., for Project activities affecting lakes or streams and associated riparian habitat.

Notification is required for any activity that may substantially divert or obstruct the natural flow; change or use material from the bed, channel, or bank (including associated riparian or wetland resources); or deposit or dispose of material where it may pass into a river, lake, or stream. Work within ephemeral streams, drainage ditches, washes, watercourses with a subsurface flow, and floodplains is generally subject to notification requirements. In addition, infrastructure installed beneath such aquatic features, such as through hydraulic directional drilling, is also generally subject

to notification requirements. Therefore, any impact to the mainstems, tributaries, or floodplains or associated riparian habitat caused by the proposed Project will likely require an LSA Notification. CDFW may not execute a final LSA Agreement until it has considered the final Negative Declaration (ND) and complied with its responsibilities as a Responsible Agency under CEQA.

Fish and Game Code 5901

Except as otherwise provided in this code, it is unlawful to construct or maintain in any stream in Districts 1, 13/8, 11/2, 17/8, 2, 21/4, 21/2, 23/4, 3, 31/2, 4, 41/8, 41/2, 43/4, 11, 12, 13, 23, and 25, any device or contrivance that prevents, impedes, or tends to prevent or impede, the passing of fish up and down stream. Fish are defined as a wild fish, mollusk, crustacean, invertebrate, amphibian, or part, spawn, or ovum of any of those animals (Fish and Game Code section 45).

Fully Protected Species

Fully protected species may not be taken or possessed at any time and no licenses or permits may be issued for their take, except for collecting these species for necessary scientific research and relocation of a fully protected bird species for the protection of livestock. Take of any fully protected species is prohibited, and CDFW cannot authorize their take in association with a general project except under the provisions of a Natural Communities Conservation Plan (NCCP), 2081.7 or a Memorandum of Understanding for scientific research purposes. “Scientific Research” does not include an action taken as part of specified mitigation for a project, as defined in Section 21065 of the Public Resources Code.

Migratory Birds and Raptors

CDFW has authority over actions that may result in the disturbance or destruction of active bird nest sites or the unauthorized take of birds. Fish and Game Code sections protecting birds, their eggs, and nests include section 3503 (regarding unlawful take, possession, or needless destruction of the nests or eggs of any bird), section 3503.5 (regarding the take, possession, or destruction of any birds-of-prey or their nests or eggs), and section 3513 (regarding unlawful take of any migratory nongame bird). Migratory birds are also protected under the federal Migratory Bird Treaty Act.

**Response to Comment A5-1**

The commenter describes information presented in the Environmental Impact report/Environmental Assessment as well as outlining the regulatory requirements for

the California Department of Fish and Wildlife as a Trustee and Responsible Agency. Caltrans will comply with all required notifications and regulatory requirements. No further response is necessary.

**Comment A5-2**

COMMENTS AND RECOMMENDATIONS

CDFW offers the following comments and recommendations to assist Caltrans in adequately identifying and/or mitigating the Project's significant, or potentially significant, direct, and indirect impacts on biological resources.

COMMENT 1: Mitigation Measure BIO-73 Valencia Creek Fish Passage

Issue: CDFW appreciates Caltrans' continued efforts and mutual agreement to remediate a known fish passage barrier at PM 9.97 on SR-1 and improve anadromous fish passage. As stated on page 445 of the Draft Environmental Impact Report, the current Project shall move forward with an improvement to the PM 9.97 fish passage barrier and Project 05-1N900 shall incorporate long-term remediation to the fish passage barrier at PM 9.97 and PM 9.88. CDFW supports and encourages Caltrans to engage in continued coordination before design commences on a potential passage remediation structure and has the following comments and recommendations for changes to the currently proposed engineering design.

Recommendations: CDFW Conservation Engineering and Habitat Conservation Staff issued a technical fish passage memorandum to Caltrans on January 12, 2023. This

**Response to Comment A5-2**

Caltrans will oversee and coordinate preparation and implementation of a fish passage annual monitoring and maintenance plan for the duration of the interim measures to confirm that the culvert meets permitted performance standards. Post construction the culvert will be routinely inspected and maintained to provide performance targeting fish passage flows. Performance standards consistent with published criteria as defined by California Department of Fish and Wildlife and National Marnie Fisheries Service, or as modified by agency input will be implemented. The agency coordination efforts to date are described in Chapter 4 of this Final Environmental Impact Report/Environmental Assessment. Coordination with the agencies has been ongoing since 2022 and will continue throughout the design and permitting process.

**Comment A5-3**

Recommended Avoidance and Minimization Measure 2: Fish Passage Design Technical Memo: CDFW recommends Caltrans update the following:

1. Re-analyze the placement of the pile at Bent No. 2 along riverbank right outside of the Valencia Creek culvert and placement of the Bent No. 1 piles that straddle the existing culvert;
2. Relocate the Bent No.1 piles further away from Valencia Creek and develop a long-term fish passage barrier remediation design for the Valencia Creek culvert. The proposed placement of Bent No.2 in the draft channel design along Valencia Creek riverbank right has a high potential to constrain Valencia Creek and create future channel constraints to fish passage;
3. Clarify the grading design on Aptos Creek riverbank left and Valencia Creek riverbank right. The current structure plan, provided on November 17, 2022, indicates a significant modification to the channel within Valencia and Aptos Creeks near Bent Nos.1 and 2. This location should be analyzed using a hydraulic model that includes the existing and proposed topography along Aptos Creek riverbank left and downstream of the Valencia Creek culvert structure to the confluence with Aptos Creek;
4. Provide a watershed level assessment of the Aptos Creek watershed including Valencia Creek, develop a sediment analysis and habitat analysis for Valencia Creek, disclose historical records of Valencia Creek, in regard to the historical placement and historical relocation of the Valencia Creek channel. Finally, provide any available information on the historical alignment of Valencia creek;
5. The proposed long-term fish passage barrier remediation design verbally provided by Caltrans Hydraulic Engineering staff on-site November 17, 2022, was limited to minor modification of the existing culvert and did not include increasing the capacity of the existing culvert to meet fish passage design criteria. The proposed design included modification to the concrete bottom of the culvert structure, without a structural engineering evaluation. The Valencia Creek culvert was constructed in 1948 and information should be provided about the expected service-life of the Valencia Creek culvert and the feasibility of the proposed design to provide adequate fish passage while maintaining the structural integrity of the modified culvert;
6. Replacement of the wooden baffles with the steel baffles could be an interim solution. The use of full span steel baffles within the Valencia Creek culvert could increase fish migration through the culvert during a wider range of fish passage

design flows. Caltrans should coordinate the development of the design with CDFW Conservation Engineering staff to improve fish passage within the culvert and downstream to the confluence with Aptos Creek;

7. The concreted Rock Slope Protection (RSP) within the channel of Valencia and Aptos Creeks should be removed. The concrete within the downstream area of Valencia Creek culvert to Aptos Creek limits habitat for fish and wildlife resources and restricts the natural movement of sediment. The hardscape creates turbulent conditions at the downstream end of the Valencia Creek culvert's concrete apron; and
8. CDFW supports the concept of the use of redwoods along riverbank right downstream of the Valencia Creek culvert upstream of the confluence at Aptos Creek.

**Response to Comment A5-3**

The California Department of Fish and Wildlife proposes several recommendations, regarding baffles, rock slope protection, and materials. These recommendations are currently being evaluated as the modeling is being conducted and design of the interim fish passage solution is being developed. Information on the Aptos Creek watershed will be included in the biological assessment, which has not yet been submitted for agency review in early 2024. As a part of the current interim fish passage design, the downstream concreted rock slope protection within the channel of Valenica and Aptos Creek and the concrete downstream of the Valenica Creek culvert are being evaluated and considered for modification or removal.

In terms of hydraulic modeling, the project team is currently conducting 1D and 2D modeling in order to evaluate channel modifications and bent placement. The information will be summarized in the biological assessment and shared with the agencies during future coordination meetings.

The commenter refers to the long-term fish passage solution. As stated in Section 2.3.5 of this Final Environmental Impact Report/Environmental Assessment, Caltrans will implement a phased approach to correcting fish passage in Valencia Creek at post mile 9.97 and post mile 9.88. This project, EA 05-0C734, will complete short-term, or partial, improvements to the fish passage at the Valencia Creek culvert. Then project EA 05-1N900 (Valencia Creek Fish Passage) will follow up with long-term remediation of the fish passage issues at post mile 9.97 and post mile 9.88, which will be funded through the state SHOPP program.

Design refinement of the placement of the Bent 2 outside/downstream pile has it level with or upstream of the existing Valencia Creek confluence with Aptos Creek. This results in the pile having a low potential to constrain Valenica Creek or create future channel constraints to fish passage. The location of the bent must align with the existing bridge pier.

The Bent 1 piles are necessary to support the end of the bridge and transfer loading to below the existing Valenica Creek arch culvert. The piles have been located far enough away from the existing arch culvert to allow installation without impacting the existing arch culvert. Because Valenica Creek is within the arch culvert at this location, the piles have no impact on Valenica Creek. Additionally, the piles will not prevent modification to or removal of the existing Valenica Creek arch culvert in the future.

Better topographic survey and modeling refinements have led to the elimination of the need to perform any grading or modification to the existing Aptos Creek or Valenica Creek channel or banks underneath the existing State Route 1 bridge or proposed widening.

**Comment A5-4**

Recommended Avoidance and Minimization Measure 3: Fish Passage Design Comment Response Matrix: CDFW recommends Caltrans utilize a response matrix to identify and respond to the individual CDFW recommendations provided for Recommended Avoidance and Minimization Measure 2: Fish Passage Design Technical Memo. The response matrix should include design details during the 30 percent, 60 percent, and 90 percent design phases of the Project. Please contact CDFW staff for response matrix template examples.

CONCLUSION

Thank you for the opportunity to provide comments and recommendations regarding those activities involved in the Project that may affect CDFW resources. Likewise, we appreciate the opportunity to provide comments regarding those aspects of the Project that CDFW, by law, may be required to carry out or approve through the exercise of its own regulatory authority under the Fish and Game Code.

Questions regarding this letter or further coordination should be directed to Mr. Will Kanz, Environmental Scientist, at (707) 337-1187 or Will.Kanz@wildlife.ca.gov; or Mr. Wes Stokes, Senior Environmental Scientist (Supervisory), at Wes.Stokes@wildlife.ca.gov.

**Response to Comment A5-4**

Preparation of the interim fish passage design is currently in progress. Modeling and design information will be included in the biological assessment, which will be provided for agency review. In addition, agency coordination will continue throughout the process. The project team will coordinate with the California Department of Fish and Wildlife to obtain a response matrix to use to track comments and responses on the future design phases, as requested.

## Organization Comments

### *Response to Comments Santa Cruz County Friends of the Rail and Trail, Matt Farrell*

#### Comment O1-1

The Santa Cruz County Friends of the Rail and Trail is happy to see continued progress on the Rail and Trail project and would like to offer the following comments on the Highway 1 Auxiliary Lanes and Bus on Shoulder from State Park Drive to Freedom Boulevard and Coastal Rail Trail Segment 12 Draft Environmental Impact Report.

Interim trail is improperly treated as a distinct alternative: It is our understanding that the Optional First Phase Interim Trail is simply one portion of the entire plan for the Rail and Trail project and that impacts assigned to the Interim Trail should reflect the cumulative impact of all phases of the project. Therefore, any impact from the Ultimate Trail configuration should be common to the Interim Trial. However, there are a several places in the summary of impacts in which impacts are attributed to the Ultimate Trail but not to the Interim Trail:

1. Relocations and Property Acquisition: The Ultimate Trail shows the acquisition of temporary and permanent easements that are not attributed to the Interim Trail.
2. Utilities and Emergency Services: The Interim Trail impact is “Same as Build Alternative” but the Ultimate Trail shows “Temporary impacts to utilities,” which is the same as the build alternative. Is this impact distinct from the build alternative? If so, it should be common to the Interim Trail. If not, it should state “Similar to Build Alternative.”

Regulatory Requirements not noted in Draft Environmental Impact Report: Section S.7 lists all of the regulatory approvals required to begin construction. This section appears to be for only the Ultimate Trail without the Optional First Phase Interim Trail. The Interim Trail requires approval of abandonment by the Surface Transportation Board and a negotiated agreement with the freight carrier of record before a Certificate of Interim Trail Use can be issued. Additional approval by the California Public Utilities Commission is also likely to be required. These approvals and agreements should be noted as an additional requirement unique to the Optional First Phase Interim Trail.

**Response to Comment O1-1**

The intention of the table titled Summary of Potential Impacts from Alternatives (from the Summary of the environmental document) is to compare the Build Alternative to the No-Build Alternative and to inform the reader under which trail development phase the impacts would occur under. Since there are various elements to the project (auxiliary lanes on State Route 1, bus-on-shoulder, and Costal Trail) and phases for trail development (optional first phase and ultimate trail configuration), the intention of the table is to provide more information by element and phase. In accordance with Caltrans' methodology to comply with the California Government Code Section 11546.7, State Agency Website Compliance, merged cells in tables are discouraged, hence, the confusion. Each column of the table is labeled with "Build Alternative" to clarify that the comparison is between Build Alternative and No-Build Alternative; the rest of the detail by elements and phases is to provide the reader more information. For Relocations and Real Property Acquisition in the Summary Table, 25 temporary construction easements, six permanent acquisitions, and four underground easements are needed for the auxiliary lanes and bus-on-shoulder elements of the project. For the Optional First Phase, no temporary construction easements or permanent acquisitions are necessary since all the construction would occur within the rail right-of-way. For Ultimate Trail Configuration element of the project, 15 additional Temporary Construction Easements, 13 permanent partial acquisitions, and two aerial easements would be necessary.

The Surface Transportation Board process was explained in Chapter 1, page 11 of the Draft Environmental Impact Report/Environmental Assessment. The Surface Transportation Board is added to the list of permittees. The California Public Utilities Commission has safety and security regulatory authority over all rail transit agencies in California to enhance public safety and security. Santa Cruz County Regional Transportation Commission is the owner of the rail corridor within the project limits. California Public Utilities Commission is also the state agency with exclusive jurisdiction over rail crossings in California. California Public Utilities Commission engineers evaluate the safety of rail crossings and review proposed construction where roadways or pathways cross railroad or rail transit tracks. The California Public Utilities Commission has also been added to the list of permittees. The coastal trail segment 12 would require modifications to seven existing railroad crossings. Modifications to existing railroad crossings would require completion and approval of a Form GO-88-B. This added information merely clarifies the existing analysis and does not constitute significant new information; thus, no recirculation is required.

**Comment O1-2**

The Draft Environmental Impact Report conclusions show parallels between Auxiliary Lane and Rail project: While reviewing the Draft Environmental Impact Report and related documentation provided by the Santa Cruz County Regional Transportation Commission, we noted the following conclusions:

1. The Auxiliary Lane project has substantial environmental impacts, some with no chance of mitigation, including the removal of over 1000 trees over a 2.6 mile stretch of highway and permanent impacts to grasslands, live oak woodland, and coastal riparian zones.
2. The traffic operations report shows that the morning commute on Highway 1 will be made slightly worse by this project, and that, while the evening southbound commute will be improved in the near term. By 2045 the southbound commute will be just as bad as it is now.
3. The total cost of the highway widening project, including this project and related projects, is already known to be hundreds of millions of dollars, and may approach a billion dollars in total once construction is complete.

Friends of the Rail and Trail raises these points to highlight that the common criticisms of rail transit in Santa Cruz County are really just general criticisms of infrastructure development and are in no way unique to the Zero-Emission Rail Transit and Trail project. However, it seems that sometimes the commission holds different projects to different standards.

We hope that our requested changes are reflected in the Final Environmental Impact Report and that members of the Regional Transportation Commission approach approval of future projects, whether for cars, bikes, or trains, with calm consistency

**Response to Comment O1-2**

The commenter raises concerns about loss of trees, traffic operations on State Route 1, and total cost of the project. As described in Environmental Impact Report/Environmental Assessment Section 2.3, the majority of impacts would be in developed/landscaped or ruderal areas. Permanent acquisition would be limited to slivers of acquisition along the right-of-way, as the project has been designed to minimize impacts on vegetated areas to the extent feasible. Approximately 0.156 acre of riparian forest and 0.2 acre of coast live oak woodland would be permanently affected. No grassland or riparian wetland would be affected. Measures to reduce impacts are described in AMM-NC-1 through AMM-NC-11. One significant and

unavoidable impact was identified in the Draft Environmental Impact Report/Environmental Assessment related to visual resources, due to the length of time it takes to regrow vegetation, particularly large trees. No other significant or adverse impacts were identified in the Draft Environmental Impact Report/Environmental Assessment. Please also see Master Response 1 regarding tree removal.

Regarding traffic operations, the project has an external constraint in the form of a northbound bottleneck downstream of the project limits (around the Soquel interchange) that limits the travel time benefits within the project limits. This is documented in the Traffic Operations Analysis Report.

An analysis of induced traffic was provided in the Traffic Operations Analysis Report. This was used as a volume input to the traffic models used in the Traffic Operations Analysis Report.

As part of the Traffic Operations Analysis Report, a travel time calibration was performed on the 2019 (base year) traffic models using 2019 INRIX speed data, i.e., using data newer than Tier I Corridor Transportation System Management Alternative/Tier II Environmental Impact Report for the Soquel Drive to 41st Avenue auxiliary lanes. The analyses provided in the Traffic Operations Analysis Report and related documents clearly support the conclusions drawn on the travel time benefits in the southbound direction.

The external constraint limits the amount of travel time savings in the northbound direction. Commuter trips between the southern and northern portions of the county would involve travel in both north and south directions over a day. In the northbound direction, commuters would experience improved travel reliability due to the reduction in the number of crash incidents with their resulting delays. In the southbound direction, commuters would experience both improved travel time reliability and travel time savings. Overall, the project is expected to have measurable travel time savings and travel time reliability improvements to commuters at a daily level.

Regarding cost, this is not a comment on the Draft Environmental Impact Report/Environmental Assessment and is not required to be analyzed under CEQA or NEPA.

The commenter expresses their opinion regarding the commission’s project approval process. This is subjective, it is not a comment on the Draft Environmental Impact Report/Environmental Assessment, and no response is required.

## *Response to Comments Coastal Rail Santa Cruz, Barry Scott*

### Comment O2-1

Coastal Rail Santa Cruz is an organization created by community stakeholders in 2015 upon the release of the Regional Transportation Commission's Passenger Rail Feasibility Study. Our organization is delighted to express enthusiastic support for the Highway 1 Auxiliary Lane/Bus-on-Shoulder (State Park Drive to Freedom Boulevard) and Coastal Rail Trail Segment 12 Project.

However, we feel that the Draft Environmental Impact Report documents contain the following deficiencies:

Comment #1, "Optional First Phase":

Chapter 1, Proposed Project, mentions an alternative approach to Coastal Rail Trail Segment 12 referred to as the "Optional First Phase", in which the currently active and permitted rail line would be decommissioned, railbanked, and removed, and a trail built in its place. From page 11: "The Optional First Phase includes three parts: implementation of the interim trail, demolition of the interim trail and rebuilding the rail line, and construction of the ultimate trail configuration." https://sccrtc.org/wp-content/uploads/2023/04/01Chapter%201%20-%20Proposed%20Project.pdf#page=11

Page S-6 of the Draft Environmental Impact Report "Cover, Summary, and Table of Contents" document compares the impacts of the "Optional First Phase" to the "Ultimate Rail Configuration" in an incomplete and misleading fashion: The Optional First Phase is not an alternative, it's just one of three phases and any comparison of impacts must include the totality of the work including demolition of the trail, rebuilding the rail, and building the trail in the ultimate configuration. https://sccrtc.org/wp-content/uploads/2023/04/00Cover_Summary_TOC.pdf#page=12

### Response to Comment O2-1

The intention of the table titled Summary of Potential Impacts from Alternatives in the Summary is to compare the Build Alternative to the No-Build Alternative and to inform the reader under which trail development phase the impacts would occur. Since there are various elements to the project (auxiliary lanes on State Route 1 and bus-on-shoulder and Coastal Trail) and phases for trail development (Optional First Phase and ultimate trail configuration), the intention of the table is to provide more information by element and phase.

There are some limitations to how merged cells in tables are presented in public documents due to compliance with Caltrans Web Accessibility for All. To provide more clarity, subheadings have been added to the table to clarify that the comparison is between the Build Alternative and No-Build Alternative; the rest of the detail by elements and phases is to provide the reader more information. This added information merely clarifies the existing analysis and does not constitute significant new information; nor change the analysis or environmental conclusions, thus no recirculation is required.

**Comment O2-2**

Comment #2, S.7 Necessary Permits and Approvals:

Page S-12 of the Draft Environmental Impact Report "Cover, Summary, and Table of Contents" document lists agencies from which permits, licenses, agreements, and certifications might be required. The list fails to include the Federal Surface Transportation Board and the California Public Utilities Commission, both of which would need to permit the removal of the rail line and related features of the Santa Cruz Branch Line. If the "Optional First Phase" approach to the construction of Segment 12 of the Coastal Rail Trail Segment is to be considered, then these two agencies must be listed. https://sccrtc.org/wp-content/uploads/2023/04/00Cover_Summary_TOC.pdf#page=18

**Response to Comment O2-2**

Please see response to comment O1-1.

***Response to Comments Campaign for Sustainable Transportation, Rick Longinotti***

**Comment O3-1**

Thank you for accepting these comments on the DRAFT Environmental Impact Report for Highway 1 State Park Dr to Freedom Blvd Aux Lanes, Bus-on-Shoulder & Coastal Rail Trail Segment 12 Project.

This highway expansion project, conceived in the 20th Century, perpetuates the misguided transportation policy of the past. It would move us farther from meeting our state's climate goals and increase auto-dependency.

This cost to our environment is not justified by the negligible benefits of this project. The DRAFT Environmental Impact Report estimates that congestion relief will be non-

existent in the morning peak direction and short-lived in the afternoon peak direction. This insignificant benefit will come at a cost of:

- a 38%-42% increase in vehicles per hour with attendant increase in greenhouse gas emissions (although no estimated increase in throughput due to bottlenecks)
- the opportunity cost of failing to implement a genuine bus-on-shoulder system, in which buses operate in dedicated lanes instead of congested auxiliary lanes.

Our comments include pointing out the following significant deficiencies in the DRAFT:

1. The DRAFT Environmental Impact Report is not valid since it is tiered from a Tier I Environmental Impact Report that was invalidated in court.
2. The DRAFT falsely claims the Project is exempt from vehicle miles traveled analysis mandated by Senate Bill 743.
3. The DRAFT fails to substantiate claims of safety benefits of the auxiliary lanes.
4. The DRAFT's "partial" analysis of vehicle miles traveled is not compliant with Senate Bill 743.
5. The DRAFT fails to present a reasonable range of alternatives.
6. The DRAFT unjustifiably eliminates Bus-on-Shoulder Only from further study.
7. The Project Objectives are inadequately drawn.
8. The Project does not substantially meet the Project Objectives.
9. The DRAFT's conclusion that the Project would result in countywide reduction in vehicle miles traveled is invalid.
10. The Climate Change analysis is flawed and inadequate
11. The Project conflicts with state climate legislation
12. The DRAFT contains insufficient analysis of impacts on fish habitat in affected creeks

These 12 comments are briefly addressed in RTC O3-1 but then separately responded to below.

**Response to Comment O3-1**

*Re: Tiering*

Please see Master Response 2 regarding tiering.

*Re: Vehicle miles traveled*

Please see Master Resonse 3 regarding vehicle miles traveled.

*Re: Safety*

Safety benefits of the project are described in Section 1.3, as well as in the Traffic Operations Analysis Report. The Traffic Operations Analysis Report provides updated traffic safety data and an analysis that is more specific to the attributes of the project, as it is now defined, and the No-Build Alternative. The safety analysis presented in the Traffic Operations Analysis Report uses a methodology that is consistent with current professional practices, based on recent studies of traffic safety on state highways. That analysis should be used as the source for assessing the safety impacts of the project.

*Re: Alternatives*

The assertion that the Draft Environmental Impact Report/Environmental Assessment did not present a reasonable range of alternatives is incorrect. Per Section 15126.6 of the 2023 CEQA Guidelines, an Environmental Impact Report need not consider every conceivable alternative to a project. A reasonable range of alternatives includes those alternatives necessary to permit a reasonable choice. That is, alternatives must be limited to ones that meet the project objectives, are feasible, and would avoid or substantially lessen at least one of the significant environmental effects of the project. The “no project alternative” under CEQA is the same as the “no-action,” “no-project,” or “no-build” alternative, which may be used interchangeably, under NEPA. Similarly, the “Build Alternative” under NEPA is the same as the “proposed project” under CEQA, which also may be used interchangeably.

An extensive number of alternatives has been considered both within the freeway corridor and within the broader coastal corridor between Santa Cruz and Watsonville. Project alternatives and variations that have been considered include high-occupancy vehicle lanes, bus-on-shoulder (for the full extent of the corridor including the segments with auxiliary lanes), bus and rail transit alternatives (on the rail right-of-way), and ramp metering. Information gained from these efforts was used to narrow the options considered for this project; some options were rejected due to design or performance flaws and others (such as transit use of the rail right-of-way) were considered as compatible with the project alternative. The Bus on Shoulder Feasibility Study, considered a bus-on-shoulder only alternative and a high-occupancy vehicle lane alternative. Both of these alternatives did not include auxiliary lanes. That study found that the hybrid Auxiliary Lane plus Bus-on-Shoulder alternative (the project) was the

most effective in terms of potential ridership versus cost. Alternatives elimnated from further discussion are described in Draft Environmental Impact Report/Environmental Assessment Section 1.6, *Alternatives Considered but Eliminated from Further Discussion*,.

*Re: Objectives*

The commenter expresses their opinion that the project objectives are inadequate. The selection of objectives is the lead agency's responsibility. Under NEPA, the project objectives are often referred to as the purpose and need. See Draft Environmental Impact Report/Environmental Assessment Section 1.2, *Purpose and Need*. CEQA places requirements on public agencies. These include making a "statement of the objectives sought by the proposed project." (State CEQA Guidelines Section 15124(b)). The lead agency has chosen objectives that are not too narrow such that they preclude a reasonable range of alternatives that differ from the project. All of the project objectives are met with the project.

*Re: Climate Change Analysis*

This project has a long history during which an extensive number of alternatives hasve been considered both within the freeway corridor and within the broader coastal corridor between Santa Cruz and Watsonville. Project alternatives and variations that have been considered include high-occupancy vehicle lanes, bus-on-shoulder (for the full extent of the corridor including the segments with auxiliary lanes), bus and rail transit alternatives (on the rail right-of-way), and ramp metering. Information gained from these efforts was used to narrow the options considered for this project; as some options were rejected due to design or performance flaws and others (such as transit use of the rail right-of-way) were considered as compatible with the project alternative. The Monterey Bay Area Feasibility Study of Bus on Shoulder Operations on State Route 1 and the Monterey Branch Line (June 2018) , considered a bus-on-shoulder only alternative and a high-occupancy vehicle lane alternative. Both of these alternatives did not include auxiliary lanes. That study found that the hybrid Auxiliary Lane plus Bus-on-Shoulder alternative (the project) was the most effective in terms of potential ridership versus cost. Alternatives eliminated from further discussion are described in Environmental Impact Report/Environmental Assessment Section 1.6, *Alternatives Considered but Eliminated from Further Discussion*.

The climate change analysis is described in Environmental Impact Report/Environmental Assessment Section 3.3. It follows Caltrans' protocol and methodology for a non-capacity-increasing project. The comment's assertion that the

project conflicts with state climate legislation is not supported by the content of the Environmental Impact Report/Environmental Assessment. Individual projects are not responsible for greenhouse gas reduction proportionate to the statewide greenhouse gas reduction target. Projects included in an approved Regional Transportation Plan or Metropolitan Transportation Plan that meets or exceeds its regional greenhouse gas reduction goal are considered to contribute to the statewide greenhouse gas reduction goal. Santa Cruz County Regional Transportation Commission is a member of the Association of Monterey Bay Area Governments Metropolitan Planning Organization; Association of Monterey Bay Area Governments's target from the Air Resources Board is 6% greenhouse gas reduction per capita by 2035 relative to 2005. The project is included in the Association of Monterey Bay Area Governments's 2045 Metropolitan Transportation Plan/Sustainable Communities Strategy.

The commenter expresses their opinion regarding the vehicle miles traveled and climate change analysis, but does not provide substantive comments on the analysis. No further response is required.

*Re: Fish Habitat*

The commenter expresses their opinion that the fish habitat analysis is insufficient. Additional analysis is included in response to comment O3-23.

**Comment O3-2**

**The DRAFT Environmental Impact Report is not valid since it is tiered from a Tier I Environmental Impact Report that was invalidated in court.**

CEQA regulations define tiering:

(a) "Tiering" refers to using the analysis of general matters contained in a broader Environmental Impact Report (such as one prepared for a general plan or policy statement) with later Environmental Impact Reports and negative declarations on narrower projects; incorporating by reference the general discussions from the broader Environmental Impact Report; and concentrating the later Environmental Impact Report or negative declaration solely on the issues specific to the later project. (Cal. Code Regs. tit. 14 § 15152)

In 2019, Caltrans certified the final Environmental Impact Report for the Tier I Corridor Analysis of High Occupancy Vehicle  Lanes and Transportation System Management Alternatives. The central feature of the Transportation System Management Alternative

is a series of auxiliary lanes along the 8.9 mile segment of Hwy 1, including the lanes analyzed by the current DRAFT Environmental Impact Report.

The Sacramento Superior Court ordered Caltrans to set aside its approval of the Tier I project in a decision filed on August 12, 2022. The DRAFT Environmental Impact Report cannot be valid if it is tiered from an Environmental Impact Report that is invalid.

The Tier I Environmental Impact Report is clear that it is a master plan Environmental Impact Report for the series of auxiliary lane projects on Highway 1: The [Project Development] team decided to study the high-occupancy vehicle Lane and Transportation System Management Alternatives in a Tier I or Master Plan environmental document. [The principle features of the Transportation System Management Alternative are a series of auxiliary lanes and ramp metering over the 8.9 mile segment of Hwy 1]

**Response to Comment O3-2**

Please see Master Response 2 regarding tiering.

**Comment O3-3**

Several technical studies of this Environmental Impact Report acknowledge their reliance on the Tier I Environmental Impact Report:

A. The Traffic Operations Analysis Report names the Project a Tier II project: The Santa Cruz County Regional Transportation Commission, in a joint effort with Caltrans District 5, is developing the Tier II Highway 1 (State Park Drive to Freedom Boulevard) Auxiliary Lanes Project (also referred to as the “Project”). The same document describes how the analysis in the DRAFT is tiered from the Tier I Environmental Impact Report: Induced traffic volumes due to the addition of auxiliary lanes due to this Project and the background Tier II projects were estimated by scaling the induced traffic volume impacts of auxiliary lanes identified under the Tier I Environmental Impact Report/Environmental Assessment Transportation System Management Alternative on the basis of auxiliary lane-miles added.

**Response to Comment O3-3**

Please see Master Response 2 regarding tiering.

**Comment O3-4**

The Community Impact Analysis is based on the Tier I Environmental Impact Report: This Community Impact Assessment is based on…technical documents prepared for the Santa Cruz Route 1 Tier I & Tier II Environmental Impact Report.

**Response to Comment O3-4**

Please see Master Response 2 regarding tiering.

**Comment O3-5**

The Cumulative Impact Analysis is based on the Tier I Environmental Impact Report: This Cumulative Impact Assessment is based on…technical documents prepared for the Santa Cruz Route 1 Tier I & Tier II Environmental Impact Report.…Analysis of impacts and resource area health was based primarily on information presented in the Cumulative Impact Analysis for the Tier I/Tier II Project (Caltrans 2018)

**Response to Comment O3-5**

Please see Master Response 2 regarding tiering.

**Comment O3-6**

The Energy Analysis Report states: The project is the second phase of the improvements described in the Tier I Environmental Impact Report/Environmental Assessment.

**Response to Comment O3-6**

Please see Master Response 2 regarding tiering.

**Comment O3-7**

The Preliminary Geotechnical Design Report states: The proposed project is the third phase of the improvements described in the Tier I Environmental Impact Report/Finding of No Significant Impact.

The following statement of this Report shows that the Project intends to expand the width of the highway to accommodate the Tier I project, in spite of the fact that the Tier I project Environmental Impact Report is invalid.

Construction of the proposed project would allow for future outside highway widening to accommodate the future Tier I high-occupancy vehicle  lanes.

**Response to Comment O3-7**

Please see Master Response 2 regarding tiering.

**Comment O3-8**

The DRAFT falsely claims the Project is exempt from vehicle miles traveled analysis mandated by Senate Bill 743. The DRAFT argues that the Project should be exempt from performing the vehicle miles traveled analysis required by CEQA: The supplemental traffic analysis prepared for the project states that in terms of vehicle miles traveled, the Senate Bill 743 (Transportation Impact) guidelines have listed auxiliary lanes as a project type that is not likely to lead to measurable or substantial increase in vehicle travel. This statement is not accurate. Public Resources Code section 21099 directed the Office of Planning and Research to propose criteria for determining the significance of transportation impacts. The Office of Planning and Research published the Technical Advisory on Evaluating Transportation Impacts in CEQA. It includes auxiliary lanes as likely to lead to increases in vehicle travel: If a project would likely lead to a measurable and substantial increase in vehicle travel, the lead agency should conduct an analysis assessing the amount of vehicle travel the project will induce. Project types that would likely lead to a measurable and substantial increase in vehicle travel generally include:

- Addition of through lanes on existing or new highways, including general purpose lanes, high-occupancy vehicle  lanes, peak period lanes, auxiliary lanes, or lanes through grade separated interchanges. [emphasis added]

**Response to Comment O3-8**

Please see Master Response 3 regarding vehicle miles traveled. Also, because the auxiliary lanes are located between the freeway interchanges and do not extend through the interchanges, the capacity of the freeway at the interchanges would not be increased. As a result, the project is not a highway capacity expansion project. The project improves traffic operations and safety in the areas between the freeway interchanges.

**Comment O3-9**

The DRAFT's argument for exempting this project hinges on a misinterpretation of the Office of Planning and Research's Advisory. The Office of Planning and Research lists

projects “not likely” to substantially increase vehicle travel, “Addition of an auxiliary lane of less than one mile in length designed to improve roadway safety.” The DRAFT concludes: The project would add auxiliary lane segments that are each less than one mile in length, which means that it is exempt from a vehicle miles traveled analysis under the Caltrans Traffic Analysis Framework and Traffic Analysis under CEQA guidelines.

The DRAFT’s argument is specious. The auxiliary lanes northbound and southbound from State Park Drive to Rio Del Mar are listed in the Additional Traffic Analysis Memorandum (2023) as .99 miles and .98 miles. A measurement on Google Earth indicates that these auxiliary lanes are 1.1 miles long. However, the precise measurement is beside the point. The Office of Planning and Research Advisory is clear that projects that increase vehicle capacity need to be evaluated:

An accurate estimate of induced travel is needed to accurately weigh costs and benefits of a highway capacity expansion project….Building new roadways, adding roadway capacity in congested areas, or adding roadway capacity to areas where congestion is expected in the future, typically induces additional vehicle travel.

**Response to Comment O3-9**

Please see Master Response 3 regarding vehicle miles traveled.

**Comment O3-10**

The auxiliary lanes in this project will increase highway capacity, according to the DRAFT’s Traffic Operations Analysis Report:

The Project will add mainline segment capacity within the Project Limits on the State Route 1 mainline segments increasing from a range of 3,950-4,400 vehicles/hour to a range of 5,600-6,100 vehicles/hour due to the added auxiliary lanes. [an increase of 39%-42%]

The only presumption of an exemption from vehicle miles traveled analysis allowed by CEQA is as follows: Transportation projects that reduce, or have no impact on, vehicle miles traveled should be presumed to cause a less than significant transportation impact. Section 15064.3 (b)(2).

If vehicle miles traveled is not properly analyzed, there is no possibility of meeting the mandate of California’s 2017 Climate Change Scoping Plan which states, “vehicle miles traveled reductions are necessary to achieve the 2030 target and must be part of any

strategy evaluated in this Plan." A lack of vehicle miles traveled analysis prevents the DRAFT from meeting the mandate of Senate Bill 743 to mitigate increases in vehicle miles traveled. Meaningful public participation involving an adequate analysis of a project's impacts, mitigation measures, and alternatives is impossible without a vehicle miles traveled analysis.

**Response to Comment O3-10**

Please see Master Response 3 regarding vehicle miles traveled.

**Comment O3-11**

The DRAFT's claim of reduced injury collisions is suspect, since the increased speeds predicted by the DRAFT would tend to increase the severity of the collisions. The Traffic Operations Analysis Report states:

Speeding is the primary reason for collisions (over 50 percent on average) on State Route 1 mainline segments.

Auxiliary lanes would result in a significant increase in travel speed in the southbound State Route 1 during PM peak period from 32 miles per hour in the Existing Year (2019) to 58 miles per hour in the Opening Year (2025).

**Response to Comment O3-11**

The safety analysis was conducted using a crash modification factor-based methodology. The widely accepted crash modification factor is used to compute the expected number of crashes after implementing a countermeasure on a road or intersection. The analysis assessed the safety benefits of "adding auxiliary lanes" and "education and enforcement" due to the project. For adding auxiliary lanes, a crash modification factor of 0.79 was adopted from the Federal Highway Administration's crash modification factor clearing house. This crash modification factor is based on before and after conditions for actual highway improvement projects involving the addition of auxiliary lanes. As a result, it takes into account the changes in travel speeds that are a likely outcome of the improvement in highway operations that is typically associated with auxiliary lane projects. It also factors in the reduction in accidents likely resulting from the improving weaving and merging characteristics created by auxiliary lanes. Crash modification factors below 1.0 means that the crashes will reduce after improvement; crash modification factors above 1.0 means they will increase after improvement.

**Comment O3-12**

The DRAFT's partial analysis of vehicle miles traveled is not compliant with Senate Bill 743. Although the DRAFT claims that it is exempt from analyzing vehicle miles traveled increases due to the project, the Traffic Operations Analysis Report (2021) presents a quantitative analysis of vehicle miles traveled. The DRAFT acknowledges that its analysis is not compliant with Senate Bill 743: The project's senate bill 743 regulation-related CEQA determination (Section 3.2.17) cannot be completed using the vehicle miles traveled estimates included in the Traffic Operations Analysis Report, they are for informational use only. The Additional Traffic Analysis Memorandum (2023) states that it added "qualitative" analysis of vehicle miles traveled for the auxiliary lanes. However, it did not add to a quantitative analysis of vehicle miles traveled.

**Response to Comment O3-12**

As described in Master Response 3, the project is exempt from the Senate Bill 743-related requirement for a vehicle miles traveled analysis as all of the auxiliary lane segments would be less than 1 mile long, and the project is not adding capacity to the freeway. However, as the Santa Cruz County Regional Transportation Commission has been a long-time proponent of vehicle miles traveled reduction, the vehicle miles traveled analyses that had been conducted earlier as part of the Traffic Operations Analysis Report and as part of grant applications for project funding were provided. These analyses include both quantitative and qualitative elements; they were for informational purposes only, not required under CEQA, and not intended to satisfy the Senate Bill 743 requirements for vehicle miles traveled analysis.

**Comment O3-13**

The DRAFT's analysis of vehicle miles traveled is inadequate because it relied on methodology for calculating vehicle miles traveled that is outdated. As quoted in #1 above, the Traffic Operations Analysis Report used the Tier I Environmental Impact Report to estimate traffic volume impacts of the auxiliary lanes. The Tier I Environmental Impact Report was based on the Traffic Operations Report (2012) and Traffic Analysis Update Technical Memorandum (2017). The methodology in these analyses pre-dates the methodology that is mandated by Senate Bill 743 and described in the Caltrans document, Transportation Analysis Under CEQA (2020). Moreover, the decertified Environmental Impact Report cannot be relied on for this Project.

**Response to Comment O3-13**

As stated above, the project is exempt from the Senate Bill 743-related requirement for a vehicle miles traveled analysis because all of the auxiliary lane segments would be less than 1 mile long, and the project would not add capacity to the freeway. The vehicle miles traveled analysis was provided for informational purposes only, not required under CEQA, and not intended to satisfy the Senate Bill 743 requirements for vehicle miles traveled analysis. Please see Master Response 3 regarding vehicle miles traveled.

**Comment O3-14**

One glaring deficiency in the Traffic Operations Analysis is that it measures only one component of induced travel. It states, “Induced demand in this study represents a vehicle miles traveled shift from local roads to State Route 1 due to improved travel conditions on the freeway.” The Office of Planning and Research’s Advisory lists four additional contributors to induced travel. The initial lowering of congestion on an expanded highway leads to longer trips; Changes in mode choice; Newly generated trips; and Land use changes. Without examining induced travel according to state guidelines, the congestion benefit of the project is overstated. The DRAFT makes the claim that there are minor changes in vehicle miles traveled from building the project: State Route 1 daily vehicle miles traveled under 2045 Build [are estimated] to be 2.7 percent higher than 2045 No-Build Alternative How does this statement square with the claim that: The Build Alternative would reduce delay within the project limits on the State Route 1 mainline segments with the addition of auxiliary lanes from a range of 3,950–4,400 vehicles per hour to a range of 5,600–6,100 vehicles per hour Any reduction in delay results in induced travel, according to the studies cited by the Office of Planning and Research.

**Response to Comment O3-14**

The estimation methodology for the induced traffic volume impacts of the Tier I auxiliary lanes was documented in the CDM Smith memorandum to Santa Cruz County Regional Transportation Commission titled, “Highway 1 Widening/High-Occupancy Vehicle Lane Project – Estimation of Induced Traffic Demand and Congestion-Related Costs.” The current text provided in the Traffic Operations Analysis Report does not fully summarize the scope of the analysis that was performed. The following text is inserted to replace the third sentence in the third bullet item on page 4-1.

> Induced traffic refers to the additional traffic that shift from another mode of transportation, are associated with new developments or land use changes that result from the roadway improvement, shift to another destination due to improved travel

conditions, and are created due to increased automobile dependency associated with the roadway improvement. All of these factors were examined in the induced traffic demand analysis.

This analysis of induced traffic demand is consistent with the Office of Planning and Research advisory requirements. This addition clarifies the analysis, is not significant new information, and does not change the conclusions; thus, recirculation is not required.

**Comment O3-15**

The DRAFT fails to present a reasonable range of alternatives.

The alternatives are the Build Alternative and the No-Build (No-Action) Alternative. The project development team, which includes Caltrans and other relevant stakeholders, has identified the Build Alternative as the preferred alternative, subject to public review.

15126.6 of Title 14 of the California Code of Regulations requires an Environmental Impact Report to “describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives,” not simply compare a project to a no project alternative. The DRAFT does not consider an alternative to the auxiliary lanes project.

**Response to Comment O3-15**

Various alternatives have been considered both within the freeway corridor and within the broader coastal corridor between Santa Cruz and Watsonville. Prospective project alternatives and variations that have been considered include high-occupancy vehicle lanes, bus-on-shoulder (for the full extent of the corridor including the segments with auxiliary lanes), bus and rail transit alternatives (on the rail right-of-way), and ramp metering. The information gained from these efforts, in part, was used to narrow the options considered for this project to a reasonable range. Some prospective alternatives were rejected due to design or performance flaws and others (such as transit use of the rail right-of-way) were considered as compatible with the project.

Studies in the broader corridor have been conducted as well. The Tier I document included a Tier I Corridor TSM Alternative. Santa Cruz Metro and Santa Cruz Regional Transportation Commission are conducting a Transit Corridor Alternatives Analysis regarding the rail trail. The Monterey Bay Sanctuary Scenic Trail Network Master Plan

Environmental Impact Report included analysis of a Reduced Project Alternative and an On-Road Alternative.

The Bus-on-Shoulder Feasibility Study, considered a bus-on-shoulder only alternative, as well as a high-occupancy vehicle  lane alternative. Both of these alternatives did not include auxiliary lanes.

Alternatives to the proposed project are described in Environmental Impact Report/Environmental Assessment Section 1.6. Due to the constraints of the highway, few alternatives to the State Route 1 component of the project are feasible. However, a prospective outside widening alternative is described in Draft Environmental Impact Report/Environmental Assessment, Section 1.6.4. This alternative was rejected because it would result in substantial impacts on environmentally sensitive areas including Valencia Lagoon. Three prospective alternatives were analyzed for the trail component of the project, including a Coastal Alignment Alternative and a Hybrid Alternative. These alternatives are described in Draft Environmental Impact Report/Environmental Assessment Sections 1.6.1 and 1.6.2, respectively. A prospective alternative to the Aptos Creek Bridge replacement component of the project is described in Draft Environmental Impact Report/Environmental Assessment Section 1.6.5 but was dismissed because of biological and safety impacts. Lastly, a prospective bus-on-shoulder alternative was reviewed but rejected because it would not attain the basic project objectives or substantially reduce delay along the corridor.

**Comment O3-16**

The DRAFT unjustifiably eliminates Bus-on-Shoulder Only from further study

Unfortunately, the DRAFT eliminates a transit alternative that would offer many travelers an alternative to being stuck in traffic: genuine bus-on-shoulder, defined as express buses operating in bus-only lanes on the shoulder of the highway, such as exists in Minneapolis-St. Paul; Cleveland; Atlanta; Chicago and Miami. In genuine bus-on-shoulder operations, buses can travel faster than the congested traffic on the highway. This advantage attracts bus riders. In 2013 legislation passed in California authorizing Monterey and Santa Cruz Counties to build bus-only lanes on the shoulder of the highway. Instead of moving forward with bus-only lanes (instead of auxiliary lanes), the Project proposes to operate buses primarily in the auxiliary lanes. The sole bus-only lane portions of the Project are the short segments of highway at the two interchanges. The rest of the time buses would operate in the auxiliary lanes, mixed with other vehicles. We know from experience that the auxiliary lane from Morrissey to Soquel Ave, completed in 2011, is congested with traffic at the peak afternoon period.

**Response to Comment O3-16**

The Monterey Bay Area Feasibility Study of Bus on Shoulder Operations on State Route 1 and the Monterey Branch Line issued on July 26, 2019, studied the concept of the creation of continuous bus-on-shoulder lanes (both right and left shoulders) on State Route 1. The right-side bus on shoulder lane was identified as Alternative 2B, and the current project, a hybrid of bus-on-shoulder and bus use of the auxiliary lanes was labeled Alternative 2A. In this study these two options were rated as being about equal in cost and performance. Notably, however, Alternative 2B posed some compatibility issues with the auxiliary lanes. This is because the buses when leaving the shoulder in an interchange area would have to weave across the on-ramp into the auxiliary lane and then weave into the bus shoulder lane. This meant that the buses would be using a portion of the auxiliary lanes at both ends of each segment. On further examination after the feasibility study was complete it was determined that these maneuvers were undesirable from a safety standpoint and that they would negate some of the travel time savings of the use of the shoulder as a bus lane. Speeds in auxiliary lanes tend to be higher than those in the mainline general-purpose lanes, so the buses would still be moving faster than the general traffic. Also, it was determined that the cost of Alternative 2B was understated because the shoulder lanes planned as part of the auxiliary lane project would be mostly 10 feet wide, and Caltrans requires that, shoulders used by buses be 12 feet wide. CEQA Guidelines Section 15126.6 states that factors that may be used to eliminate alternatives from further analysis include failure to meet the basic project objectives, infeasibility, or inability to avoid environmental impacts. Because this alternative is undesirable from a safety standpoint and because the project objective of reducing travel time/congestion, Alternative 2B was eliminated from consideration.

**Comment O3-17**

The DRAFT states:

A Bus-on-Shoulder only alternative was considered, in which only Bus-on- Shoulder improvements would be implemented and auxiliary lanes would not be added…

This alternative was reviewed and rejected because the construction cost is comparable to the construction cost of auxiliary lanes, but the improvement does not attain most of the basic objectives of the project because the improvement does not substantially reduce delay along the corridor. The DRAFT perpetuates a deficiency of previous environmental studies in its failure to evaluate a genuine bus-on-shoulder option. There is no mention of bus-on-shoulder in the entire Tier I Environmental Impact Report. There is no mention of bus-on-shoulder in the Tier II Environmental Impact Report for

the auxiliary lane from Soquel Dr. to 41st Ave. The Environmental Impact Report for the auxiliary lanes from Bay/Porter to State Park Drive fails to analyze genuine bus-on-shoulder.

The rationale for eliminating genuine bus-on-shoulder from further analysis is that it does not substantially reduce delay along the corridor. This argument fails, because the DRAFT did not compare delay experienced by vehicles on the corridor, to delay experienced by bus riders in a genuine bus-on-shoulder alternative. The DRAFT should measure delay per traveler, rather than delay per vehicle. See the next section. Genuine bus-on-shoulder would be superior to the Project in satisfying the project objectives of "improving transit operations" and "promote the use of alternative transportation modes… as well as to reduce vehicle miles of travel and vehicular emissions."

Given the poor performance of the Build Alternative in achieving the project objective of reducing congestion (no improvement of congestion in the northbound morning peak direction and no improvement in the afternoon peak southbound direction in 2045) the Project should examine an alternative that affords travelers an alternative to the congested highway and to driving up greenhouse gas emissions. The California Court of Appeals in Cleveland National Forest Foundation v. San Diego Association of Governments, et al. (2017) referenced the failure of highway expansion to provide lasting congestion relief:

Given the acknowledged long-term drawbacks of congestion relief alternatives, there is not substantial evidence to support the Environmental Impact Report's exclusion of an alternative focused primarily on significantly reducing vehicle trips.

The failure to analyze dedicated bus lanes in lieu of auxiliary lanes severely impacts the "development of multimodal transportation networks" and this impact should be evaluated by the Environmental Impact Report (Pub. Resources Code 21099).

**Response to Comment O3-17**

The commenter cites the Cleveland National Forest Foundation v. San Diego Association of Governments to reference the failure of highway expansion to provide lasting congestion relief. The project is intended to reduce delay via auxiliary lanes. The traffic analysis found that compared to the No-Build Alternative, delay and bottlenecks would be reduced on State Route 1, traffic speeds and fuel efficiency would increase, and traffic would be diverted from local streets. Please also see response to comment O3-16.

**Comment O3-18**

The Project Objectives are inadequately drawn.

The objectives are stated as the Project Purpose:

1. Reduce delay and improve system reliability and safety along State Route 1. Objective 1 assumes that delay is vehicle delay. The Traffic Operations Analysis estimates only delay per vehicle. It does not measure delay per traveler that includes bus riders in a genuine bus-on-shoulder project. It is quite possible that delay per traveler in a genuine bus-on-shoulder project would compare favorably to delay per traveler in the auxiliary lanes Project. Nor does this objective allow for increased capacity on routes parallel to Highway 1. An objective that is more in alignment with state policy would be: Reduce delay per traveler along the corridor between Santa Cruz and Watsonville.

**Response to Comment O3-18**

As stated in response to comment O3-1, the purpose of the project is related to the needs identified by the project development team. Traveler travel time or delay was not set as a performance measure for this project at the start. However, auto and bus trips, travel times, and average occupancy data are available to compute a weighted average per traveler travel time or delay metric with and without project. Grant applications prepared for this project have used this type of information to estimate travel time benefits (CDM Smith 2022). Given the bus trips are very small compared to auto trips on State Route 1, and the bus travel time savings are small in comparison to the end-to-end travel time (Watsonville Transit Center – Santa Cruz Metro Center), the conclusions of the project are not likely to change due to a change in the metric from delay per vehicle to delay per person. The Project Objectives meet all statutory requirements.

**Comment O3-19**

**The Project does not substantially meet the Project Objectives**.

The DRAFT estimates that Project auxiliary lanes do not substantially reduce delay. Table 2-19 estimates no difference in delay in the northbound morning peak period between the Build and No Build alternatives. According to Table 2-22, the Project would reduce delay in the peak afternoon period. However, this improvement is estimated to erode over time:

*Compared to the No-Build Alternative, the level of service for the Build Alternative improves for the southbound PM peak direction in the year 2025 but no improvements were seen in the year 2045.*

The DRAFT's prediction for a reduction in delay in the afternoon period is suspect because it is inconsistent with earlier environmental studies. The Tier II Environmental Impact Report for the Soquel Dr. to 41st Ave auxiliary lanes predicts "the auxiliary lane alternative would slightly worsen traffic operations in the southbound peak commute hour". The Tier I Environmental Impact Report estimates that building the Transportation System Management Alternative "would result in a very slight improvement in traffic congestion when compared to the No Build Alternative".

The DRAFT's estimate for a small reduction in delay resulting from auxiliary lanes is likely overstated, since the DRAFT did not calculate induced travel according to the Office of Planning and Research Advisory (See above). The Office of Planning and Research Advisory calls attention to "the most recent major study (Duranton and Turner, 2011), estimates an elasticity of 1.0, meaning that every percent change in lane miles results in a one percent increase in vehicle miles traveled." What this means is that adding a lane in each direction to a two-lane highway (a 50% increase in lane miles) would result in a 50% increase in vehicle miles traveled. The takeaway from this study is that net congestion relief benefit from adding capacity to a highway is zero. The DRAFT's claim that the Project would improve local circulation, as drivers using area streets opt to drive on the highway, conflicts with the conclusions of the Tier I Environmental Impact Report:

The Tier I Corridor Transportation System Management Alternative would not achieve sufficient congestion relief to attract any substantial number of vehicles that had diverted to the local street system back to the freeway. Local access to, and circulation around, community facilities near these intersections would not improve relative to no-build conditions.

In summary, the DRAFT's analysis that the Project achieves the objective to "reduce delay" and "improve local circulation" is invalid due to failure to measure vehicle miles traveled. The DRAFT found that the auxiliary lanes in the northbound direction utterly fail to meet the project objectives for reducing delay:

Implementation of the Build Alternative is expected to increase daily Vehicle Hours Traveled and vehicle hours of delay in northbound direction and decrease daily Vehicle Hours Traveled and vehicle hours of delay in the southbound direction, compared to the No Build Alternative.

Wouldn't it be logical to evaluate eliminating the northbound auxiliary lanes from the Project?

**Response to Comment O3-19**

The project has an external constraint in the form of a northbound bottleneck downstream of the project limits (around the Soquel interchange) that limits the travel time benefits within the project limits. This is documented in the Traffic Operations Analysis Report (page A-14).

An analysis of induced traffic was provided in the Traffic Operations Analysis Report. This was used as a volume input to the traffic models used in the Traffic Operations Analysis Report.

As part of the Traffic Operations Analysis Report, a travel time calibration was performed on the 2019 (base year) traffic models using 2019 INRIX speed data, i.e., using data newer than Tier I Corridor Transportation System Management Alternative/Tier II Environmental Impact Report for the Soquel Drive to 41st Avenue auxiliary lanes. The analyses provided in the Traffic Operations Analysis Report and related documents demonstrates that there would be improved end-to-end bus-on-shoulder travel times in both directions.

The external constraint limits the amount of travel time savings in the northbound direction. Commuter trips between the southern and northern portions of the county would involve travel in both north and south directions over a day. In the northbound direction, commuters would experience improved travel reliability due to the reduction in the number of crash incidents with their resulting delays. In the southbound direction, commuters would experience both improved travel time reliability and travel time savings. Overall, the project is expected to have measurable travel time savings and travel time reliability improvements to commuters at a daily level; therefore, the Build Alternative meets this Project Objective.

**Comment O3-20**

The DRAFT's conclusion that the Project would result in countywide reduction in vehicle miles traveled is invalid.

As stated above, the DRAFT estimates that the auxiliary lanes portion of the project will increase vehicle miles traveled by 2.7% by 2045. The DRAFT calculates that the so-called "bus on shoulder" project and trail project will reduce vehicle miles traveled, offsetting the increase in Vehicle miles traveled resulting from the auxiliary lanes. The

net change in countywide vehicle miles traveled is estimated to be “zero or a small negative value”. By the DRAFT’s admission (see above) its vehicle miles traveled analysis does not comply with state guidelines for measuring vehicle miles traveled. Therefore its vehicle miles traveled analysis cannot be used to justify claiming that “the Build Alternative would not have impacts related to vehicle miles traveled and no mitigation measures are necessary.”

Moreover, it is not valid to combine the vehicle miles traveled reduction benefits of the trail project, an independent project which has been planned and funded for many years, with the highway expansion project for purposes of reporting changes in vehicle miles traveled.

Likewise, the DRAFT’s proposed redesign of the 91X bus line, involving eliminating bus stops and more frequent service, is a project that is independent of whether the auxiliary lanes are built. The vehicle miles traveled reduction benefits of this project can be achieved independently of the auxiliary lanes project and should not be combined with the auxiliary lanes project in reporting vehicle miles traveled changes.

**Response to Comment O3-20**

While the project contains several components (auxiliary lanes, bus-on-shoulder, and Segment 12 of the Coastal Rail Trail), these components are analyzed as a whole. However, the impacts are also presented individually where possible to provide more specific information on the project components. The vehicle miles traveled changes are presented separately for auxiliary lanes, bus-on-shoulder, and the trail in the Additional Traffic Analysis Memorandum (CDM Smith 2023) and in the draft environmental document in Section 2.1.7.

The auxiliary lanes component of the project is an integral part of the overall project and cannot be eliminated. Because the trail project involves crossings of the freeway, which must be reconstructed to construct the auxiliary lanes, it is dependent on the auxiliary lane component. Based on the Concept of Operation report of 2019, which was approved by Caltrans and the California Highway Patrol, the bus-on-shoulder project element would also be dependent on the auxiliary lanes construction.

Please also see Master Response 3, which describes why the project is exempt from a vehicle miles traveled analysis.

**Comment O3-21**

The Climate Change analysis is flawed and inadequate

Since the vehicle miles traveled reductions claimed by the DRAFT are invalid (see #9), the greenhouse gas estimates are also invalid.

Further, the discussion of Climate Change makes the assumptions that "the project will not increase the vehicle capacity of the roadway," and "Because the project would not increase the number of travel lanes on State Route 1, no increase in vehicle miles traveled would occur." These assumptions cannot be supported. To our knowledge there is no research that supports the notion that building auxiliary lanes in between interchanges does not increase roadway capacity or vehicle miles traveled.

**Response to Comment O3-21**

Individual projects are not responsible for greenhouse gas reduction proportionate to the statewide greenhouse gas reduction target. Projects included in an approved Regional Transportation Plan or Metropolitan Transportation Plan that meet or exceed the regional greenhouse gas reduction goal are considered to contribute to the statewide greenhouse gas reduction goal. Santa Cruz County Regional Transportation Commission is a member of Association of Monterey Bay Area Governments Metropolitan Planning Organization; Association of Monterey Bay Area Governments target from Air Resources Board is 6% greenhouse gas reduction per capita by 2035 relative to 2005. The project is included in Association of Monterey Bay Area Governments' 2045 Metropolitan Transportation Plan/Sustainable Communities Strategy; therefore, it will contribute to meeting the regional greenhouse gas reduction goal.

The vehicle miles traveled analysis was based on Caltrans' policy and procedures for conducting such analyses. Caltrans has prepared the Transportation Analysis Framework and Transportation Analysis under CEQA published in September 2020 to guide transportation impact analysis for projects on the State Highway System as part of the CEQA process. Caltrans prepared these documents to guide implementation of Senate Bill 743 (Steinberg 2013). The Transportation Analysis Framework provides guidance on the methodology to be used in measuring the vehicle miles traveled impacts for projects on state highways.

As described in Draft Environmental Impact Report/Environmental Assessment Section 3.3, and as described in Master Response 3, the project is exempt from preparing a vehicle miles traveled analysis. However, as described in Draft Environmental Impact Report/Environmental Assessment Section 2.1.7 and in the 2023 supplemental traffic analysis (CDM Smith 2023), there would not be a substantial increase in vehicle miles

traveled. Consequently, there would not be a substantial increase in greenhouse gas emissions as a result of the project.

**Comment O3-22**

The Project conflicts with state climate legislation

In Section 2, we point out that the DRAFT's failure to analyze vehicle miles traveled is inconsistent with the mandate of Senate Bill 743. It is also inconsistent with the Court of Appeals ruling in Covina Residents for Responsible Development v. City of Covina (2018) which stated that pursuant to Section 21099, the criteria for determining the significance of transportation impacts must "promote the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses."

Senate Bill 32 (Pavley, 2016) requires California to reduce greenhouse gas emissions 40 percent below 1990 levels by 2030, and Executive Order B-16-12 provides a target of 80 percent below 1990 emissions levels for the transportation sector by 2050. The California Air Resources Board determined that it will not be possible to achieve the State's 2030 and post-2030 emissions goals without reducing vehicle miles traveled growth.

**Response to Comment O3-22**

The commenter's assertion that the project conflicts with state climate legislation is not supported by the content of the Environmental Impact Report/Environmental Assessment. Individual projects are not responsible for greenhouse gas reduction proportionate to the statewide greenhouse gas reduction target. Projects included in an approved Regional Transportation Plan or Metropolitan Transportation Plan that meets or exceeds its regional greenhouse gas reduction goal are considered to contribute to the statewide greenhouse gas reduction goal. Santa Cruz County Regional Transportation Commission is a member of Association of Monterey Bay Area Governments Metropolitan Planning Organization; Association of Monterey Bay Area Governments's target from Air Resources Board is 6% greenhouse gas reduction per capita by 2035 relative to 2005. The project is included in Association of Monterey Bay Area Governments' 2045 Metropolitan Transportation Plan/Sustainable Communities Strategy; therefore, it will contribute to meeting the regional greenhouse gas reduction goal. The commenter cites the case Covina Residents for Responsible Development v. City of Covina. The discussion of CEQA Guidelines Section 21099 regarding greenhouse gas reductions is general in nature and does not support the commenter's assertion that the project conflicts with climate change legislation.

**Comment O3-23**

The DRAFT contains insufficient analysis of impacts on fish habitat in affected creeks. The Draft's conclusion that impacts on fish habitat will not be significant is not substantiated. The Draft appears to contradict itself. In Chapter 2 it reads: "the project may affect, and is likely to adversely affect, Central California coast steelhead critical habitat." However, Chapter 3 reads: "no effects to steelhead critical habitat are anticipated. Therefore, the project may affect, but is not likely to adversely affect, Central California coast steelhead critical habitat."

This confusion aside, the Draft makes no mention of the times of the year that steelhead spawn and smolt or how the timing of construction may impact steelhead or construction would affect the steelhead life cycle. The Draft acknowledges that the project will de-water Aptos Creek and Valencia Creek and increase sedimentation of the creeks, without analyzing how that will impact spawning habitat. Construction of the project could result in extirpation of steelhead in the creeks, but this is not analyzed.

**Response to Comment O3-23**

The impact conclusion for Central California coast steelhead critical habitat in the Draft Environmental Impact Report/Environmental Assessment is that it "may affect, and is likely to adversely affect" and the CEQA conclusion is less than significant with mitigation incorporated. This is due to the potential for dewatering, which could result in a short-term impact on benthic macro invertebrates, which would lead to a temporal loss of habitat. The commenter is correct that this is misstated on page 395 of the Environmental Impact Report/Environmental Assessment, and this text has been revised for consistency with the rest of the document. This revision only clarifies and does not add significant new information or change the conclusions of the analysis.

The commenter states that the Draft Environmental Impact Report/Environmental Assessment does not describe the life history periodicity of steelhead, particularly as it relates to the timing of spawning and smolting, and how the timing of construction potentially affects (or avoids) these key life history stages. In addition, the commentor noted that effects of de-watering and increased sedimentation on spawning habitat have not been analyzed. A summary of the timing of key life history stages of steelhead in Aptos Creek is provided below. A summary of potential effects and applicable avoidance, minimization, and mitigation measures from the Draft Environmental Impact Report/Environmental Assessment on steelhead life stages and spawning habitat from dewatering construction activities is provided below.

Steelhead have a complex suite of life history traits, including the capability to be anadromous (steelhead) or to be resident (rainbow trout). Spawning and rearing habitat for steelhead is usually characterized as perennial streams with clear, cool to cold, fast flowing water with a high dissolved oxygen content and abundant gravels and riffles.

The following steelhead life history account is largely based on the multi-year study of steelhead on Waddell Creek, which is located in Santa Cruz County north of Aptos Creek, and provides the most comprehensive information on steelhead life history timing and habitat requirements (Shapovalov and Taft 1954). Based on the proximity of Aptos Creek to Waddell Creek, it is assumed that steelhead life history in Aptos Creek closely follows that observed for Waddell Creek steelhead.

Steelhead return to their natal streams to spawn typically as 3- and 4-year old adults, although returning adults of 1 to 7 years old have been documented. In coastal streams like Aptos Creek, the exact timing of entry into freshwater is influenced by streamflow and breaching of the sandbar at the creek mouth, but the bulk of adult entry into freshwater occurs from about mid-December to mid-April. Spawning occurs between January and April. Time of incubation and hatching varies with region, habitat, water temperature, and spawning season. Unlike all Pacific salmon, which die after spawning, steelhead can survive to spawn again (iteroparity), although the percentage that spawn more than once is low. After spawning, adults (called kelts) return to the ocean, typically from March to June, although some adults may remain in freshwater in larger pools following spawning until the following winter before returning to the ocean. Steelhead egg incubation occurs between January and May. Alevins (larval hatchlings that live in the interstitial spaces of the gravel) emerge from their redds following yolk sac absorption and are ready to feed as fry or juveniles. Following emergence, fry live in small schools in shallow water along streambanks. The diet of juvenile steelhead includes emergent aquatic insects, aquatic insect larvae, snails, amphipods, opossum shrimp, and small fish (Moyle 2002). As steelhead grow, they establish individual feeding territories; juveniles typically rear for 1 to 2 years (and up to 4 years) in streams before emigration as smolts (juveniles that have undergone a physiological transformation that prepares them for life in salt water). Smolts can emigrate in all months of the year but the bulk of smolts emigrate in April, May, and June. Young-of-year steelhead also can occur in all months of the year, but rather than going to the ocean these juveniles are believed to be dispersing to other habitats. Steelhead may remain in the ocean from one to four years, growing rapidly as they feed in the highly productive currents along the continental shelf (Barnhart 1986).

Table 1. Primary Timing of Key Life History Stages for Central California Coast Steelhead

| Life Stage | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Adult Migration | x | x | x | x | | | | | | | | x |
| Spawning | x | x | x | x | | | | | | | | |
| Incubation | x | x | x | x | x | | | | | | | |
| Rearing | x | x | x | x | x | x | x | x | x | x | x | x |
| Smolt Emigration | | | | x | x | x | | | | | | |
| Kelt Emigration | | | x | x | x | x | | | | | | |

Source: Shapovalov and Taft (1954).

Steelhead have been documented to occur in Aptos and Valencia Creeks, and in the Aptos lagoon/estuary (D.W. Alley & Associates 2018). Sampling results for Aptos and Valencia Creeks suggest that juvenile steelhead are present year-round in the watershed based on the occurrence of multiple age classes of juvenile steelhead (i.e., young-of-year, yearling, and 2- and 3-year-old fish) in the sample surveys (D.W. Alley & Associates 2018).

In 2001, Hagar Environmental Science (2003) conducted a habitat assessment of Aptos and Valencia Creeks as part of a habitat salmonid habitat and limiting factors assessment. Hagar Environmental Science (2003) observed that Aptos Creek downstream of Valencia Creek and upstream of the lagoon consisted primarily of wide, shallow glide-type habitats dominated by sand substrates, and that habitat conditions improved upstream of Valencia Creek with lower amounts of sand, and long 1- to 2-foot-deep pools lined with bedrock. These long pool habitats were believed to be sufficiently deep to support older age classes of juvenile steelhead (Hagar Environmental Science 2003). In Aptos Creek, suitable substrate and hydraulic conditions for spawning were observed to be present upstream of Valencia Creek only, and no spawning habitat was observed in Valencia Creek downstream of the culvert at State Route 1 (Hagar Environmental Science 2003). Excessive levels of sand substrates in lower Aptos and Valencia Creeks and lack of pool habitats in lower Aptos Creek were identified to be the primary reason for the lack of suitable spawning habitat in these creek reaches.

Construction activities involving in-water work, including cofferdam construction, stream diversion, and dewatering, have the greatest potential for causing impacts on steelhead and its habitat associated with the project from disturbance of soil and riverbed sediments and creating barriers to movement for fish. As part of AMM BIO-10, work occurring within stream channels will be conducted during the dry season (June 1 to

September 30). Restricting in-water work to the June 1 to September 30 period would avoid the adult migration, spawning, and incubation periods (Table 1); therefore, no impacts on these life stages would occur from in-water work. However, construction activities requiring in-water work during June would overlap the end of the smolt and kelt emigration periods, and potentially could adversely affect smolts and kelts by delaying or blocking their downstream movement to the ocean (Table 1). However, implementation of Caltrans' Standard Measures for Threatened and Endangered Species associated with the installation and operation of cofferdams and stream diversions would ensure that downstream passage for steelhead smolts and kelts would be maintained through the end of the smolt and kelt emigration periods.

Based on the proposed timing restrictions (AMM BIO-10) for in-water construction activities and best management practices as described in Draft Environmental Impact Report/Environmental Assessment Section 2.2.2, *Water Quality and Storm Water Runoff*, sedimentation events and elevation of turbidity associated with construction are expected to be minor and transient in nature, and not lead to measurable impacts on steelhead or critical habitat. Implementation of these best management practices would ensure that ground-disturbing construction activities do not violate water quality standards or waste discharge requirements or otherwise substantially degrade water quality that would adversely affect fish populations and habitat. Furthermore, in the unlikely event that sedimentation events were to occur in Aptos or Valencia Creeks as a result of construction, these sediments would be expected to be mobilized and transported out of Aptos Creek following early winter storms. Based on the previous habitat assessment of Aptos and Valencia reeks (Hagar Environmental Science 2003), most, if not all, steelhead spawning habitat in Aptos and Valencia Creeks occurs upstream of the biological study area. Therefore, no impacts on steelhead spawning habitat associated with project construction are expected to occur.

Based on the proposed timing restrictions for in-water construction activities and best management practices, the timing of adult steelhead migration, spawning, and juvenile smolting and emigration to the ocean, and the spatial distribution of spawning habitat in Aptos Creek (i.e., upstream of the biological study area), steelhead are not likely to be extirpated from the Aptos Creek watershed as a result of project construction.

The clarifying information presented above does not change the conclusions of the draft environmental document related to steelhead. As described in the Draft Environmental Impact Report/Environmental Assessment, due to the temporary impacts of dewatering, there will be short term impacts to benthic macro invertebrates, which will lead to a temporal loss of habitat. There are multiple avoidance and minimization measures

throughout the Draft Environmental Impact Report/Environmental Assessment to reduce impacts related to potential dewatering.

### *Response to Comments Seacliff Business Partners, Emily Chorba*

**Comment O4-1**

The Seacliff Improvement Association is writing to acknowledge the drainage issues provided in the attached document from the Seacliff Business Partners. The Seacliff Business Partners questions raised wish to ensure the projects being contemplated do not exacerbate but rather address quality of life and safety concerns in Seacliff presented in the document. To those conducting the Environmental Impact Report, please consider both an analysis and a solution for the issues Seacliff Business Partners captured as part of the scope of these Santa Cruz County Regional Transportation Commission projects. [Attachment is copy of Seacliff Business Partners letter]

**Response to Comment O4-1**

The project is expected to maintain the overall drainage pattern, and impacts on the floodplain would be minimal because the project proposes to implement stormwater control measures. Additionally, the proposed drainage facilities would be designed and constructed according to the approved Caltrans and Santa Cruz County design guidelines.

### *Response to Comments Seacliff Business Partners, Kelly Dillon*

**Comment O5-1**

The following projects are currently in the works that will increase flow through a combination of more larger and cleaner pipes and an increase of impervious surfaces:

- Santa Cruz 1 Roadside Safety and Drainage System Improvements- On State Route 1 in Santa Cruz County 05-SCR-1-PM 8.2/26.0 Project EA 05-1J960, Project ID 0518000093 State Clearinghouse Number 2022070450
- State Route 1 Auxiliary Lanes Freedom Blvd. to State Park Dr and Coastal Rail Trail Segment 12 Project
- State Route 1 in Santa Cruz County and the City of Capitola between State Park Drive and Bay Avenue/Porter Street 05-SCR-1-10.54-13.44 EA 05-0C733/Project ID 0518000116 SCH Number 2019100143

**Response to Comment O5-1**

Because projects listed were considered in Draft Environmental Report/Environmental Assessment Section 2.4, *Cumulative Analysis*, and were analyzed to determine if these and other projects, together with the proposed project would contribute to cumulative impacts. Because this project and the other concurrent or planned projects would be subject to National Pollutant Discharge Elimination System permit requirements and would have their own temporary and permanent best management practices, cumulative impacts are expected to be minimal. Additionally, one goal of the project is to maintain the drainage pattern. The proposed drainage facilities would be designed and constructed according to the Caltrans and Santa Cruz County design guidelines. Stormwater impacts from additional impervious areas would be minimized through the proper implementation of permanent stormwater treatment measures and design pollution prevention best management practices. Portions of the project along State Route 1 within the local jurisdictions' right-of-way would also be subject to the hydromodification management requirements included in the Central Coast Regional Water Quality Control Board Post-Stormwater Requirements and the Santa Cruz County Design Criteria. Furthermore, the Aptos Creek watershed area is 12.2 square miles, and the Valencia Creek watershed area is 12.1 square miles, for a combined watershed area of 24.3 square miles at the project locations. Based on the minimal net increased flows from impervious area that would be drained to the different receiving waters within the project limits, substantial impacts on the base floodplains are not anticipated.

**Comment O5-2**

Between the projects contemplated in the Environmental Impact Report draft and the additional projects for auxiliary lanes and drainage improvements on Rte. 1 up to Bay & Porter as well as section 11 of the Rail Trail, Bus on Shoulder, et.al., we are expressing concern that the cumulative effects on the peak volume of stormwater flow through the drainage section in Figure 1 have not been responsibly calculated and considered.

**Response to Comment O5-2**

Cumulative effects on drainage are discussed in Draft Environmental Report/Environmental Assessment Section 2.4, *Cumulative Analysis*, and were determined to be of good/stable health and would not result in significant impacts on drainage. this is because the project and the other concurrent or planned projects would be subject to National Pollutant Discharge Elimination System permit requirements and have their own temporary and permanent best management practices, cumulative

impacts are expected to be minimal. Additionally, one goal of the project is to maintain the drainage pattern. The proposed drainage facilities would be designed and constructed according to the Caltrans and Santa Cruz County design guidelines. Stormwater impacts from additional impervious areas would be minimized through the proper implementation of permanent stormwater treatment measures and design pollution prevention best management practices. Portions of the project along State Route 1 within the local jurisdictions' right-of-way would also be subject to the hydromodification management requirements included in the Central Coast Regional Water Quality Control Board Post-Stormwater Requirements and the Santa Cruz County Design Criteria. Furthermore, the Aptos Creek watershed area is 12.2 square miles, and the Valencia Creek watershed area is 12.1 square miles for a combined watershed area of 24.3 square miles at the project locations. Based on the minimal net increased flows from impervious area that would be drained to the different receiving waters within the project limits, substantial impacts on the base floodplains are not anticipated.

**Comment O5-3**

The Notice of Preparation (Sep. 22) for this Environmental Impact Report states on page 6,(1) “The project is anticipated to result in an increase of impervious surfaces, which has the potential for long-term water quality impacts during project operations.”; … and (2) “Land Use and Coastal Zone - Portions of the project area are located in the Coastal Zone, and the project may potentially affect resources protected by the federal Coastal Zone Management Act , California Coastal Act, and the Santa Cruz County Local

Coastal Plan. A Coastal Development Permit pursuant to the California Coastal Act is anticipated to be required. The draft Environmental Impact Report/Environmental Assessment will provide information on potential impacts and identify appropriate avoidance, minimization, and mitigation measures to reduce impacts on sensitive resources in the Coastal Zone, such as biological resources, water quality, parks and recreational resources.” On Page 49 in the Table 2-1. Local Coastal Program Consistency Analysis, County of Santa Cruz 1994 General Plan and Local Coastal Program the Environmental Impact Report states: “Policy 5.4.3: Water pollution from urban runoff. Review proposed development projects for their potential to contribute to water pollution via increased storm water runoff. Utilize erosion control measures, on-site detention and other appropriate storm water Best Management Practices to reduce pollution from urban runoff; and Policy 5.7.1. Impacts from new development on water quality. Prohibit new development adjacent to marshes, streams and bodies of water if such development would cause adverse impacts on water quality which cannot be fully

mitigated." Unfortunately, the breaking of the projects listed above into their individual scopes of work as well as geographic sections with border at State Park Drive allows for a cursory review to suggest that the stormwater effects might be minimal, for this reason a cumulative approach to this concern is required for a dutiful and responsible analysis.

**Response to Comment O5-3**

The projects listed above were considered along with the proposed project in the cumulative analysis which evaluates the sum of potential impacts on various resource topics, including stormwater and drainage. Cumulative effects of these projects on stormwater and drainage are discussed in Draft Environmental Report/Environmental Assessment Section 2.4, *Cumulative Analysis*. Hydrology and floodplains and water quality and stormwater runoff were determined to be of good/stable health and would not result in significant impacts on drainage. Because this project and the other concurrent or planned projects would be subject to National Pollutant Discharge Elimination System permit requirements and have their own temporary and permanent best management practices, cumulative impacts are expected to be minimal.

**Comment O5-4**

Based on the comments in P 109-112, The Environmental Impact Report should contain a discussion of increased flows, particularly when considered cumulatively with the projects above should be detailed, with a factual basis for conclusions. This analysis should consider and incorporate the risk of liability from a death or injury from peak stormwater flow in the area of concern given its contiguous proximity to the Rail Trail and community serving resources. This discussion should include a recommendation that the effects on the downstream area noted above must be managed with Caltrans and/or Santa Cruz County Design Criteria and Best Management Practices for permanent facility.

Santa Cruz County Design Standards and Caltrans Design Standards both dictate that a project of this scope must address increased flow through mitigation, which in this case would be well addressed by designing a higher capacity enclosed pipe to handle this storm water.

The study in the Environmental Impact Report, PRELIMINARY GEOTECHNICAL DESIGN REPORT Santa Cruz County Regional Transportation Commission- STATE ROUTE 1 AUX LANES AND BUS ON SHOULDER (FREEDOM BOULEVARD TO STATE PARK DRIVE) COUNTY OF SANTA CRUZ, CALIFORNIA 05-SCR-1-PM R8.1/10.7 EA: 05-0C734 ignores the effect of increased flow on downstream storm water facilities and the erosion effects there of (PP26-27). This oversight must be

addressed with the cumulative effect of the above projects addressed. On p 103 the study does not differentiate that amount of stormwater resulting from impervious additions that will be directed to the stormwater systems that drain directly to the Monterey Bay (including the area of concern above) rather than to Soquel or Aptos creeks.

We make these comments and requests in reflection of our significant concerns for the safety and welfare of our community and the recognition that the scope of this problem is beyond the ability of individual property owners to address, given the myriad sources of the water and the breadth of new activity directly and indirectly enabled by these projects.

**Response to Comment O5-4**

Because this project and the other concurrent or planned projects would be subject to National Pollutant Discharge Elimination System permit requirements and would have their own temporary and permanent best management practices, cumulative impacts are expected to be minimal. These projects were included in the cumulative impacts analysis, in Draft Environmental Impact Report/Environmental Assessment Section 2.4. Additionally, a goal of the project is to maintain the drainage pattern. The drainage analysis and design would be performed in accordance with Santa Cruz County and California Department of Transportation standards. Detailed drainage analysis would be performed in the Plans, Specifications, and Estimates phase when survey information becomes available. The drainage design would consider metering flows for additional runoff from the newly created impervious surfaces as necessary to minimize impacts on wetlands and riparian habitats.

The proposed drainage facilities would be designed and constructed according to the Caltrans and Santa Cruz County design guidelines. Stormwater impacts from additional impervious areas would be minimized through the proper implementation of permanent stormwater treatment measures and design pollution prevention best management practices. Portions of the project along State Route 1 within the local jurisdictions' right-of-way would also be subject to the hydromodification management requirements included in the Central Coast Regional Water Quality Control Board Post-Stormwater Requirements and the Santa Cruz County Design Criteria. Furthermore, the Aptos Creek watershed area is 12.2 square miles, and the Valencia Creek watershed area is 12.1 square miles, for a combined watershed area of 24.3 square miles. Based on the minimal net increased flows from impervious area that would be drained to the different receiving waters within the project limits, substantial impacts on the base floodplains are not anticipated.

**Comment O5-5**

Seacliff Business partners is a 501c6 community group comprised of the merchants of Seacliff CA. We are excited about the upcoming improvements to our community contemplated in the project known as: State Route 1 Auxiliary Lanes and Bus-on-Shoulder Improvements—Freedom Blvd. to State Park Dr.—and Coastal Rail Trail Segment 12 Project SANTA CRUZ COUNTY, CALIFORNIA DISTRICT 5 – SCR – (8.1/10.7) EA 05-0C73

While we are pleased to see these important projects getting underway, we are particularly concerned about a certain aspect that directly effects our membership and the community we serve.

There is an inadequate drainage facility running through our town which is significantly fed by the areas where this project work will be done. This facility routinely floods and generates a severe current and sump which erodes and poses a risk to life if a person should fall or be swept into the channel. The channel crosses private lands through a county easement that has long since overflowed its bounds. In addition to the direct effects of the work both while underway and more importantly after completion, the additional rail trail facility exposes our members and our community to a terrible risk from an open stormwater channel. We need only reflect on the terrible loss of 5-year-old Kyle Doan near Paso Robles last winter to recognize that this problem must not be ignored. A responsible assessment of impacts of the project work should include addressing and/or undergrounding the stormwater channel in Seacliff between the railroad and Center Ave parallel to State Park Drive. We ask that the impact report consider and address this problem in its findings and recommendations.

**Response to Comment O5-5**

A goal of the project is to maintain the existing drainage patterns. The proposed drainage facilities would be designed and constructed according to the Caltrans and Santa Cruz County design guidelines. Impacts from added impervious areas would be considered and addressed as necessary during the Plans, Specifications and Estimates phase when more detailed design and survey information is available. Considerations could include flow metering, promoting infiltration, retaining flow, detaining flow, or improving culverts as necessary. Stormwater impacts from additional impervious areas would also be minimized through the proper implementation of permanent stormwater treatment measures and design pollution prevention best management practices. The project would also be subject to the hydromodification management requirements included in the Central Coast Regional Water Quality Control Board Post-Stormwater

Requirements and the Santa Cruz County Design Criteria. Hydromodification or hydrograph modification is the “change in the timing, peak discharge, and volume of runoff from a site due to land development” (Santa Clara Valley Urban Runoff Pollution Prevention Program 2016). Hydromodification management techniques “focus on retaining, or detaining and slowly releasing runoff in a way that matches pre-project runoff patterns” (Santa Clara Valley Urban Runoff Pollution Prevention Program 2016).

**Comment O5-6**

Below please find specific comments and analysis of the Environmental Impact Report and related project documentation to bolster this request and provide more specific opportunity for action.

Environmental Impact Report analysis: The Environmental Impact Report does not adequately address the consequences of this project alone or with related or concurrent projects and problematic conditions associated with an apparently unconsidered aspect of the stormwater facilities affected by the project(s). We are expressing grave concern about the adequacy of the structures (or lack thereof) that occur between the rail line and Center Ave in Seacliff (highlighted in Figure 1 in light blue below). The drainage lines highlighted in Figure 2 show the areas draining through the highlighted flow in Figure 1 [Figures in PDF show drainage line maps].

**Response to Comment O5-6**

A goal of the project is to maintain the existing drainage patterns. The proposed drainage facilities would be designed and constructed according to the Caltrans and Santa Cruz County design guidelines. Impacts from added impervious areas would be considered and addressed as necessary during the Plans, Specifications and Estimates phase when more detailed design and survey information is available. Considerations could include flow metering, promoting infiltration, retaining flow, detaining flow, or improving culverts as necessary. Stormwater impacts from additional impervious areas would also be minimized through the proper implementation of permanent stormwater treatment measures and design pollution prevention best management practices. The project would also be subject to the hydromodification management requirements included in the Central Coast Regional Water Quality Control Board Post-Stormwater Requirements and the Santa Cruz County Design Criteria. Hydromodification or hydrograph modification is the “change in the timing, peak discharge, and volume of runoff from a site due to land development” (Santa Clara Valley Urban Runoff Pollution Prevention Program 2016). Hydromodification management techniques “focus on

retaining, or detaining and slowly releasing runoff in a way that matches pre-project runoff patterns" (Santa Clara Valley Urban Runoff Pollution Prevention Program 2016).

### *Response to Comments Seacliff Business Partners, Charlie Wilcox*

**Comment O6-1**

Quote: Stormwater Drainage and Treatment Facilities The Build Alternative would include drainage system improvements and permanent stormwater treatment facilities for the State Route 1 and Coastal Rail Trail Segment 12 improvements. Hydromodification measures would be included, if needed. During construction, the contractor would be required to develop and implement a Stormwater Pollution Prevention Plan in compliance with the statewide Construction General Permit and consistent with the guidelines and procedures in Caltrans' Statewide Stormwater Management Plan. The Stormwater Pollution Prevention Plan will provide detailed, site-specific information regarding Best Management Practices to avoid and minimize water quality impacts. The project would be constructed to minimize erosion by disturbing slopes only when necessary, minimizing cut and fill areas to reduce slope lengths, providing cut and fill slopes flat enough to allow revegetation to limit erosion rates, and providing concentrated flow conveyance systems such as storm drains, ditches, and gutters.

The conclusion that the impacts for Stormwater are less than significant are not supported by any data. Specifically, the volumes of peak water from added impervious areas that directly impact the area of concern are not discussed. The analysis is inadequate to conclude that there is no significant impact on community or property holder interests, public safety, and erosion outflows at Seacliff State Beach.

**Response to Comment O6-1**

The project is expected to maintain the overall drainage pattern and impacts on the floodplain would be minimal because the project proposes to implement stormwater-control measures, which would be part of the Phase 2 Municipal Separate Storm Sewer System permit. Best management practices would be incorporated, including conserving natural areas, minimizing disturbances of natural drainages, implementing landscape and soil-based best management practices, and others described in Draft Environmental Impact Report/Environmental Assessment, Section 2.2.2. Additionally, the proposed drainage facilities would be designed and constructed according to the Caltrans and Santa Cruz County design guidelines. Detailed calculations to address the potential impacts from additional peak flows will be provided in the Plans, Specifications and Estimates phase once detailed design and survey becomes available.

**Comment O6-2**

Quote: Standard Measure WQ-5: Implement permanent stormwater treatment measures and design pollution prevention Best Management Practices.

Caltrans Standard Measure WQ-5 in conjunction with Caltrans Policy suggest that Caltrans and local agencies must work in conjunction to mitigate PERMANENT detrimental effects of Stormwater flows. Ref: Caltrans Highway Design Manual- Ch890 Stormwater Management. The Environmental Impact Report does not provide adequate analysis of peak flows in the channel area of concern to ascertain what mitigations are necessary.

The Notice of Preparation regarding this Environmental Impact Report specifically states that this area of concern must be evaluated (Highway 1 Auxiliary Lanes and bus-on-shoulder Improvements Notice of Preparation —Freedom Boulevard to State Park Drive— September 2020 and Coastal Rail Trail Segment 12 Project. P.6)

“Hydromodification, Water Quality, and Stormwater Runoff

“Land Use and Coastal Zone - Portions of the project area are located in the Coastal Zone, and the project may potentially affect resources protected by the federal Coastal Zone Management Act, California Coastal Act, and the Santa Cruz County Local Coastal Plan. A Coastal Development Permit pursuant to the California Coastal Act is anticipated to be required. The draft Environmental Impact Report/Environmental Assessment will provide information on potential impacts and identify appropriate avoidance, minimization, and mitigation measures to reduce impacts on sensitive resources in the Coastal Zone, such as biological resources, water quality, parks and recreational resources.”

New erosive effects from additional peak flows must be addressed. The Stormwater study Appendix E long form Storm Water Data Report did not complete the items that would address these issues pp.42-49.

**Response to Comment O6-2**

The resources in question, hydrology, water quality, and stormwater runoff, are analyzed in Environmental Impact Report/Environmental Assessment Sections 2.2.1 and 2.2.2. A Water Quality Assessment Report and a Floodplain Evaluation Report were prepared to inform the Environmental Impact Report/Environmental Assessment. As stated in Section 2.2.1, impacts related to floodplains are not anticipated. As stated in Section 2.2.2, impacts related to temporary and permanent water quality resulting

from discharge or increased impervious surface are not anticipated. The project is required to infiltrate or treat with flow through treatment best management practices, the stormwater runoff from new impervious surfaces within the Caltrans right-of-way. New impervious surface within the County's right-of-way would be subject to the site design, source control, runoff reduction, stormwater treatment, and baseline hydromodification management requirements of the Phase 2 Municipal Separate Storm Sewer System permit. In addition, the Construction General Permit, Caltrans, and Santa Cruz County standards require the project's contractor to implement a Stormwater Pollution Prevention Plan to comply with the conditions of the Construction General Permit. Best management practices would be incorporated into the project design, as described on page 199 of the Environmental Impact Report/Environmental Assessment. Per the Stormwater Data Report, these items will be completed during the design and permitting phase of the project. Treatment best management practices and design pollution prevention best management practices would be implemented, which would address erosive effects from additional peak flows. Detailed analysis to address the potential impacts from additional peak flows would be provided during the Plans, Specifications and Estimates phase once detailed design and survey becomes available. Erosion control measures and hydromodification management measures would be considered to minimize erosion resulting from the project. Model results and calculations would be provided in the Plans, Specifications and Estimates phase.

**Comment O6-3**

Quote: The following resources have less-than-significant impacts, are currently in good/stable health and when combined with the anticipated impacts of other past, present, and future projects in the area, they would not result in a significant impact. Therefore, these resources are not discussed in this cumulative impact analysis.

This statement is factually incorrect and no data or justification for the conclusion is referenced. The area of concern discussed in the comments are clearly not in Good/Stable Health.

The Notice of Preparation regarding this Environmental Impact Report specifically states that this area of concern must be evaluated (Highway 1 Auxiliary Lanes and bus-on-shoulder Improvements Notice of Preparation —Freedom Boulevard to State Park Drive— September 2020 and Coastal Rail Trail Segment 12 Project. P.6)

"Hydromodification, Water Quality, and Stormwater Runoff -….The project is anticipated to result in an increase of impervious surfaces, which has the potential for long-term water quality impacts during project operations."

Caltrans Highway Design Manual- Ch890 Stormwater Management ch.892.3 states:892.3 Design Considerations The items presented below describe some of the issues to be considered prior to, and during, the design of any storm water management facility. General issues common to most storm water management strategies that need to be evaluated are:…

The effects of the proposed facility on channel capacities and existing floodways require evaluation. Care must be taken to evaluate the effects related to the delayed release from detention facilities since an increase in downstream peak discharges may result (see Figure 892.3).

The effects of releasing sediment free “hungry” water into channels and the potential for increased erosion rates downstream must be determined.

891.2 Philosophy When runoff impacts result from a Department project, then the cost of mitigating these impacts is a legitimate part of the project cost.

**Response to Comment O6-3**

The resources in question, hydrology, water quality, and stormwater runoff, are analyzed in Environmental Impact Report/Environmental Assessment Sections 2.2.1 and 2.2.2. A Water Quality Assessment Report and a Floodplain Evaluation Report were prepared to inform the Environmental Impact Report/Environmental Assessment. As stated in Section 2.2.1, impacts related to floodplains are not anticipated. As stated in Section 2.2.2, impacts related to temporary and permanent water quality resulting from discharge or increased impervious surface are not anticipated. The project is required to infiltrate or treat with flow through treatment best management practices, the stormwater runoff from new impervious surfaces within the Caltrans right-of-way. New impervious surface within the County's right-of-way would be subject to the site design, source control, runoff reduction, stormwater treatment, and baseline hydromodification management requirements of the Phase 2 Municipal Separate Storm Sewer System permit. In addition, the Construction General Permit, Caltrans, and Santa Cruz County standards require the project’s contractor to implement a Stormwater Pollution Prevention Plan to comply with the conditions of the Construction General Permit. Best management practices would be incorporated into the project design, as described on page 199 of the Environmental Impact Report/Environmental Assessment. Treatment best management practices and design pollution prevention best management practices would be implemented, which would address erosive effects from additional peak flows. Detailed analysis to address the potential impacts from additional peak flows would be provided in the Plans, Specifications and Estimates phase once detailed design and

survey becomes available. Erosion control measures and hydromodification management measures would be considered to minimize erosion resulting from the project. Model results and calculations would be provided in the Plans, Specifications, and Estimates phase.

**Comment O6-4**

Quote: Change in Impervious Surface Area The project would result in a net increase of the impervious surface area of 9.3 acres (0.015 square mile). Based on the overall size of the Soquel Creek and Nobel Creek watersheds, 41 square miles, and 1.2 square miles, respectively, and the overall increase of 0.015 square mile of net impervious surface area that would result from the project, substantial impacts on the base floodplains are not expected. Additionally, the goal of the project is to maintain the existing drainage pattern.

These statements must be considered as part of a cumulative effect analysis.

This document also states on pages 109-112:

… Caltrans' stormwater discharges must meet water quality standards through implementation of permanent and temporary (construction) Best Management Practices, to the maximum extent practicable, and other measures as the State Water Resources Control Board determines to be necessary to meet the water quality standards.

… The Central Coast Regional Water Quality Control Board has issued Post-Construction Stormwater Requirements, which give additional project size-based requirements for site design, water quality treatment, runoff retention, and peak management. Additionally, the County of Santa Cruz has developed design criteria containing standards for the construction of streets, storm drains, sanitary sewers, water systems, and driveways within the unincorporated portion of the County of Santa Cruz (2019).

…In some cases, the Regional Water Quality Control Board may have specific concerns with discharges associated with a project. As a result, the Regional Water Quality Control Board may issue a set of requirements known as Waste Discharge Requirements under the State Water Code (Porter-Cologne Act) that define activities, such as the inclusion of specific features, effluent limitations, monitoring, and plan submittals that are to be implemented for protecting or benefiting water quality. Waste Discharge Requirements can be issued to address both permanent and temporary discharges of a project.

The Environmental Impact Report should state that these criteria must be implemented in the area of concern.

**Response to Comment O6-4**

As this project and the other concurrent or planned projects would be subject to National Pollutant Discharge Elimination System permit requirements and have their own temporary and permanent best management practices, the cumulative impacts are expected to be minimal. This project proposes to implement permanent stormwater control facilities such as biofiltration swales/strips and trash capture devices to remove pollutants from stormwater runoff and to reduce impacts on receiving waters. In addition, treatment best management practices from the Caltrans list of approved treatment best management practices that allow stormwater infiltration would be considered for the project; design pollution prevention infiltration areas, retrofitted with soil amendments, are proposed to promote infiltration. It is not yet known whether the Regional Water Quality Control Board would require the project to meet the maximum extent practicable for pollutants discharges or treat 100% of the total new impervious surface.

***Response to Comments Wittwer Parkin, Antoinette Ranit***

**Comment O7-1**

This law firm submits the following comments on the above referenced Draft Environmental Impact Report on behalf of the Campaign for Sustainable Transportation, one of the prevailing parties in Campaign for Sustainable Transportation v. California Department of Transportation (Sacramento Superior Court Case No. 34-2019-80003073). This letter is to remind the California Department of Transportation (Caltrans) that it does not currently have the authority certify a Draft Environmental Import Report that relies on the decertified Environmental Impact Report for the widening of Route 1 in Santa Cruz County (Decertified Environmental Impact Report).

**Response to Comment O7-1**

Please see Master Response 2 regarding tiering.

**Comment O7-2**

I. Caltrans Cannot Certify an Environmental Impact report that Relies on the Decertified Environmental Impact report

Caltrans cannot certify the Draft Environmental Impact Report for the Highway 1 State Park Dr to Freedom Blvd Aux Lanes, Bus-on-Shoulder & Coastal Rail Trail Segment 12 Project because it relies on the Decertified Environmental Impact Report. One of the basic purposes of the California Environmental Quality Act (CEQA) is to "[i]nform governmental decision makers and the public about the potential, significant environmental effects of proposed activities." (14 Cal. Code Regs. § 15002 (a)(1).) "The courts have repeatedly stated that informed decision making and public participation are fundamental purposes of the CEQA process." (Kostka & Zischke, Practice Under the California Environmental Quality Act (Cont. Ed. Bar 2020) § 1.18, citing Citizens of Goleta Valley v. Board of Supervisors (1990) 52 Cal.3d 553, Laurel Heights Improvement Ass'n v. Regents of Univ. of California ("Laurel Heights") (1988) 47 Cal.3d 376, and NoOil, Inc. v. City of Los Angeles (1974) 13 Cal.3d 68.) Without an adequate Environmental Impact Report, this fundamental purpose is not fulfilled.

**Response to Comment O7-2**

Please see Master Response 2. It explains why the present document is not tiering from the decertified Environmental Impact Report.

**Comment O7-3**

In 2019, CFST filed a petition for writ of mandate challenging the actions of Caltrans in approving the Tier I – Corridor Analysis of High-Occupancy Vehicle Lanes and Transportation System Management Alternatives and Tier II – Build Project Analysis of 41st Avenue to Soquel Avenue/Drive Auxiliary Lanes and Chanticleer Avenue Pedestrian-Bicycle Overcrossing Project (Tier I/Tier II Project) and certifying the Environmental Impact Report for the Tier I/Tier II Project. The Sacramento Superior Court found that Caltrans had violated CEQA because, inter alia, the Decertified Environmental Impact Report failed to include a proper baseline, project description, and an adequate analysis of toxic air contaminants. As such, the court ordered that "Caltrans' approval of the Tier I Project and the Environmental Impact Report shall be set aside, and that Caltrans shall recirculate a revised Draft Environmental Impact Report for public review and comment." (Caltrans v. CFST, Ruling, p. 15.) Caltrans decertified the Environmental Impact Report as ordered by the Court.

According to the CEQA Guidelines, "Where a prior environmental impact report has been prepared and certified for a program, plan, policy, or ordinance, the lead agency for a later project that meets the requirements of this section shall examine significant effects of the later project upon the environment by using a tiered environmental impact

report…" (Cal. Pub. Resources Code, tit. 14, §21094.) The Draft Environmental Impact Report here is built on a house of cards. It relies on studies that are tiered off the Decertified Environmental Impact Report.

**Response to Comment O7-3**

Please see Master Response 2 regarding tiering and the use of studies.

**Comment O7-4**

First, the Caltrans Energy Analysis Report relied upon by the Draft Environmental Impact Report states:

Improvements in the project area were addressed previously in a combined Tier I/Tier II Environmental Impact Report/Environmental Assessment, which was adopted in December 2018. The Tier I component, referred to as the corridor improvement project, proposed approximately 8.9 miles of new high-occupancy vehicle lanes, high-occupancy vehicle on-ramp bypass lanes, auxiliary lanes, pedestrian and bicycle overcrossings, and reconstructed interchanges. It was recognized that the Tier I project would likely be implemented in phases. The Tier II component therefore analyzed the first phase of the corridor improvement project, which included auxiliary lanes between 41st Avenue and Soquel Avenue/Drive among other improvements within the Tier II project limits.

**Response to Comment O7-4**

Please see Master Response 2 regarding tiering.

**Comment O7-5**

The project is the second phase of the improvements described in the Tier I Environmental Impact Report/Environmental Assessment. The Santa Cruz County Regional Transportation Commission developed an implementation plan for building out the Tier I corridor improvement project based on traffic operation criteria to ensure that each phase

identified as a future construction-level project would have independent utility because it would individually provide a benefit to traffic operations on State Route 1. The project has independent utility and logical termini because it would resolve a congestion problem on State Route 1 between Freedom Boulevard and State Park Drive. (Caltrans Energy Analysis Report, p. 1.) As such, it is clear that the Project is connected to the project described in the Decertified Environmental Impact Report and as a result, the

Draft Environmental Impact Report relies on information in the Decertified Environmental Impact Report.

**Response to Comment O7-5**

Please see Master Response 2 regarding tiering, independent utility, and logical termini.

**Comment O7-6**

The Draft Environmental Impact Report also improperly relies on the Traffic Operations Analysis Report (CDM Smith 2021) to argue the need for the Project. (Draft Environmental Impact Report, p. 2.) The Traffic Operations Analysis Report clearly states the connection between the Project and the Tier I/Tier II Project: "The Santa Cruz County Regional Transportation Commission, in a joint effort with Caltrans District 5, is developing the Tier II Highway 11 (State Park Drive to Freedom Boulevard) Auxiliary Lanes Project (also referred to as the "Project")." (Traffic Operations Analysis Report, p. 2-1.) The purpose of the Traffic Operations Analysis Report " is to describe the methodology and results for traffic analysis performed for this Project." (Traffic Operations Analysis Report, p. 2-1.) However, the Traffic Operations Analysis Report admits that it relies on the Decertified Environmental Impact Report: The Traffic Operations Analysis Report's Traffic Operations Analysis Methodology also indicates this portion of the report also relied on the Decertified Environmental Impact Report: "Induced traffic volumes due to the addition of auxiliary lanes due to this Project and the background Tier II projects were estimated by scaling the induced traffic volume impacts of auxiliary lanes identified under the Tier I Environmental Impact Report/Environmental Assessment Transportation System Management Alternative on the basis of auxiliary lane-miles added." (Traffic Operations Analysis Report, p, 4-1, emphasis added.)

**Response to Comment O7-6**

Please see Master Response 2 regarding tiering.

**Comment O7-7**

In addition, the Draft Environmental Impact Report's reliance on the Community Impact Assessment is also improper, blatantly admitting "This Community Impact Assessment is based … technical documents prepared for the Santa Cruz Route 1 Tier I & Tier II Environmental Impact Report / Environmental Assessment." (Community Impact Assessment, p. 2.) The Community Impact Analysis also states "Where applicable, this report includes information from the 2018 Cumulative Impact Analysis for the Santa

Cruz Route 1 Tier I High Occupancy Vehicle and Tier II Auxiliary Lanes from 41st Avenue to Soquel Avenue project (Caltrans 2018a)" and that "Analysis of impacts and resource area health was based primarily on information presented in the Cumulative Impact Analysis for the Tier I/Tier II Project" and (Community Impact Analysis, p. 1, 21.) The analysis concerning the current health of the surrounding resources also "utilized [resource study areas] established for the Cumulative Impact Analysis for the Tier I/Tier II Project. Figures showing these [resource study areas] are located in Appendix 1." (Community Impact Analysis, p. 23.) In the Preliminary Geotechnical Design Report, it states, "Improvements in the project area were addressed previously in a combined Tier I/ Tier II Environmental Impact Report with a Finding of No Significant Impact, which was adopted in December 2018." (Preliminary Geotechnical Design Report, p. 2.) The Preliminary Geotechnical Design Report then goes on to describe the project of the Decertified Environmental Impact Report, stating "The Tier I component, referred to as the corridor improvement project, proposed approximately 8.9 miles of new high-occupancy vehicle lanes, high-occupancy vehicle on-ramp bypass lanes, auxiliary lanes, pedestrian and bicycle overcrossings, and reconstructed interchanges. It was recognized that the Tier I project would likely be implemented in phases. The proposed project is the third phase of the improvements described in the Tier I Environmental Impact Report/Finding of No Significant Impact." (Preliminary Geotechnical Design Report, p. 2.)

**Response to Comment O7-7**

Please see Master Response 2 regarding tiering.

**Comment O7-8**

Therefore, there are several instances in which it is clear that the Draft Environmental Impact Report relies on the Decertified Environmental Impact Report, which is a violation of CEQA. Therefore, the analysis must be expanded and completed to independently analyze the impacts of this Project without reliance on the Decertified Environmental Impact Report. Thus, this Draft Environmental Impact Report must be recirculated for public review and comment. Any reliance on the Decertified Environmental Impact Report would be a violation of the Sacramento Superior Court's order, judgment and writ of mandate issued in CFST v. Caltrans.

**Response to Comment O7-8**

Please see Master Response 2 regarding tiering.

**Comment O7-9**

The Project is Not Exempt From Providing a Vehicle Miles Traveled Analysis Pursuant to Senate Bill 743

In enacting Senate Bill 743, the Legislature intended to meet two distinct goals:

(1) Ensure that the environmental impacts of traffic, such as noise, air pollution, and safety concerns, continue to be properly addressed and mitigated through the CEQA

(2) More appropriately balance the needs of congestion management with statewide goals related to infill development, promotion of public health through active transportation, and reduction of greenhouse gas emissions.

In analyzing whether the Project would impact any circulation systems, the Draft Environmental Impact Report states:

No Impact—The project is included in the Santa Cruz County Regional Transportation Commission's 2040 Metropolitan Transportation Plan/Sustainable Communities Strategy and the Santa Cruz County Regional Transportation Plan. In addition, the supplemental traffic analysis prepared for the project states that in terms of vehicle miles traveled, the Senate Bill 743 (Transportation Impact) guidelines have listed auxiliary lanes as a project type that is not likely to lead to measurable or substantial increase in vehicle travel, and transit projects such as the Bus-on-Shoulder element of the project are exempt from Senate Bill 743 analysis.

(Draft Environmental Impact Report, p. 412.) This conclusion is an incorrect application and oversimplification of the Senate Bill 743 Guidelines.

**Response to Comment O7-9**

The project is exempt from the vehicle miles traveled analysis requirement as the Office of Planning and Research guidance stipulates under the discussion of Project Types Not Likely to Lead to a Measurable and Substantial Increase in Vehicle Travel that, "Addition of an auxiliary lane of less than one mile in length designed to improve roadway safety." As the auxiliary lane sections included in this project are all under 1 mile long, the project is not required to prepare a vehicle miles traveled analysis. Please also see Master Response 3 regarding vehicle miles traveled.

**Comment O7-10**

According to the Technical Advisory on Evaluating Transportation Impacts in CEQA (Technical Advisory) published by the Governor's Office of Planning and Research, auxiliary lanes maintain the ability to contribute to an increased in vehicle travel:

If a project would likely lead to a measurable and substantial increase in vehicle travel, the lead agency should conduct an analysis assessing the amount of vehicle travel the project will induce. Project types that would likely lead to a measurable and substantial increase in vehicle travel generally include:

- Addition of through lanes on existing or new highways, including general purpose lanes, high-occupancy vehicle lanes, peak period lanes, auxiliary lanes, or lanes through grade-separated interchanges.

(Technical Advisory, p. 20, emphasis added.) The Technical Advisory goes on to state

Projects that would not likely lead to a substantial or measurable increase in vehicle travel, and therefore generally should not require an induced travel analysis, include:

- Addition of an auxiliary lane of less than one mile in length designed to improve roadway safety

The Draft Environmental Impact Report admits that "The total length of the project on State Route 1 is 2.6 miles, and on the Santa Cruz Branch Rail Line is 1.14 miles." (Draft Environmental Impact Report, p. 1.) Neither the Technical Advisory nor the Draft Environmental Impact Report include any other exceptions for analyzing the vehicle miles traveled of auxiliary lanes. Therefore, it is clear that the Project does not fall under any exemptions from analyzing the vehicle miles traveled of the Project.

**Response to Comment O7-10**

The project is exempt from the vehicle miles traveled analysis requirement as the Office of Planning and Research guidance stipulates under the discussion of Project Types Not Likely to Lead to a Measurable and Substantial Increase in Vehicle Travel that, "Addition of an auxiliary lane of less than one mile in length designed to improve roadway safety." As the auxiliary lane sections included in this project are all under 1 mile long, the project is not required to prepare a vehicle miles traveled analysis.

For additional discussion, see response to comment O7-11. Please also see Master Response 3 regarding vehicle miles traveled.

**Comment O7-11**

Moreover, the Draft Environmental Impact Report actually provides evidence that shows the Project will increase vehicle miles traveled. According to the Traffic Operations Analysis Report:

Project Added Capacity: The Project will add mainline segment capacity14 within the Project Limits on the State Route 1 mainline segments increasing from a range of 3,950-4,400 vehicles/hour to a range of 5,600-6,100 vehicles/hour due to the added auxiliary lanes. This results in a vehicle throughput increase between interchanges but within the Project Limits but not through the interchanges. The added mainline segment capacity would also benefit congested upstream mainline segments operationally by providing additional storage space for the queued upstream vehicles.

**Response to Comment O7-11**

These capacity increases occur on the segments where the auxiliary lanes are added. These segments are between the freeway interchanges. There is no capacity increase at the interchange locations, which control the amount of total travel that can be accommodated by the freeway. The capacity increases are local in nature and not regional and, therefore, not likely to result in increased vehicle miles traveled. As summarized in the additional traffic analysis of April 4, 2023, the improved operations on the freeway would likely result in some diversion of trips from adjacent parallel surface street routes, the net result of which would be some increase in total freeway traffic by segment and a corresponding decrease in traffic on the parallel routes. This shift in traffic is not likely to result in any increase in vehicle miles traveled. However, as also noted in the analysis, the bus-on-shoulder and rail trail elements of the project would result in vehicle miles traveled reductions, so the overall project would result in a vehicle miles traveled reduction.

**Comment O7-12**

(Traffic Operations Analysis Report, p. 1-6.) Despite this information, the Draft Environmental Impact Report baselessly concludes

As stated in Section 2.1.7, the project would not increase vehicle miles traveled. Rather, the Build Alternative would reduce vehicle delay, increase average speed, and improve level of service, thereby reducing operational mobile source air toxic emissions associated with vehicle idling. As discussed in Section 2.2.6, Air Quality, the Bus-on-Shoulder component of the Build Alternative would move buses slightly closer to freeway-adjacent land uses. However, Santa Cruz Metro is continuously upgrading its

transit fleet to include new hybrid buses and zero-emission electric buses. California Air Resources Board has also set a deadline of 2040 for all transit operators to transition to zero-emission electric fleets. Lastly, the project includes construction of Segment 12 of the Coastal Rail Trail, which would increase connectivity and safety for bicyclists and pedestrians, and increases use of alternative transportation modes. Therefore, impacts would be less than significant.

(Draft Environmental Impact Report, p. 392.) Nevertheless, the Draft Environmental Impact Report never adequately analyzed vehicle miles because the Draft Environmental Impact Report claims the project is exempt.

**Response to Comment O7-12**

Please see Master Response 3 regarding vehicle miles traveled. See response to comment O7-11 for additional discussion of the reasons for concluding that vehicle miles traveled would not substantially increase.

**Comment O7-13**

III. The Draft Environmental Impact Report Fails to Adequately Analyze Greenhouse Gas Impacts

The Draft Environmental Impact Report fails to provide a greenhouse gas analysis that complies with CEQA requirements.

The Legislature has “emphatically established as state policy the achievement of a substantial reduction in the emission of gases contributing to global warming.” (Center for Biological Diversity v. Department of Fish & Wildlife (2015) 62 Cal.4th 204, 215, 195 Cal.Rptr.3d 247, 361 P.3d 342 (Center for Biological Diversity).) This policy is implemented in CEQA.

CEQA requires a lead agency to “make a good-faith effort, based to the extent possible on scientific and factual data, to describe, calculate or estimate the amount of [greenhouse gas] emissions resulting from a project.” (Cal. Code Regs., tit. 14, § 15064.4, subd. (a).)4 In determining the significance of a project's greenhouse gas emissions, CEQA directs the lead agency to consider, among other things, the “extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of [greenhouse gas] emissions.” (Guidelines, § 15064.4, subd. (b)(3).) (Golden Door Properties, LLC v. County of San Diego (“Golden Door”) (2020) 50 Cal.App.5th 467, 485.) The Draft

Environmental Impact Report's analysis of the Project's greenhouse gas are unsupported and cursory. According to the Draft Environmental Impact Report,

This project would result in shifts from auto to transit modes, improve freeway level of service and average speed, improve freeway operation conditions in the southbound PM peak direction, and improve pedestrian and bicycle connectivity with the two new trail crossings. The project would generate a less than significant amount of pollutants during construction and would result in emission reductions under long-term operation. The project is included in the Santa Cruz County Regional Transportation Commission's Regional Transportation Plan and Regional Transportation Improvement Program, both of which were found to be conforming (see Section 2.2.6, Air Quality). Therefore, the project would not conflict with the Air Quality Management Plan. Impacts would be less than significant.

**Response to Comment O7-13**

Greenhouse gas emissions were quantified and disclosed in the Air Quality Report, included as a supporting technical study in Environmental Impact Report/Environmental Assessment Appendix H. Notably, Monterey Bay Air Resources District does not have a greenhouse gas threshold of significance for greenhouse gas emissions from mobile sources. Furthermore, the project does not conflict with any of the transportation mitigation measures mentioned under the City of Santa Cruz Climate Action Plan (City of Santa Cruz 2022).

As discussed on page 41 of the Air Quality Report, construction emissions were estimated using the Roadway Construction Emissions Model along with detailed equipment inventories, project construction scheduling information, and other input parameters provided by the engineering team. The emissions analysis concluded that the project would generate 4,437 total tons of temporary construction-related carbon dioxide emissions.

As discussed on page 45 of the Air Quality Report, operational emissions associated with project implementation were calculated using EMFAC2017. EMFAC2017 contains a comprehensive emissions inventory of motor vehicles that provides estimated emission rates for air pollutants. The long-term operational analysis focused on changes in vehicle miles traveled and average speed during the weekday peak hours, peak period, and off-peak hours to characterize the effects that implementation of the project would have on regional roadway circulation patterns and associated pollutant emissions. Speed-based vehicle miles traveled was used to demonstrate the effectiveness of congestion relief. The emissions rates provided by EMFAC2017 in

grams of air pollutant emitted per hour were used in conjunction with traffic data developed for the project. Per State CEQA Guidelines, the impact determination was based on the emissions comparison between the Baseline/Existing Condition and the horizon/design year of 2045. In 2045, the Build Alternative would result in a reduction of 11,004 metric tons per year of carbon dioxide emissions relative to the Baseline/Existing Condition. This decrease in carbon dioxide emissions can be attributed to a combination of congestion relief and expected changes in fleet mix (e.g., more electric vehicles) and fuel efficiency.

The decrease in carbon dioxide emissions disclosed in the Air Quality Report prepared for the project supports the conclusion in the Environmental Impact Report/Environmental Assessment that greenhouse gas emissions would be less than significant.

**Comment O7-14**

(Draft Environmental Impact Report, p. 391.) In addition, the Draft Environmental Impact Report states;

> For the Build Alternative, the amount of mobile source air toxins emitted would be proportional to vehicle miles traveled. As discussed above, the Build Alternative would reduce county-wide Vehicle Miles Traveled from the No-Build Alternative. In addition, the Build Alternative would reduce vehicle delay, increase average speed, and improve level of service, reducing mobile source air toxic emissions associated with vehicle idling. Furthermore, emissions will likely be lower than present levels in the design year as a result of the U.S. Environmental Protection Agency's national control programs that are projected to reduce annual mobile source air toxic emissions by over 90% between 2010 and 2050 (FHWA 2016). Local conditions may differ from these national projections in terms of fleet mix and turnover, vehicle miles traveled growth rates, and local control measures. However, the magnitude of the U.S. Environmental Protection Agency-projected reductions is so great (even after accounting for vehicle miles traveled growth) that mobile source air toxic emissions in the study area are likely to be lower in the future in nearly all cases.

(Draft Environmental Impact Report, p. 424.) The Draft Environmental Impact Report lacks any "good-faith effort, based to the extent possible on scientific and factual data, to describe, calculate or estimate the amount of [greenhouse gas] emissions" resulting from the Project. (Cal. Code Regs., tit. 14, § 15064.4, subd. (a).) While somewhat relevant, simply relying on other greenhouse gas reduction measures to conclude that the Project's greenhouse gas impacts will be less than significant does not comply with CEQA requirements. Again, there was no true effort to provide a compliance vehicle

miles traveled analysis because the Draft Environmental Impact Report claims it is exempt from such analysis.

**Response to Comment O7-14**

The comment correctly restates a portion of the mobile source air toxics analysis from page 391 of the Environmental Impact Report/Environmental Assessment. Please see response to comment O7-13 that addresses CEQA compliance. Refer to response to comment O7-13 related to the quantification of greenhouse gas emissions, and please see Master Response 3 regarding vehicle miles traveled.

**Comment O7-15**

IV. The Draft Environmental Impact Report Fails to Provide a Reasonable Range of Alternatives

"The 'core of an Environmental Impact Report is the mitigation and alternatives sections.' (Citizens of Goleta Valley, supra, 52 Cal.3d at p. 564.) An agency may not approve a project that will have significant environmental impacts if there are feasible alternatives that would substantially lessen those effects. (Pub. Resources Code, § 21002; Guidelines, §§ 15002, subd. (a)(3), 15021, subd. (a)(2).)"(Golden Door, 50 Cal.App.5th at 546.) The Legislature has declared "it is the policy of the state that public agencies should not approve projects as proposed if there are feasible alternatives or feasible mitigation measures available which would substantially lessen the significant environmental effects of such projects…" (Pub. Resources Code, § 21002.) "The purpose of an environmental impact report is to provide public agencies and the public in general with detailed information about the effect which a proposed project is likely to have on the environment; to list ways in which the significant effects of such a project might be minimized; and to indicate alternatives to such a project." (Pub. Resources Code, § 21061, emphasis added.) Here, the Draft Environmental Impact Report failed to provide an adequate alternatives analysis. The Draft Environmental Impact Report improperly conflates the project description with the project alternatives and, as a result, does not provide any project alternatives other than a No Project Alternative that fails to satisfy CEQA requirements.

**Response to Comment O7-15**

Alternatives to the proposed project are described in Environmental Impact Report/Environmental Assessment Section 1.6. Due to the constraints of the highway, few alternatives to the State Route 1 component of the project are feasible. However, a prospective outside widening alternative is described Draft Environmental Impact

Report/Environmental Assessment in Section 1.6.4. This alternative was rejected because it would result in substantial impacts on environmentally sensitive areas including Valencia Lagoon. Three prospective alternatives were analyzed for the trail component of the project, including a Coastal Alignment Alternative and a Hybrid Alternative. These alternatives are described in Draft Environmental Impact Report/Environmental Assessment Sections 1.6.1 and 1.6.2, respectively. A prospective alternative to the Aptos Creek Bridge replacement component of the project is described in Draft Environmental Impact Report/Environmental Assessment Section 1.6.5 but was dismissed because of biological and safety impacts. Lastly, a prospective bus-on-shoulder only alternative was reviewed but rejected because it would not attain the basic project objectives or substantially reduce delay along the corridor and would pose a safety concern.

**Comment O7-16**

A. The Proposed Project Cannot be an Alternative

The Build Alternative cannot be an alternative to the proposed project because it is the proposed project. “An Environmental Impact Report shall discuss a range of reasonable alternatives to the project, or to the location of the project....” (Guidelines, Section 15126.6(a), emphasis added.) Strangely, the project alternatives analysis is included in the Project Description section. The Draft Environmental Impact Report states, “This section describes the proposed project that meets the purpose and need while avoiding or minimizing environmental impacts. The alternatives are the Build Alternative and the No-Build (No-Action) Alternative.” (Draft Environmental Impact Report, p. 6.)

The range of alternatives included in an Environmental Impact Report must be “potentially feasible alternatives that will foster informed decision making and public participation.” (Guidelines, Section 15364.) “An Environmental Impact Report shall describe a range of reasonable alternatives to the project… which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives.” (CEQA Guidelines, 15126.6 (a), emphasis added; Preservation Action Council v. City of San Jose (2006) 141 Cal.App.4th 1336, 1350.)

The California Supreme Court has made clear the importance of identifying alternatives to the project:

> “The purpose of an environmental impact report is to identify the significant effects of a project on the environment, to identify alternatives to the project, and to indicate the manner in which those significant effects can be mitigated or avoided.” (Italics added.)....

> Perhaps most important, the Legislature has expressly declared that "... it is the policy of this state to: ... [r]equire governmental agencies at all levels ... to consider alternatives to proposed actions affecting the environment." (Section 21001, subd. (g), italics added.)....
>
> The foregoing CEQA provisions and Guidelines make clear that "One of its [an Environmental Impact Report's] major functions ... is to ensure that all reasonable alternatives to proposed projects are thoroughly assessed by the responsible official." (Wildlife Alive v. Chickering (1976) 18 Cal.3d 190, 197, 132..., italics added.) (Laurel Heights Improvement Assn. v. Regents of University of California (1988) 47 Cal.3d 376,400, italics in original.)

**Response to Comment O7-16**

Per State CEQA Guidelines Section 15130, an Environmental Impact Report need only evaluate alternatives that are (1) potentially feasible, (2) capable of meeting all or most project objectives, and (3) capable of reducing one or more of the project's substantial impacts. An Environmental Impact Report need not consider every conceivable alternative to a project per State CEQA Guidelines Section 15126.6. Rather, it must consider a reasonable range of potentially feasible alternatives that foster informed decision-making and public participation. The lead agency is responsible for selecting a range of project alternatives for examination and must publicly disclose its reasoning for selecting those alternatives. There is no ironclad rule governing the nature or scope of the alternatives to be discussed other than the rule of reason. In addition, per State CEQA Guidelines requirements (Section 15126.5(e)(1)), an Environmental Impact Report must include a discussion of the "no project" alternative and its impact, which evaluates what would be reasonably expected to occur in the foreseeable future should the project not be approved. The "no project alternative" is the same as the "no-action," "no-project," or "no-build" alternative under NEPA. Similarly, the "Build Alternative" under NEPA is the same as the "proposed project" under CEQA.

As detailed in Chapter 1 of the draft environmental document there are two alternatives considered, the no-build and the build alternative. As discussed in Draft Environmental Impact Report/Environmental Assessment Section 1.6, *Alternatives Considered but Eliminated from Further Discussion,* three alignment alternatives were considered specifically for the Coastal Rail Trail Segment 12 during the project development process and identification of feasible and reasonable alternatives, and through coordination between the Santa Cruz Regional Transportation Commission and the project development team. These three alternatives included the Inland Alternative (the current Build Alternative), a Coastal Alignment Alternative, and a Hybrid Alignment Alternative. The three alternatives were compared to a list of evaluation criteria, which included whether or not the alignment alternative would satisfy the purpose and need of

the project (i.e., project objectives), as well as comparing safety, access, constructability, cost efficiency, environmental impacts, and right-of-way impacts. Ultimately the Inland Alignment Alternative scored significantly higher than the other two alternatives, and was considered for further evaluation as part of the Draft Environmental Impact Report/Environmental Assessment. In addition, while the State Route 1 corridor is geographically limited, an alternative to widen to the outside of the highway was considered by the project development team, as well as alternatives to several aspects of the widening including the Aptos Creek Bridge replacement and bus-on-shoulder component. These alternatives, as well as the reasons why they were not carried forward for further analysis, are described in Draft Environmental Impact Report/Environmental Assessment Section 1.6.

**Comment O7-17**

The Proposed Project cannot be an alternative to itself. As stated above, CEQA requires “An Environmental Impact Report shall discuss a range of reasonable alternatives to the project, or to the location of the project....” (Guidelines, Section 15126.6(a), emphasis added.) Not only does the Build Alternative’s analysis describe the proposed project, the Draft Environmental Impact Report also calls the Build Alternative the “proposed project.” For example, when describing the Bus-on-Shoulder Features of the Build Alternative, the Draft Environmental Impact Report states, “The proposed project would include construction of transit-only shoulder lanes within interchanges (off-ramp to on-ramp). The shoulder improvements would allow buses to drive on the new auxiliary lanes between interchanges and the outside shoulder through the interchanges…” (Draft Environmental Impact Report, p. 8, emphasis added.) Moreover, under the Standard Measures section for the Build Alternative, the Draft Environmental Impact Report also states “This project contains a number of standardized project measures that are used on most, if not all, Caltrans projects and were not developed in response to any specific environmental impact resulting from the proposed project. These measures are addressed in more detail in the Environmental Consequences sections in Chapter 2.” (Draft Environmental Impact Report, p. 20.) Throughout the Chapter 3 CEQA Evaluation, the Draft Environmental Impact Report vacillates between calling the Project the “proposed project” and the Build Alternative.

**Response to Comment O7-17**

The commenter alleges that the Draft Environmental Impact Report/Environmental Assessment equates the project to an alternative. As described in Chapter 1 of the Draft Environmental Impact Report/Environmental Assessment, the alternatives are the Build Alternative and the No-Build Alternative. As discussed in Draft Environmental Impact

Report/Environmental Assessment Section 1.6, *Alternatives Considered but Eliminated from Further Discussion,* three alignment alternatives were considered specifically for the Coastal Rail Trail Segment 12 during the project development process and identification of feasible and reasonable alternatives, and through coordination between the Santa Cruz Regional Transportation Commission and the project development team. These three alternatives included the Inland Alternative (the current Build Alternative), a Coastal Alignment Alternative, and a Hybrid Alignment Alternative. The three alternatives were compared to a list of evaluation criteria, which included whether or not the alignment alternative would satisfy the purpose and need of the project (i.e., project objectives), as well as comparing safety, access, constructability, cost efficiency, environmental impacts, and right-of-way impacts. Ultimately, the Inland Alignment Alternative scored significantly higher than the other two alternatives and was considered for further evaluation as part of the Draft Environmental Impact Report/Environmental Assessment. In addition, while the State Route 1 corridor is geographically limited, an alternative to widen to the outside of the highway was considered by the project development team, as well as alternatives to several aspects of the widening including the Aptos Creek Bridge replacement and bus-on-shoulder component. These alternatives, as well as the reasons why they were not carried forward for further analysis, are described in Draft Environmental Impact Report/Environmental Assessment Section 1.6.

**Comment O7-18**

Moreover, by conflating the Build Alternative description with the Project description, the Draft Environmental Impact Report fails to adhere to CEQA's requirement to provide an adequate project description. The CEQA Guidelines require an Environmental Impact Report to set forth a project description that is sufficient to allow an adequate evaluation and review of the environmental impact. (Guidelines, Section 15124.) An accurate, stable and finite project description is the sine qua non of an informative and legally sufficient Environmental Impact Report. (County of Inyo v. City of Los Angeles (1977) 71 Cal.App.3d 185, 193.) Only an accurate, stable and finite project description fulfills CEQA's objective to allow affected outsiders and public decision-makers to "balance the proposal's benefits against its environmental cost, consider mitigation measures, assess the advantage of terminating the proposal and weigh other alternatives in the balance." (Id at 193.) A project description that gives conflicting signals to decision makers and the public about the nature and scope of the project is fundamentally inadequate and misleading. (Washoe Meadows Community v. Department of Parks and Recreation, (2017) 17 Cal.App.5th 277, 287.) Given that the Project was described as both the Proposed Project and an alternative, this not only resulted in an inadequate

alternatives analysis, but also culminated in a fundamentally inadequate and misleading project description.

**Response to Comment O7-18**

See Responses to Comments O7-16 and O7-17.

**Comment O7-19**

B. The No Build Alternative Does not Satisfy the Requirement to Provide a Reasonable Range of Alternatives

Since the Project itself cannot be considered an alternative, the No Build Alternative is the only true remaining alternative.

CEQA requires the analysis of a No Project Alternative. The specific alternative of 'no project' shall also be evaluated along with its impact. The purpose of describing and analyzing a no project alternative is to allow decisionmakers to compare the impacts of approving the proposed project with the impacts of not approving the proposed project.

(Guidelines, Section 15126.6.(e)(1), emphasis added.) Thus, the CEQA Guidelines require Caltrans to analyze a No Project Alternative in addition to the alternatives that accomplish the objectives of the Project.

**Response to Comment O7-19**

The assertion that the Draft Environmental Impact Report/Environmental Assessment did not present a reasonable range of alternatives is incorrect. Per Section 15126.6 of the 2023 State CEQA Guidelines, an environmental impact report need not consider every conceivable alternative to a project. A reasonable range of alternatives includes those alternatives necessary to permit a reasonable choice. That is, alternatives must be limited to ones that meet the project objectives, are feasible, and would avoid or substantially lessen at least one of the significant environmental effects of the project. A "reasonable range" can mean one alternative (i.e., a No-Build Alternative) when there are no other prospective alternatives that meet the criteria of State CEQA Guidelines Section 15126.6. The alternatives requirements under NEPA and CEQA have been met.

**Comment O7-20**

The Draft Environmental Impact Report states that "Under the No-Build Alternative, there would be no construction of auxiliary lanes or Bus-on-Shoulder features on State

Route 1 within the project area, and Coastal Rail Trail Segment 12 would not be constructed… The No-Build Alternative assumes the construction of other planned and programmed projects in the region, including other auxiliary lanes projects on State Route 1 and other segments of the Coastal Rail Trail. Routine maintenance activities would continue." (Draft Environmental Impact Report, p. 22.) Thus, the No Project Alternative for this Draft Environmental Impact Report is the No-Build Alternative.

**Response to Comment O7-20**

The commenter is correct that the no-project alternative is the same as the no-build alternative.

**Comment O7-21**

The No Build Alternative alone does not satisfy the requirement that the Draft Environmental Impact Report must analyze a reasonable range of alternatives. "CEQA procedures 'are intended to assist public agencies in systematically identifying both the significant effects of proposed project and the feasible alternatives or feasible mitigation measures which will avoid or substantially lessen such significant effects." (Banning Ranch Conservancy v. City of Newport Beach (2017) 2 Cal.5th918, 937.) A comparison between the Project and the No Project Alternative cannot fulfill such a purpose.

**Response to Comment O7-21**

Please see responses to comments O7-16 and O7-19.

**Comment O7-22**

The Draft Environmental Impact Report lacks sufficient data and analysis to be adequate. The document contains bare conclusory statements regarding significant impacts and mitigations. In many instances, the Draft Environmental Impact Report does not meet the substantive mandates of CEQA. For this reason, the Draft Environmental Impact Report must be substantially revised and recirculated for public comment.

**Response to Comment O7-22**

The Environmental Impact Report/Environmental Assessment was prepared using the Caltrans Standard Environmental Reference and was informed by detailed technical studies for each resource area required by CEQA and NEPA. The commenter expresses their opinion that the Draft Environmental Impact Report is inadequate but does not substantiate any specific inadequacies. No further response is required.

**Comment O7-23**

Pursuant to Public Resources Code Section 21167(f), we are requesting that the Caltrans forward a Notice of Determination to this office if and when the Project is finally approved. That section provides:

If a person has made a written request to the public agency for a copy of the notice specified in Section 21108 or 21152 prior to the date on which the agency approves or determines to carry out the project, then not later than five days from the date of the agency's action, the public agency shall deposit a written copy of the notice addressed to that person in the United States mail, first class postage prepaid.

**Response to Comment O7-23**

Caltrans acknowledge this request and will send a Notice of Determination to Campaign of Sustainable Transportation, (if and when the project is approved) as is required under Section 21108 and 21152 of the State CEQA guidelines.

***Response to Comments Train Riders Association of California, David Schonbrunn***

**Comment O8-1**

The Train Riders Association of California is a statewide rail advocacy organization that has been involved with rail issues in Santa Cruz County. After providing the Santa Cruz County Regional Transportation Commission with our study Four Rail Passenger Service Types for Santa Cruz County a year ago, we believe we should have been placed on a mailing list for rail issues. That would have gotten us a timely copy of the Notice of Availability for the above referenced Draft Environmental Impact Report. That did not happen, unfortunately, so we are providing you with brief comments now. Page references are to the Draft Environmental Impact Report/Environmental Assessment.

**Response to Comment O8-1**

Comment noted. Santa Cruz Regional Transportation Commission will ensure the Train Riders Association of California is added to the mailing list for project updates.

**Comment O8-2**

Impacts on future rail development The 2018 Santa Cruz Route 1 Tier I Corridor Analysis of High-Occupancy Vehicle Lanes Program Final Environmental Impact Report project description included the restoration of the two Aptos rail bridges as part of the

proposed project: "The Tier I Corridor Alternatives would include reconstruction of the two Santa Cruz Branch Rail Line bridges over Route 1 and the State Park Drive, Capitola Avenue, 41st Avenue, and Soquel Avenue overcrossings." (p. 1-24.) Had we commented on the Tier I Draft Environmental Impact Report, we would have commented that a single-mode Environmental Impact Report/Environmental Assessment is incompatible with environmental requirements. The project's goal should have been to increase capacity in the State Route 1 Corridor, not on State Route 1 itself. What was entirely skipped from study was a rail transit alternative, which would have been potentially able to reduce congestion more than the proposed project. Our sister organization, Transdef.org, filed litigation in 2009 with Caltrans on the need for a multimodal analysis of the Highway 101 Marin Sonoma Narrows Project, where an unfunded rail project sat parallel to the highway. In that instance, which was so similar to State Route 1 now, the cost of 72 miles of railroad would have been less than the cost of 16 miles of new high-occupancy vehicle lanes.

**Response to Comment O8-2**

The commenter is referring to the Tier I Corridor environmental document and not the proposed project. No response is required.

**Comment O8-3**

The Draft Environmental Impact Report/Environmental Assessment carries the Tier I description into the Tier II project description: "The existing two-span Santa Cruz Branch Rail Line railroad bridges (underpass structures) are proposed to be replaced with longer spans." (p. 7.)

The Draft Environmental Impact Report/Environmental Assessment is confusing as to what is proposed: "… a prefabricated pedestrian and bicycle bridge would be constructed in place of the existing southern Aptos rail bridge shown in the existing view. A new rail bridge would be constructed immediately behind future Bus-on-Shoulder lane configuration." (p. 145.)

This language shows no awareness of the exacting geometric requirements for a rail line, including maximum vertical and horizontal curves. Rail lines cannot be relocated in the way trails can be. We request fine-grained drawings in the Final Environmental Impact Report and confirmation that what is proposed will meet rail design standards, similar to how the trail meets design standards. (p. 14.)

**Response to Comment O8-3**

The replacement railroad bridges would be built on the existing railroad alignment. The new pedestrian bridges would be built on an adjacent alignment. Rail bridges would be built to American Railway Engineering and Maintenance-of-Way requirements on the existing rail alignments. More detailed information will be prepared during the Plans, Specifications, and Estimates phase.

**Comment O8-4**

We note that Tables 2-19 through 2-22 show an insignificant increase in the 2045 travel speeds for the PM northbound and AM southbound Peak Build scenarios, and an inexplicable reduction in the AM northbound Peak Build scenario.

The PM southbound Build scenario was the only one to show an actual project benefit. Given the mediocre outcomes of adding high-occupancy vehicle  lanes (which are contraindicated by the induced demand literature), Train Riders Association of California finds the high-occupancy vehicle  lane project dubious from a cost-benefit standpoint, and sees it as merely an expensive way to appear to be "doing something" about congestion.

Delaying the Regional Transportation Commission's eventual rail project would be a significant unavoidable transportation impact of the "Optional First Phase." Please also evaluate the impediments identified here as cumulative impacts of the "Optional First Phase."

**Response to Comment O8-4**

Comments on Draft Environmental Impact Report/Environmental Assessment Tables 2-19 through 2-22 are noted. It appears that the references in this comment to high-occupancy vehicle lanes were intended to refer to the bus-on-shoulder element of the project. Benefit costs analyses for the bus-on-shoulder component of the project were performed for use in grant applications prepared by the Santa Cruz County Regional Transportation Commission (2022 Senate Bill 1 Trade Corridor Enhancement Program Grant Application for Santa Cruz Highway 1/Coastal Rail Trail Segment 12 Multimodal Corridor Project). These analyses showed that the bus-on-shoulder operations would be cost effective, yielding benefits such as travel time savings for transit riders and reductions in vehicle miles of travel. Bus-on-shoulder is not intended to be a substitution for a high-capacity transit improvement in the corridor. It is intended to offer a relatively low-cost method of enhancing the quality of existing bus services, which use State

Route 1, as well as providing an opportunity to operate non-stop express bus service between Watsonville and downtown Santa Cruz.

As described in Draft Environmental Impact Report/Environmental Assessment Section 1.3.1, the optional first phase was considered in the event that the common carrier files for abandonment of freight operations. Thus, the trail would only be used in the interim, and the rail would be replaced in the event of future freight reactivation. The optional first phase would not prohibit the possibility of a future rail project.

**Comment O8-5**

We strongly object to what is described as the "Optional First Phase." (p. 17.) Caltrans has failed to properly evaluate its environmental impacts. (p. S-6, Transportation and Traffic.) The voters overwhelmingly rejected Measure D's proposal to eliminate the rail line. As a result, railbanking is no longer a reasonable policy option. It is politically infeasible.

Rail transit is the only Alternative Transportation Mode (p. 4) that is capable of carrying a significant percentage of State Route 1 commute traffic, yet it was not studied in the Tier I Final Environmental Impact Report. This mode has the competitive advantage of not being subject to the vagaries of traffic, especially those of the noxious stop-and-go variety. The "Optional First Phase" would have the environmental impact of impeding the delivery of relief from traffic congestion on State Route 1. The Draft Environmental Impact Report/Environmental Assessment failed to evaluate this impact.

In addition, this option would improperly shift the cost of replacement rail bridges from an expense of the Caltrans high-occupancy vehicle  Lane project to the Regional Transportation Commission and its rail capital budget. That would burden the future development of a rail project and thereby also impede the delivery of relief from traffic congestion on State Route 1.

**Response to Comment O8-5**

The commenter expresses their opinion regarding the Optional First Phase. Regarding costs paid by the agencies, that is outside of the purview of the environmental analysis. The proposed project does not include implementation of rail service on the Santa Cruz Branch Line. The Regional Transportation Commission has completed prior studies regarding rail transit service, including the Transit Corridor Alternatives Analysis and associated Business Plan (2021), provide information about potential funding sources, ridership projections, and options to address additional funding needs to develop rail transit on the Santa Cruz Branch Rail Line. In 2022,  Regional Transportation

Commission allocated Measure D funding and awarded a consultant contract to initiate a Project Concept Report for Zero Emission Rail Transit on the Santa Cruz Branch Rail Line as a separate project. The Zero Emission Rail Transit Project Concept Report will include developing the alignment for rail transit along the rail right-of-way, conceptual rail transit operations plan and related facilities, ridership forecasts, and cost estimates. As described in Draft Environmental Impact Report/Environmental Assessment Section 1.3, railbanking could occur if the common carrier files for abandonment of freight operations with the Surface Transportation Board along the Santa Cruz Branch Rail Line.

## Individual Comments

### *Response to Comments JJ Lind*

**Comment I1-1**

I would like to know when the physical construction on the (segment 12) Rail Trail is going to start.

The coastal rail trail segment 12 project From between State Park drive in Aptos and south toward Rio del Mar boulevard or thereabouts.

I currently use the existing rail trail. And would like to know when they're going to close the Rail trail for construction.

Thank you so much for considering my request.

**Response to Comment I1-1**

The project is scheduled for construction to begin in 2025, pending availability of funds for construction. As described in Draft Environmental Impact Report/Environmental Assessment Section 2.1.1, *Parks and Recreational Facilities*, a Transportation Management Plan would be prepared to ensure public noticing of road and facility closures/detours.

### *Response to Comments Douglas M Thomson Sr*

**Comment I2-1**

I own the property near the corner of Park Avenue and Cabrillo College Drive Soquel Ca. The location borders, Soquel, Aptos and Capitol Ca. In the County of Santa Cruz California.

I have witnessed several near miss accidents where pedestrians and cyclist were nearly killed or injured by vehicle driving on the unprotected roadway along the area.

The area is being developed, as the college and my neighbors are adding another 700+ units in the immediate area. This will increase the use of the area significantly. We must act quickly to install the path in order to serve and protect our Citizens.

I propose that a Pedestrian/Bike path with a raised curb along roadways similar to the East and Westcliff path in Santa Cruz County be installed alongside Hwy 1 from Park Avenue to Mar Vista Drive along the Cabrillo College Drive side of Hwy 1 in phase one.

The path would protect our Citizens, decrease vehicle use and allow our Citizens to use the path safely to protect our pedestrians who will walk, hike, and run on the path and our cyclist, e-bike and other modes of transportation will use the path. This will significantly decrease our carbon footprint.

In phase two we could extend the path south to State Park Drive or further south towards Watsonville. In phase three we could install the path north to Soquel Avenue or further north towards Santa Cruz without the need to purchase land. The State, County and our Cities already owns the land along these important roadways.

I had my Traffic and other Engineers review my plan. We find that it is not only feasible that it is also needed if we are going to move forward in our goal to decrease our carbon footprint and increase our use of e-bikes and other environmentally friendly products and services in our State and County.

I hope this information is helpful to you and others working on our very important transportation needs and other services. If you wish to speak with me, please feel free to email or call me @ 916-690-4339 anytime. Have a fantastic year.

**Response to Comment I2-1**

The commenter's property is approximately 1.3 miles west of the project limits and is not within the study area. While the commenter’s suggestion is noted and appreciated, it is outside of the scope of this analysis. No further response is required.

***Response to Comments Stephanie Tully***

**Comment I3-1**

I have two big concerns about the bus on shoulder widening project. First, what is their in place to stop frustrated car drivers who are stuck in traffic from illegally using the lane to get around other cars?

**Response to Comment I3-1**

Bus-on-shoulder operations along State Route 1 between the Freedom Boulevard and State Park Drive interchanges are consistent with bus-on-shoulder operations that will commence following construction of the State Route 1 improvements between the State

Park Drive and Soquel Drive interchanges immediately to the north. Bus-on-shoulder operations would use the auxiliary lanes between interchanges and a wider shoulder within the interchange areas between the off-ramp and on-ramp. The wider shoulder for bus-on-shoulder operations would be marked and signed for use by transit buses only. The experience with bus-on-shoulder operations in other areas of the country has been that drivers do not use the shoulder area designated for bus-on-shoulder operations as a bypass.

**Comment I3-2**

And secondly, what if a car breaks down on the side of the highway? What happens then if there no room to move the car or if the car blocks the bus lane, then we are right back where we started?

**Response to Comment I3-2**

The auxiliary lanes constructed between the interchanges will still have an outside 10-foot-wide shoulder where vehicles can pull over to and park in an emergency situation. In an emergency situation if a vehicle pulls over and parks in the wider shoulder used for bus-on-shoulder operations within the interchange areas, the Freeway Service Patrol that patrols freeways in peak times would be available to attend to the vehicle and move it. The transit operators will be trained to exit the shoulder area back into the general-purpose lanes if the shoulder area is occupied for any reason.

***Response to Comments Frank Anderson***

**Comment I4-1**

This comment is in regards to Segment 12 of the Santa Cruz Branch Line Rail Trail. As you know, Santa Cruz County is moving toward building a paved trail adjacent to the existing 100-year-old railroad tracks at a cost which rivals that of building a third lane onto Highway One. This is due to the fact that massive amounts of earth need to be excavated, huge concrete retaining walls have to be built, cabled fencing needs to be erected and hundred of mature trees need to be cut. Currently, there is no funding for a train, ridership projections are low, a tax initiative would need to be passed and construction is at best decades away. A feasibility study is due out in about two years that hopefully will definitively assess the practicality of a train. Might it be best to halt the insanely expensive rail trail until the study is finalized and instead remove the tracks and ties (which can be recycled and sold and must be replaced for any future train) and allow for a trail-- paved, graveled or left natural down the center of the corridor so the general public can start using it for recreation and active transportation?

### Response to Comment I4-1

The project does not include implementation of rail service on the Santa Cruz Branch Line. Regional Transportation Commission has completed prior studies regarding rail transit service, including the Transit Corridor Alternatives Analysis and associated Business Plan (2021), which provides information about potential funding sources, ridership projections and, options to address additional funding needs to develop rail transit on the Santa Cruz Branch Rail Line. In 2022, Regional Transportation Commission allocated Measure D funding and awarded a consultant contract to initiate a Project Concept Report for Zero Emission Rail Transit on the Santa Cruz Branch Rail Line as a separate project. The Zero Emission Rail Transit Project Concept Report will include developing the alignment for rail transit along the rail right-of-way, conceptual rail transit operations plan and related facilities, ridership forecasts, and cost estimates.

## *Response to Comments Andrea Ratto*

### Comment I5-1

I don’t have any solution to mitigate the environmental impact of this project. Long overdue but will be messy, inconvenient and bog down traffic for the duration. However as a south county commuter I don’t understand why the commute south only is mentioned. It is rare that there is a smooth commute north from Watsonville to Santa Cruz at ANY time of day, almost always traffic is backed up and weekends are no exception. Ironically now that city council is approving multiple dense housing projects for our community the additional lane will soon do little to mitigate the traffic jam on Highway 1 with the addition of many more people and cars. I would like to see a head count of how many of you folks orchestrating this project get on the bus every day or ride your bike to your place of work, recreation or shopping. By not providing adequate parking in these structures they may be appropriate for students( whose parents may be the only ones who will be able to afford these overpriced units) but working families need a car and a place to park it without having to pay additional garage fees. I’ve always used public transportation and continued to while a student at University of California Santa Cruz( bus system great for accessing campus and major arteries). However as a working student there was more flexibility in my time. Families with children do not have that luxury. South county folks think twice about accessing businesses in north county as it’s a time suck sitting on the highway belching out exhaust. I drive a hybrid but rarely access Santa Cruz for all of these reasons.

**Response to Comment I5-1**

In the northbound direction there is a capacity bottleneck that is downstream (north) of the limits of the auxiliary lane project. Traffic queuing from this bottleneck often extends into the area of the freeway, which is part of the project, causing congestion. However, there will still be localized traffic operations and safety benefits from the auxiliary lanes. Although travel time savings would be small, the auxiliary lanes would improve safety incidents in the northbound direction and would improve travel time/reliability. Both would occur in the southbound direction. Commuters would travel in both directions, resulting in daily travel time savings.

***Response to Comments Patti Brady***

**Comment I6-1**

- The back & forth on the rail with trail issue in Santa Cruz County has gone on far too long
- Citizens want this benefit - its time to get it done and as soon as possible

**Response to Comment I6-1**

Comment noted. Thank you for your comment.

**Comment I6-2**

- The current rail line - a freight railroad - should be kept active so it is not taken away.

**Response to Comment I6-2**

The project does not include implementation of rail service on the Santa Cruz Branch Line. As stated in the project description of the Environmental Impact Report/Environmental Assessment, the Optional First Phase is an option if the common carrier files for abandonment, and the rail line could be railbanked to preserve the corridor for future freight reactivation. Under the ultimate condition, the rail would remain.

**Comment I6-3**

- New CA housing legislation mandates new housing to be built along quality public transit lines: Santa Cruz Co. is sorely lacking such transportation benefits
- Without multimodal transportation opportunities - improvements people will be as dependent on cars as they are now

**Response to Comment I6-3**

The project does not include implementation of rail service on the Santa Cruz Branch Line. However, the project includes multi-modal benefits including construction of Segment 12 of the Coastal Rail Trail, which would increase accessibility for bicyclists and pedestrians, and the bus-on-shoulder component would increase transit reliability and ridership in the corridor.

**Comment I6-4**

- It would be a waste of time and money to widen Highway 1 without new longer rail bridges included in the project; otherwise the project would require a re-do which would be a needless duplication of labor and money not to forget a repeat of horrific traffic disruption. I appreciate your ear - thank you for consideration of my comments.

**Response to Comment I6-4**

As stated in the project description of the Environmental Impact Report/Environmental Assessment, the project includes longer rail bridges to span State Route 1.

***Response to Comments Jane Bruce-Munro***

**Comment I7-1**

I've lived and worked in Santa Cruz ever since 1978. I raised my daughter here, and now I'm retired.

I'm writing to say that both Rail AND Trail are very much needed and wanted in our county.

Many, many residents of this county like myself have wanted fully functioning Rail transit AND Trail for many years.

And let me add that we do NOT want the highway widened unless the project includes new longer rail bridges.

Thank you so much for your consideration.

**Response to Comment I7-1**

Caltrans appreciates the commenter's support for the Coastal Rail Trail Segment 12. As stated in of the Environmental Impact Report/Environmental Assessment Chapter 1, *Proposed Project*, the project includes longer rail bridges to span State Route 1.

***Response to Comments David Van Brink***

**Comment I8-1**

I've lived in Santa Cruz County for over 30 years now.

The current push to expand our transportation beyond car-centrism is exciting!

Caltrans has been amazing. Please continue to support our rail and trail and public transit projects. We love them and know it's the right thing to do.

Also, in particular... Please, please do not remove the rail crossings as part of the Highway 1 Aux Lanes widening. Please, replace and update them. Rail connectivity is precious, and once removed never comes back.

Thank you for all your great work

**Response to Comment I8-1**

Caltrans appreciates the commenter's support for rail and trail and public transit projects. As stated in the project description of the Environmental Impact Report/Environmental Assessment, the Optional First Phase is an option if the common carrier files for abandonment, and the rail line could be railbanked to preserve the corridor for future freight reactivation. Under the ultimate condition, the rail would remain.

***Response to Comments Mark Johannessen***

**Comment I9-1**

I am a resident of Aptos, California. I am writing in support of the upcoming project in Santa Cruz County for the construction of Highway 1 auxiliary lanes, bus on shoulder, and Coastal Rail Trail Segment 12.

You may know that the issue of the use of the Santa Cruz Branch Line Corridor, which contains a rail line, active in parts, was put to a public vote in June 2022. The measure (Measure D) if passed would have had the tracks removed and a trail alone developed

along the Santa Cruz Branch Line Corridor. That measure was resoundingly defeated (73% opposed - see https://ballotpedia.org/Santa_Cruz_County,_California,_Measure_D,_Branch_Line_Rail_Corridor_Greenway_Trail_Initiative_(June_2022)), with the public expressing extremely strong support for keeping the rail and building the trail concurrent with rail improvements, and plan for electric passenger rail along the rail line.

In October 2021, a demonstration of an electric lightweight streetcar manufactured by TIG-m of Chatsworth, California (https://tig-m.com ) occurred (see https://youtu.be/GIQ8Bz7bspI). During the hugely successful 4-day demonstration, which was approved by local, state and federal authorities, the streetcar carried over 2,100 people over 433 miles on sections of the track in Watsonville and Santa Cruz.

Historically, Santa Cruz was built along the rail line and today about 50% of the county's population lives within ½ mile from the track. This presents incredible transit-oriented development opportunities - housing, businesses, and amenities - within walking distance from the line, aligns with the county's mobility planning, would provide a vital connection with Watsonville residents to allow folks to avoid having to travel on Highway 1 for work or otherwise, and would provide ready transportation for US Santa Cruz students. In addition, with the coordination of the region's bus system, this rail line will be integral to a car-less, carbon-free high-density regional transportation system. The rail system would also connect to the state's rail system in Pajaro as well as connecting with the rail system being developed in Monterey County.

Although this project does not address the rail system directly, the bridges that cross Highway 1, which are a part of this project, do. Because of the pressing need for better regional transportation and housing needs and public support, it is imperative that the bridges to be constructed include a rail line for lightweight electric passenger rail concurrently with trail construction.

**Response to Comment I9-1**

Caltrans appreciates the commenter's support for the Coastal Rail Trail. As described in Draft Environmental Impact Report/Environmental Assessment Section 1.3.1, *Build Alternative*, the rail bridges crossing State Route 1 would be replaced with longer spans, maintaining potential rail service for the ultimate trail configuration. Electric passenger rail, however, is not within the scope of the project.

### *Response to Comments Molly and Mickey Ording*

**Comment I10-1**

I am writing to express our STRONG support for the Santa Cruz County's Regional Transportation Commission recently released draft Environmental Impact Report on the above much needed and long awaited transportation improvements. We have been long supporters of both the alternative & additional auto & bus traffic options as well as the long awaited and widely supported Segment 12 of the Coastal Rail Trail and the ENTIRE rail trail! I trust ALL members of the Regional Transportation Commission will recall the widespread County support for these measures and not be deterred by the few naysaying voices that seemingly are unwilling to accept progress, change, improvements and the vast majority's will of the people!

Please continue your support & study to advance these essential transportation improvements! Our county and its residents are counting on their votes counting and these long awaited transportation improvements, especially the entire rail line, actually moving toward reality…improving all our lives in the future as well as adding more safeguards to our precious environment. Thank you so much for your support.

**Response to Comment I10-1**

Caltrans appreciates the commenter's support for the proposed project.

### *Response to Comments Nick Adams*

**Comment I11-1**

Please build the Coastal Rail Trail as soon as possible. Design and build Segment 12 and do NOT widen Highway 1 in Santa Cruz County, unless a new longer rail bridge is included in the project. Vibrant communities and neighborhoods encourage diversity of all kinds and support public transit. 74% of county voters overwhelmingly supported keeping and building the Rail Trail. Please keep in mind future generations by not holding the young as hostages to our privilege.

**Response to Comment I11-1**

Caltrans appreciates the commenter's support for the Coastal Rail Trail Segment 12. As stated in the project description of the Environmental Impact Report/Environmental Assessment, the project includes longer rail bridges to span State Route 1.

## *Response to Comments Jonathan Goren*

### Comment I12-1

I am submitting comments for the Draft Environmental Impact Report Highway 1 State Park Dr to Freedom Blvd Aux Lanes, Bus-on-Shoulder & Coastal Rail Trail Segment 12 Project. I live in Santa Cruz County.

This project claims to improve traffic conditions by widening the highway; however, time and time again studies show that widening highways does not improve traffic conditions. A local example, look at SFStreetsBlog's "Not a Surprise: 101 Freeway Widening Shows Negative Results."

### Response to Comment I12-1

The project does not add capacity to the mainline freeway, only to areas in between freeway interchanges, which would result in improved operations and safety.

### Comment I12-2

Additionally, California and Santa Cruz County have set climate goals and an important part of meeting climate goals is reducing vehicle miles traveled. This project increases vehicle miles traveled. The State and County say one thing yet do the complete opposite.

If the State and County want to meet their climate goals and make substantive changes, Caltrans and the Santa Cruz County Regional Transportation Commission must prioritize the construction Rail Trail from Davenport to Pajaro and especially the passenger rail service from West Side Santa Cruz to Pajaro with 15 minute frequencies.

It is truly unfortunate that our transportation planners continue to make choices that benefit the status quo and do not address historically underserved communities and transportation sectors (public transit and active transportation). Transportation planners in the United States have not figured out how to reduce traffic despite decades of experience dating back to the 1950s with the passing of the National Interstate Act and the massive amount of money the United States has granted to highway construction: Provide attractive and functional methods of transportation that are not the car.

### Response to Comment I12-2

The Rail Trail from Davenport to Pajaro and passenger rail service are not within the scope of the proposed project. However, the project includes multi-modal benefits

including construction of Segment 12 of the Coastal Rail Trail, which would increase accessibility for bicyclists and pedestrians, and the bus-on-shoulder component would increase transit reliability and ridership in the corridor.

### *Response to Comments Barry Pearlman*

**Comment I13-1**

I support the building of an auxiliary lane on Highway 1 in Santa Cruz County from Freedom to State park.

**Response to Comment I13-1**

Caltrans appreciates the commenter's support for the proposed project.

### *Response to Comments Tina Andreatta*

**Comment I14-1**

Please steadfastly and swiftly continue designing and constructing the Coastal Rail and Trail through Santa Cruz County with connections to Monterey and San Benito Counties. Its imperative to keep the rail line active. The rail line must be protected by thSurface Transportation Board as a freight railroad. Highway One must NOT be widened unless new longer rail bridges are built above it.Please no more studies as this is a deliberate delay tactic by anti-public transit people. The majority of Santa Cruz County residents strongly support rail transit ASAP. Authentic planning is never about our own generation, always the next. Please remember we must not hold the young as hostages to our privilege.

**Response to Comment I14-1**

Caltrans appreciates the commenter's support for the Coastal Rail Trail Segment 12. As stated in the Project Description of the Environmental Impact Report/Environmental Assessment, the project includes longer rail bridges to span State Route 1.

### *Response to Comments Deborah Bohnet*

**Comment I15-1**

I am writing this email to first thank you for your consideration and attention to the recent call you received from me regarding this issue.

In the interest of the point you made regarding the importance of science based decisions please see and review the following attached articles. In the hope that science does not take a back seat or diminishing strength of process in the current climate of expediency, and financial interests of those with powerful appetites for progress at the expense of something of such a magnitude of value.

As you put it, "There is too much money involved and at stake". I will add-- For our little lives who will be so profoundly affected to matter. [Attachment 1: "Air Pollutant Uptake by Sacramento's Uran Forest" (article) and Attachment 2: "Atmospheric Carbon Dioxide Reduction by Sacramento's Urban Forest" (article)].

**Response to Comment I15-1**

This is not a comment on the Draft Environmental Impact Report/Environmental Assessment. No response is required.

***Response to Comments Bryan Robinson***

**Comment I16-1**

As a Santa Cruz County resident, I'm writing to express my support for the Segment 12 as it is proposed, especially the Coastal Rail Trail Segment. I know a small, vocal minority of our county residents don't support keeping the rail. But our county voters made it clear with the vote on Measure D that they do support keeping the rail.

**Response to Comment I16-1**

Caltrans appreciates the commenter's support for the Coastal Rail Trail Segment 12.

***Response to Comments Nick Arreguy***

**Comment I17-1**

1. Caltrans says Public involvement is a requirement of Section 106, and the public’s views are essential for making informed decisions.
2. Unfortunately, Santa Cruz County Regional Transportation Commission has not made it easy to find the public's prior comments that were due for on Oct. 18, 2020.
3. Unfortunately, Santa Cruz County Regional Transportation Commission will continue to not make it easy to find or view the public's comments for the Environmental Impact Report for the hwy-1 Auxilliary Lanes, Bus-on-Shoulder, Facility (State Park Drive to Freedom Blvd), and Costal Rail Trail Segment 12.

4. Why is this? There is no link to the comments on the site.
5. I did find them once, but did not save the link and have been unable to find them since. But the following is what I found.
6. The comments were impossible to scan or search for particular comments and responses. This is because each comment was put into its own sub-directory which had to be opened first before the comment and response itself could be viewed. The identities of contributors had be scrubbed; which is a good thing.
7. This particular arrangement makes it virtually impossible for the public to review the comments submitted to or the answers provided by the Santa Cruz County Regional Transportation Commission. It's also impossible to locate your own comments and Santa Cruz County Regional Transportation Commission responses to them because there is no way to identify one's own submissions.
8. So this arrangement negates, i.e. prevents any meaningful public participation in the process.
9. My suggestion is that Santa Cruz County Regional Transportation Commission should make a visible link to the comments section for each public hearing and its subsequent comment period. A pulldown menu item should be provided so the public can easily select the comment period of interest.
10. In addition to this, the comments should be so arranged as to be easily viewable within a single document in both html and text so that it can be easily searched with a standard search engine.
11. There should be a unique numerical identifier assigned to each contributor of a comment, so any particular commenter can easily search for all self-submitted comments and responses. [Attachment: Chapter 3
12. The above is one comment I am submitting.

**Response to Comment I17-1**

The commenter is referring to the Notice of Preparation, which was released in September, 2020. Per State CEQA Guidelines 15082, a notice of preparation shall be prepared to the Office of Planning and Research, responsible and trustee agencies, and the county clerk with sufficient information describing the project and potential environmental effects. All comments that are within the scope of the project are used to inform the Environmental Impact Report/Environmental Assessment analysis. Additional opportunities for public input include the 45-day review period of the Environmental Impact Report/Environmental Assessment, as well as two public meetings during the

comment period. The public meeting was recorded and is posted on the Santa Cruz County Regional Transportation Commission project webpage: https://sccrtc.org/projects/streets-highways/hwy1corridor/highway-1-state-park-dr-to-freedom-blvd-aux-lanes/. All comments received during the 45-day Environmental Impact Report/Environmental Assessment review period will be recorded and responded to in the Final Environmental Impact Report/Environmental Assessment, as required by State CEQA Guidelines 15132. The Final Environmental Impact Report/Environmental Assessment, including all numbered comments and responses in a single document, will be posted on the project website.

### *Response to Comments Nick Arreguy*

**Comment I18-1**

Boundaries for Caltrans and Santa Cruz Co. rights-of-way are delineated.

Expenditures for Moosehead Dr. work should be taken from the HBC-12 budget and not from Santa Cruz Co. taxpayers, since the fwy project is the cause.

Santa Cruz Co will upgrade Moosehead DR to current road standards necessitating the need to remove even more redwood trees, but these trees are not shown on the Environmental Impact Report because they are on Santa Cruz right-of-way.

These trees are to be cut down as a consequence of the HBC-12 construction and should be considered in the Environmental Impact Report.

There is a supposition that funds allocated will only be spent for the Highway 1 Auxiliary Lanes, Bus on Shoulder, and Coastal Rail Trail Segment 12 Project (HBC-12) and not on Santa Cruz county projects.

If this supposition is correct, then any work or improvements done in Santa Cruz Co. will be paid for by the tax payers of Santa Cruz Co. even if the work is caused by the HBC-12 project.

This would shift costs of the HBC-12 project to the Santa Cruz Co thus cloaking the fact.

**Response to Comment I18-1**

The cost to realign/widen Moosehead Drive would be part of the Santa Cruz County Regional Transportation Commission State Route 1 improvements project (proposed project) and would not be paid for by Santa Cruz County taxpayers. Please also see Master Response 1 regarding tree removal.

**Comment I18-2**

Examination of the documentation provided in the Environmental Impact Report with an engineering drawing for Moosehead Dr. work, leads one to think that funding to move and rebuild Moosehead Dr. is likely shifted from the fwy-1 project onto Santa Cruz County taxpayers and Soquel Creek Water customers; see more discussion below.

There are plenty of other roads that should be repaired rather than destroying a perfectly good road and rebuilding it.

See the attached "Engineering Drawing Moosehead Dr." and figures A6 an A7 related to of the "Highway 1 Auxiliary Lanes, Bus on Shoulder, and Coastal Rail Trail Segment 12 Project (HBC-12)".

Moosehead Dr. will be shifted from Caltrans property onto Santa Cruz Co. property as a consequence of the fwy-1 HBC-12 project.

Santa Cruz County Significant redwood trees to be cut down outside of the Caltrans right-of-way are not in the Environmental Impact Report. See figures A6 and A7, attached.

Over a year ago, an Santa Cruz County Regional Transportation Commission official said that the Caltrans right-of-way encompassed both sides of Moosehead DR and all trees in the Moosehead redwood grove were to be removed even on both sides of Moosehead Dr. down to the freeway all the way to the southmost trestle. I hope this does not happen.

In the "Engineering Drawing Moosehead Dr." attached, the Caltrans right-of-way exists on only on the freeway side of the road.

Has the Caltrans right-of-way been modified within the last few years?

There are 56 redwood Santa Cruz County Significant Trees identified in the Environmental Impact Report in the Moosehead redwood grove extending to the southmost trestle; see figures A6 and A7. I can say that at least 30 of these have diameters of 4+ feet and several adjacent to the last property on Moosehead are in this last category. These are located in the pullout just before the height limit sign of the last trestle as you travel southbound.

There are at least 13 more Santa Cruz County Significant Trees on the Santa Cruz Co. side of Moosehead Dr. that will have to be cut down to make way for the road; see figures A6 and A7. Several of these are in the 4' diameter category.

The Soquel Creek Water water line is not shown on the engineering drawing even though it must be replaced at the same time as the sewer line; doing so after the road is built will cause trenching of the new road and increased expenditures for the water company.

**Response to Comment I18-2**

There is a segment of Moosehead Drive level with the State Route 1 highway that is currently within the existing Caltrans right-of-way. When Moosehead Drive is realigned, the right-of-way in this area would be updated so that realigned Moosehead Drive would lie entirely within the Santa Cruz County right-of-way. During the final design phase, the design team would continue to coordinate with utility owners in the project area. Conflicting utilities along Moosehead Drive would be relocated as part of the project. Please also see Master Response 1 regarding tree removal.

**Comment I18-3**

The Environmental Impact Report should address the feasibility of not removing the forest along the freeway from Moosehead to the south most trestle. All of the other improvements will be sufficient to keep the traffic moving. Metered ramps will also help.

**Response to Comment I18-3**

The State Route 1 corridor has a prioritization list for improvements. After pedestrian and bicycle crossings and auxiliary lanes, the next prioritization is interchange improvements that would include ramp metering. One of the purposes of this project is to construct auxiliary lanes and limited improvements to the ramps. Since future improvements propose to reconstruct the interchanges and install ramp meters at all on-ramps, to avoid throw-away costs, this project does not propose any ramp metering improvements.

Ramp metering was studied in the Transportation System Management Alternative in the original Traffic Operations Analysis Report for State Route 1 improvements. The ability of ramp metering to manage mainline freeway traffic flows and on-ramp volumes entering the freeway is limited by the amount of available capacity for vehicle storage on the on-ramps and on the adjacent surface streets approaching the on-ramps. Redesign of the ramps would only partially solve the storage capacity problem. Allowing on-ramp traffic to queue behind the metering lights to the extent that it causes congestion on the surface streets in the area of the interchanges is not desirable and most likely not acceptable to the local communities. As a result, metering rates would need to be kept higher than is desirable for improved freeway operations. Metering in combination with

auxiliary lanes would improve freeway operations, which allow for higher metering rates. Please also see Master Response 1 regarding tree removal.

**Comment I18-4**

The Environmental Impact Report should address using metered ramps. Why haven't this most-basic congestion reducing strategy already been deployed? Why isn't in the plans? The lack thereof has only contributed to the congestion.

**Response to Comment I18-4**

Please see response to comment I18-3.

**Comment I18-5**

The roadway is partly on Caltrans right of way, and the plans are to relinquish it to Santa Cruz County. This Santa Cruz County will address this by removing the significant redwoods and vegetation on both sides of the existing road and will then widen it to from the current nine feet to the planned 20 feet which will require retaining walls and grading for the new road necessitated by the steep terrain. This will completely obliterate the old road. The new road if built as currently intended will create serious safety issues because of its intended width and modern design. The wider the road, the faster vehicles will travel up and down the steep terrain. Currently, the narrow road and significant redwoods growing close to both sides of the road necessitate more slow driving of vehicles.

My suggestion is to only replace the Moosehead Dr. that is currently below the freeway level and keep the road that is above the level of the freeway alone. This will save the county money and preserve a beautiful road enjoyed by many people.

**Response to Comment I18-5**

The modification of Moosehead Drive is required to meet Santa Cruz County standards for roadway design and fire access and maintain access to the existing unimproved developable parcels that front Moosehead Drive. The existing narrow roadway does not meet the current Santa Cruz County standards. When the highway is widened adjacent to Moosehead Drive, existing Moosehead Drive would need to be realigned. However, since there is a steep adjacent hillside and access needs to be maintained to the existing developable parcels, Moosehead Drive needs to be raised as it pushes further into the hillside.

**Comment I18-6**

The sewer, water, widening, grading, retaining walls, paving must all be done.

Likely the water line will be paid for by Soquel Creek Water rate payers; sewer line replacement by the Santa Cruz County Sewer Dept.; the new road by the Santa Cruz Road Dept.; and other misc. by Santa Cruz County.

Costs most likely will be paid for by Santa Cruz County Sewer, Roads accounts and Soquel Creek Water District rate payers.

HBC-12 funds should be used to cover the costs of the work necessitated on the Santa Cruz County right-of-way.

**Response to Comment I18-6**

As part of the final design phase, the design team would continue to coordinate with facility utility owners in the project area. Caltrans procedures would be followed regarding utility coordination including identifying utilities in conflict, what existing rights those utility owners have, and the liability for the cost to relocate (e.g., shared cost, 100% cost to the project, or 100% cost to the utility owner).

**Comment I18-7**

1. Santa Cruz County Regional Transportation Commission has identified 56 Coastal Redwoods (CR) which are Santa Cruz County Significant Trees that will be cut down for the Highway 1 Auxiliary Lanes, Bus on Shoulder segment running along southbound hwy-1 between the two trestles and also along Moosehead Road. See attached: Highway 1 Aux Lanes, Tree Survey Map Pages 6 & 7 of 13 (HWY1 ALTSM) see attached
2. The surveys map hides the large number of additional CR Santa Cruz County Significant Trees that will be cut down as a consequence of Santa Cruz County. doing the work to realign and widen Moosehead Rd. See Pages 6 & 7 of 13 (HWY1 ALTSM) see attached.

Santa Cruz County realign and widen Moosehead Drive seems to allow the Santa Cruz County Regional Transportation Commission to hide the fact and to reduce the count of Santa Cruz County Significant Trees that will will be destroyed.

Moosehead Drive (at or below the existing fwy surface) will be moved approximately 40 feet into the hillside necessitating removal of CR Santa Cruz County Significant Trees trees and the installation of very tall retaining walls.

Those parts of Moosehead Dr (at or above the surface of the existing fwy surface) will be widened from a single 9 foot wide single lane road to a Santa Cruz COunty mandated road of 20 feet wide. This will necessitate removal of additional number of CR Santa Cruz County Significant Trees.

**Response to Comment I18-7**

Please see Master Response 1 regarding tree removal.

**Comment I18-8**

Why hasn't a Movable Median Barrier similar to that used on the Golden Gate Bridge been considered? This works well on freeways when the congestion occurs in different directions at different times of the day. Congestion is in the northbound direction in the morning and in the southbound direction in the evening on workdays. This solution will be ideal for the freeway.

**Response to Comment I18-8**

A movable median concrete barrier can be viable on some freeway corridors where there are no obstructions in the center median. Along State Route 1, there are several columns for bridges that are a constraint to a movable barrier system. A movable barrier system also would be expensive to install, would require wide areas at each end of the movable barrier system to park the vehicles that would shift the barrier, and would have ongoing annual maintenance costs for workers and equipment.

**Comment I18-9**

There has never been A Historic Property Survey Report for Moosehead Road, Moosehead Road is a significant cultural resource running along State Route used by the residents since early in the last century. It is a single lane road that is very pretty and is used by many neighbors as a safe, pleasant way to get to the Rio Del Mar flats by way of Moosehead Drive without having to walk on the more heavily trafficked and dangerous for pedestrians Rio Del Mar Boulevard. Moosehead Road going up the hill alongside and above the freeway 1 has many Santa Cruz County Significant trees growing on both sides of it that rival the larges trees in Nisene Marks state park. The Historic Property Survey Report should be required for this historic cultural resource.

**Response to Comment I18-9**

Please see the Regulatory Setting section in Draft Environmental Impact Report/Environmental Assessment Section 2.1.9, *Cultural Resources*, for further

discussion of what constitutes a significant cultural resource. Moosehead Drive is not considered a historic property under Section 106 of the National Historic Preservation Act or a historic resource pursuant to State CEQA Guidelines Section 15064.5.

**Comment I18-10**

Not only will the entire Moosehead redwood forest on Caltrans land be cut down, but additional forest along the existing Moosehead Dr. will be cut down, too. These are not accounted for in the HBC-12 Environmental Impact Report.

**Response to Comment I18-10**

Please see Master Response 1 regarding tree removal.

**Comment I18-11**

The current forest filters rainwater and cleanses it before it reaches the endangered salamander habitat on the northbound side of the freeway. When the forest is removed, the rainwater will flow into the salamander habitat at an increased rate and with more pollutants from the roads endangering the salamanders. The Environmental Impact Report should have studied this possible effect of the freeway expansion.

**Response to Comment I18-11**

Because the project and the other concurrent or planned projects would be subject to National Pollutant Discharge Elimination System permit requirements and have their own temporary and permanent best management practices, cumulative impacts are expected to be minimal. Additionally, the plan of the project is to maintain the drainage pattern. The proposed drainage facilities would be designed and constructed according to the Caltrans and Santa Cruz County design guidelines. Stormwater impacts from additional impervious areas would be minimized through the proper implementation of permanent stormwater treatment measures and design pollution prevention best management practices. Portions of the project along State Route 1 within the local jurisdictions' rights-of-way would also be subject to the hydromodification management requirements included in the Central Coast Regional Water Quality Control Board Post-Stormwater Requirements and the Santa Cruz County Design Criteria. The project is not anticipated to have any impact on salamanders or salamander habitat, as described in Draft Environmental Impact Report/Environmental Assessment, Section 2.3.5.

## *Response to Comments Nick Arreguy*

### Comment I19-1

This is a very personal appeal from me. I live at 361 Moosehead Drive and three or four of the largest redwoods are right next to my property. Your tree survey will show they are the rivals of most any tree in Nisene Marks State Park. They mean so much to me and my wife. Each time we look out any of our back windows or wander around in our yard, we see them and love them. They speak to us. We can't just destroy this beautiful forest and these beautiful trees for the automobile. Removal of these trees will be devastating for us. These trees are far away from the freeway in the turnout area and can be saved. We purchased this home based on the redwood trees here and because of the beautiful Moosehead Drive. We used to live in the Los Gatos mountains, and this area where we live now in the heart of Aptos reminded us so much of our loved home in the mountains. We love to see the fog come in at night and in the mornings look out of our bedroom window and see the fog among the redwood trees. Please save these trees.

This "Moosehead Redwood Grove" are the last remnants of the Nisene Marks forest that people can see each drive by.

This redwood forest will never, ever grow back. No one living today will ever again see another redwood tree standing here once the trees are gone. If a human generation is 20 years, many of the smaller trees have been around for at least three to four generations. Even if new ones were to be planted again, it would take another 3 to 4 generations to see trees like the smaller ones we see today. The larger trees are likely 10 to 15 generations old. These can never be replaced.

### Response to Comment I19-1

Please see Master Response 1 regarding tree removal.

### Comment I19-2

I have not seen any soil testing rigs for any of this area. These proposed work may cause landslides or change the soil conditions thereby threatening the protected salamanders on the other side of the freeway. What testing and or analysis has been done along these lines.
How sad that this area will just become another desert of freeway.
Everything must be done to save the trees. You must be able to think of a way to do this.

**Response to Comment I19-2**

Preconstruction surveys as described in Avoidance, Minimization, and/or Mitigation Measures, BIO-25 and Bio-26 in Section 2.3.4 *Animal Species*, would ensure a qualified biologist survey the area before ground disturbing construction work. The project is not anticipated to have any impact to salamanders or salamander habitat, as described in Environmental Impact Report/Environmental Assessment Section 2.3.5, *Threatened and Endangered Species*.

Please see Master Response 1 regarding tree removal.

**Comment I19-3**

What about global warming? Removal of so many trees associated with this project could likely impact the heat density in the area and cause a negative effects on the ecosystem of the area. The trees to be removed will help keep our area more livable now and in the future. These trees absorb atmospheric carbon and lock it up. The Environmental Impact Report should consider the locked up carbon contained in these trees.

**Response to Comment I19-3**

Please see Master Response 1 regarding tree removal. Also, please see Draft Environmental Impact Report/Environmental Assessment Section 3.3, *Climate Change*, of the for a discussion on whether the project would have incremental impacts on climate change.

**Comment I19-4**

What will cutting the trees do to the amount of fog in our area?

**Response to Comment I19-4**

Fog is a result of local weather patterns and the respective temperatures of sea and coastal land. The amount of tree removal would not be substantial such that weather (i.e., fog) would be altered. Please see Master Response 1 regarding tree removal.

**Comment I19-5**

The Scenic Highway designation now applied to the freeway will seem like a mirage when the freeway work is done to make this area look like just another freeway running

past just another town. Even in the Environmental Impact Report that is explicitly declared.

**Response to Comment I19-5**

State Route 1 is an eligible state scenic highway and recognized in the County of Santa Cruz General Plan as a local scenic roadway. The County of Santa Cruz General Plan and Local Coastal Program Policy 5.10.2 require a review of projects for visual impacts. The zoning ordinance states that development should be sited and designed so that it does not block or significantly affect significant public views and scenic character adversely. Draft Environmental Impact Report/Environmental Assessment Section 2.1.8 includes visual simulations of the project and avoidance, minimization, and mitigation measures VA-1 through VA-18 for impacts related to aesthetics including the loss of vegetation. These measures are in line with the design criteria of Section 13.20.130 of the County of Santa Cruz Zoning Ordinance. As described in Draft Environmental Impact Report/Environmental Assessment Section 3.2.1, the County's tree removal policy restricts the removal of trees unless they "pose a traffic hazard or for road widening" and that replacement trees are required.

***Response to Comments Terry Dowell***

**Comment I20-1**

Please don’t cut the beautiful old growth redwoods down for the sake of a freeway. When I drive through the East Bay on I680 all that I see is 6 lanes of traffic on both sides of the freeway and cement sound walls. I am always so glad that I don’t live in a community that is choking and suffering from making the same mistakes that we are about to make. Some of the redwood trees were just sprouts during our revolution for independence and we need to keep them alive now for environmental reasons as well.

These trees are environmentally important, they are historically important, they are beautiful and they prove that our focus is not about getting someplace faster but about a commitment to the conservation of our planet.

There’s always another way to solve issues….can you do your best to save these trees?

**Response to Comment I20-1**

Please see Master Response 1 regarding tree removal.

### *Response to Comments Cheryl Feintech*

**Comment I21-1**

Please do not cut down redwoods adjacent to Nisene.

**Response to Comment I21-1**

Please see Master Response 1 regarding tree removal.

### *Response to Comments Caroline Frier*

**Comment I22-1**

I am writing to express my opposition to the current Highway 1 expansion plan with auxiliary lanes from Freedom Blvd to State Park Drive in Santa Cruz County. I understand that this plan will remove many trees and clear the land, thereby negatively impacting the ecosystem, plants and wildlife in the immediate and surrounding areas as well as wildlife movement in and out of that area. It has not been proven that the widening of the freeway and auxiliary lanes will reduce traffic congestion. I live in Aptos and commute daily to Santa Cruz. The traffic congestion is actually lighter in the 2.6 miles slated for expansion compared to south and north of this targeted area. I have been commuting for 18 years so I am very aware of the traffic flow. I have read the biological impact section of the report and am very concerned about the negative impact to the ecosystem.

**Response to Comment I22-1**

Regarding tree removal, please see Master Response 1. As stated in Draft Environmental Impact Report/Environmental Assessment, Section 3.2, *CEQA Environmental Checklist*, avoidance, minimization, and mitigation measures are in place to reduce all potential impacts on wildlife to a less-than-significant level. The project is intended to reduce delay via auxiliary lanes. The traffic analysis found that compared to the No-Build Alternative, delay and bottlenecks would be reduced on State Route 1, traffic speeds and fuel efficiency would increase, and traffic would be diverted from local streets.

**Comment I22-2**

In addition, in my reading of the report there are no other solutions offered, merely “build“ or “no build” plans. This is highly shortsighted. It is wrong to negatively impact the natural ecosystem along the 2.6 mile corridor because of traffic congestion. I

strongly oppose this project. It will not solve traffic congestion and will adversely impact trees, plants and wildlife that live in this area.

It does not appear other solutions have been considered such as metering lights, moveable center barrier or utilizing the highway shoulder.

Thank you for your consideration of my concerns.

Please direct me to where I can track the status of the HWY 1 widening project after the public comment period. Thank you.

**Response to Comment I22-2**

An extensive number of alternatives has been considered both within the freeway corridor and within the broader coastal corridor between Santa Cruz and Watsonville. Project alternatives and variations that have been considered include high-occupancy vehicle lanes, bus-on-shoulder (for the full extent of the corridor including the segments with auxiliary lanes), bus and rail transit alternatives (on the rail right-of-way), and ramp metering. Alternatives elimnated from further discussion are described in Draft Environmental Impact Report/Environmental Assessment Section 1.6, *Alternatives Considered but Eliminated from Further Discussion*,.

The State Route 1 corridor has a prioritization list for improvements. After pedestrian and bicycle crossings and auxiliary lanes, the next prioritization is interchange improvements that would include ramp metering. The project is meant to to construct auxiliary lanes and limited improvements to the ramps. Since future improvements propose to reconstruct the interchanges and install ramp meters at all on-ramps, to avoid throw-away costs, this project does not propose any ramp-metering improvements.

Ramp metering was studied in the Transportation System Management Alternative in the original Traffic Operations Analysis Report for State Route 1 improvements. The ability of ramp metering to manage mainline freeway traffic flows and on-ramp volumes entering the freeway is limited by the amount of available capacity for vehicle storage on the on-ramps and on the adjacent surface streets approaching the on-ramps. Redesign of the ramps would only partially solve the storage capacity problem. Allowing on-ramp traffic to queue behind the metering lights to the extent that it causes congestion on the surface streets in the area of the interchanges is not desirable and most likely not acceptable to the local communities. As a result, metering rates would need to be kept higher than what is desirable for improved freeway operations. Metering in combination

with auxiliary lanes would improve freeway operations, which allow higher metering rates.

A movable median concrete barrier can be viable on some freeway corridors where there are no obstructions in the center median. Along State Route 1, there are several columns for bridges that are a constraint to a movable barrier system. A movable barrier system also would be expensive to install, would require wide areas at each end of the movable barrier system to park the vehicles that would shift the barrier, and would have ongoing annual maintenance costs for workers and equipment.

Using the outside freeway shoulder between interchanges for bus-on-shoulder operations in lieu of an auxiliary lane becomes a safety issue, because vehicles in an emergency situation need to be able to have access to the outside shoulder. Between the interchanges, there are retaining walls and concrete barrier systems at the edge of the outside shoulder, while through the interchange areas, there is typically grading at the outside edge of shoulder.

### *Response to Comments Julia Lompa*

**Comment I23-1**

Can we put a hard 'hold' on cutting the heritage Redwood trees on Moosehead in Aptos, California, until we have a town hall with the locals? This community has lost thousands of trees in the last few years between fire & flood. This county is changing quickly due to encroachment from Santa Clara County. It would be nice, as a long-time resident, to hit the brakes on this improvement as it seems excessive and environmentally unfriendly. We residents have lost control of the development in this county which we worked many years to limit growth, unwisely in some areas. But please, give us respite on Moosehead Road, call a locals meeting with Caltrans & county supervisors invited, too.

Those trees germinated when we were signing the Declaration of Independence. Let's honor that document by having a democratic decision regarding the trees fate.

**Response to Comment I23-1**

Please see Master Response 1 regarding tree removal.

### *Response to Comments Kathryn McGuire*

**Comment I24-1**

I am extremely disappointed about the project to remove a substantial number of trees in order to widen the freeway. While I understand the concerns about congestion, I challenge the belief that destroying these trees is the best option. I'm sure it is the cheapest option, but the visual affect (along with the ecological impact) will surely have negative results among residents and tourists.

I left the Bay Area a year ago precisely because of issues such as this. I don't want a commute that is empty of life and of color. Ripping out redwoods, adding asphalt, and then landscaping with non-natives is precisely why so much of the area has already been visually ruined.
Surely the team behind these plans can do better.

**Response to Comment I24-1**

Please see Master Response 1 regarding tree removal.

### *Response to Comments Maria Gitin Torres*

**Comment I25-1**

I hope that the Regional Transportation Commission will use data and facts in your decision making process, and allocate funds for projects that are feasible and needed. It is the job of leaders to lead, to plan for the next fifty to one hundred years. I'm counting on your collective wisdom.

**Response to Comment I25-1**

Comment noted. This is not a comment on the Draft Environmental Impact Report/Environmental Analysis. No additional response is required.

**Comment I25-2**

Despite the Measure D vote, it is clear that there is no viable option for passenger-freight rail in this county. Voters for the rail were influenced by romantic 20th Century notions, and further swayed by the much-loved Roaring Camp campaign to retain their rail access. There have been hearings and votes, but no actual studies on the number of people who plan to rely on any type of public transit to get to work, school or healthcare services.

**Response to Comment I25-2**

Comment noted. This is not a comment on the Draft Environmental Impact Report/Environmental Analysis. No additional response is required.

**Comment I25-3**

We live and vote at 159 Danube Drive, Aptos and receive our mail including ballots at the Capitola P.O. Box below my signature. I am a 37 year resident of mid and South County. I have attended virtual meetings, read the reports and studied the maps. This is my perspective on Segment 12 of the proposed plan:

First, I heartily endorse auxiliary lanes. The majority of workers drive cars because do not work regular hours, make more than one stop, and are not interested in public transit due to the sacrifice of safety, comfort, and security required to take public transit. Cars are more comfortable, sanitary and convenient. With electric cars soon to be the majority, pollution will be reduced and safety controls will be built in. An increase in electric vans for workers in the few large businesses will be helpful in reducing congestion.

**Response to Comment I25-3**

Caltrans appreciates the commenter's support for the auxiliary lanes.

**Comment I25-4**

Second, I appreciate the ongoing effort to create a pedestrian and bicycle trail throughout the county. Our section of the trail is home to an avid biking community as well as teens who would bike to school if they could avoid dangerous Soquel Avenue. So, yes to trails in whatever format.

**Response to Comment I25-4**

Caltrans appreciates the commenter's support for the Costal Rail Trail Segment 12.

**Comment I25-5**

Third, despite voters approval of a county wide rail system, it is infeasible, particularly through Segment 12. The expense of creating two safe crossings that will accommodate both a trail and rail line over Aptos Creek is exorbitant. It would be nearly impossible to build in a way that eases not increases congestion through Aptos Village. Traffic and bike lanes through the Village urgently need to be reconfigured for safety,

especially for children on bicycles and on foot. Segment 12 tracks cross an entrance to Nisene Marks State Park, the heavily used Aptos Park, two dense condominium developments, a major grocery store and an increasing number of small businesses. The tracks already restrict expansion of the road, the much needed completion of Parade Street and development of safe sidewalks, bike lanes and easy access to businesses. Widening the trail to accommodate rail will add to congestion as will the need to stop all traffic if the rail line is used by motorized vehicles.

**Response to Comment I25-5**

The replacement railroad bridges would be built on the existing railroad alignment. The new pedestrian bridges would be built on an adjacent alignment. Rail bridges would be built to American Railway Engineering and Maintenance-of-Way requirements on the existing rail alignments.

**Comment I25-6**

I'm particularly saddened to see this being framed as a socio-economic issue. I have lived and worked in South County and remain involved in Watsonville civic matters. Everyone I know, especially young families want to be able to drive in their own vehicle - hopefully soon to be all-electric in California - on a widened highway. They do not feel comfortable on public transportation with strangers; even school bus ridership is declining since the pandemic. A large percentage of the workforce are small business owners and employees, independent contractors, landscapers, trades people, teachers and others who carry supplies and equipment in their vehicles. Even County and University of California Santa Cruz employees no longer work regular hours.

**Response to Comment I25-6**

The commenter expresses their opinion that the project is being framed as a socio-economic issue. Rather, the Environmental Impact Report/Environmental Assessment and preceding community impact assessment evaluate environmental justice to comply with regulatory standards including Executive Order 19898. As stated both in the community impact assessment and in the Environmental Impact Report/Environmental Assessment, there would be no impacts on environmental justice populations. The Environmental Impact Report/Environmental Assessment does state the public benefits of the project, which include multi-modal transportation features like the bus-on-shoulder, which would increase transit reliability and ridership, and construction of Segment 12 of the Coastal Rail Trail, which would increase accessibility in the project area.

## *Response to Comments Derek Leffers*

### Comment I26-1

My name is Derek Leffers and I live at 324 Moosehead Dr. Aptos, CA 95003. I would like to send in my below comments:

Comment #1: There is a discrepancy in the maps that are posted for where the sound wall will be installed. The first image shows a sound wall spanning over half of the bride and across the creek, as indicated by the line with the empty circles, per the legend. The second image show the sound wall not on the bridge and not across the creek as indicated per the purple line. The residents are receiving mixed messages for what will and will not have sound protection and visual improvement. We would like the sound wall to extend because the houses are very close to the highway, and several are at the same elevation as the highway.

### Response to Comment I26-1

The proposed soundwall in question is S89. The Noise Abatement Decision Report shows the locations of the modeled noise barriers S87 and S89. S87 was determined to be not reasonable, and S89 was determined to be reasonable. Because the methodology assumes a peak capacity scenario—all lanes have the maximum number of vehicles traveling at the design speed—the volume of traffic when the noise measurements are gathered is essentially irrelevant to the buildout model. The measurements are used to calibrate the model, and, because concurrent traffic counts are gathered, whether or not the traffic volume is higher or lower on a particular day (as long as the roadway is not congested), then the model can be accurately calibrated.

Note that the geometric approval drawings in Draft Environmental Impact Report/Environmental Assessment Appendix G include all sound wall locations studied per the Noise Study Report, not the ones that are proposed per the Noise Abatement Decision Report.

As stated in Draft Environmental Impact Report/Environmental Assessment, Section 2.2.7, based on the studies completed to date and input from the public, Caltrans intends to incorporate noise abatement in the form of a barrier (S89) at the shoulder of State Route 1 on the southbound side, with a respective length of 885 feet and average heights of 8 to 16 feet. The final decision on noise abatement will be made prior to completion of the project design.

**Comment I26-2**

Comment #2: The Focused Noise Abatement Decision Report states that:

“As part of the public review period for the project, the property owners and nonowner occupants will be sent a noise barrier survey letter to request each owner’s or occupant’s opinion on whether or not they would prefer a noise barrier and what height they would prefer the barrier to be based on the range of feasible and reasonable heights listed in Table 3.1.”

No such survey has been sent out to the property owners for completion.

**Response to Comment I26-2**

The survey for residents has not been completed yet, that process typically takes place during the final design phase. The purpose of the environmental analysis and public review phase is to disclose the environmental impacts of the project and solicit public comment on the analysis. During the Plans, Specifications, and Estimates phase, design is finalized and additional coordination with appropriate parties continues throughout the process.

**Comment I26-3**

Comment #3: The Focused Noise Abatement Decision Report states that noise barrier S-89 meets all the federal requirements to build a 14 ft high noise barrier. If the noise study confirmed that S-89 meets the minimum noise abatement requirements, meets the minimum number of benefited receptors, and is less than the total reasonable allowance cost, then S-89 is reasonable. The residents do want to move forward with installing the S89 noise barrier per the noise study and modeled sound barrier map. The noise study also does not state any secondary effects of abatement for S89, therefore the residents would expect it to be installed, because it is being recommended.

**Response to Comment I26-3**

The commenter expresses their opinion regarding Sound Wall S89. As stated in the Draft Environmental Impact Report/Environmental Assessment Section 2.2.7, based on the studies completed to date and input from the public, Caltrans intends to incorporate noise abatement in the form of a barrier at the shoulder of State Route 1 on the southbound side, with a respective length of 885 feet and average heights of 8 to 16 feet. The final decision on noise abatement would be made upon completion of the project design.

In addition, the commenter incorrectly states that the noise study does not analyze secondary effects. Secondary effects of abatement are analyzed in Noise Abatement Decision Report, Chapter 4.

**Comment I26-4**

Comment #4: The noise study was conducted in March of 2021 and 2022. These dates were during the COVID pandemic. During the COVID pandemic a significant number of employers were allowing staff to work from home. During that time there was a significant decrease in the number of vehicles on the road and driving across highway 1. Less vehicles on the road means less highway noise, but more significantly it means that the data collected during this time does not accurately reflect both past and current noise levels. Several residents are recommending either moving forward with the proposed sound wall S89 like the noise report recommends or having a second noise study done. We believe a second noise study will more accurately reflect true highway 1 noise and furthermore show the necessity of the sound barrier walls.

**Response to Comment I26-4**

Vehicle volume recorded in the file during COVID was only used to calibrate the traffic noise model and not necessarily to reflect the existing conditions. Traffic volumes for existing conditions, future no-build, and build conditions were used to compare noise from all three scenarios. Accordingly, a second noise study is not required.

**Comment I26-5**

Comment #5: The Visual Impact Assessment states that view #2 “A sound wall would also be placed along the southbound shoulder, adjacent to the South Aptos Rail Bridge, to minimize traffic noise for residents along Carrera Circle and the eastern end of Moosehead Drive. The retaining wall and sound wall would introduce new vertical surfaces along this segment of highway, but aesthetic treatments would ensure that they blend with the natural landscape and do not detract from views.” but proposed maps are not showing the sound wall in design and when residents met with the design team, they stated no sound wall is being proposed.

**Response to Comment I26-5**

Draft Environmental Impact Report/Environmental Assessment Section 2.1.8 was prepared using information from the Visual Impact Assessment prepared for the project, including visual simulations. The simulation for View 2 includes a soundwall adjacent to the South Aptos Rail Bridge, along State Route 1 near Carrera Circle and the eastern

end of Moosehead Drive, which was included during the preparation of the Visual Impact Assessment that is no longer a part of the proposed project. Although this soundwall is no longer a part of the proposed project, the simulation for View 2 still mostly conveys how visual conditions would appear after vegetation removal and trimming, grading, and installation of the retaining walls occur. Since preparation of the Visual Impact Assessment, the project design continues to be refined, and the soundwalls shown in Draft Environmental Impact Report/Environmental Assessment Figure 1-3b are the most current.

**Comment I26-6**

Comment #6: Residents do not understand why both the Focused Noise study report and the Visual Impact Assessment are stating that the design will include an aesthetically pleasing sound wall (S89) but preliminary designs are not showing the sound wall included.

**Response to Comment I26-6**

Note that the geometric approval drawings in Draft Environmental Impact Report/Environmental Assessment Appendix G document include all sound wall locations studied per the Noise Study Report, not just the ones that are proposed per the Noise Abatement Decision Report.

**Comment I26-7**

Comment #7: In Chapter 1 Proposed Project, figure 1-3a states soundwall (S89 – indicated in purple) will be installed as part of the project. There are so many discrepancies in all the different reports. The information residents are being told, vs documentation on the website. None of it matches. The residents want soundwall (S89) installed per this plan, per the noise study report, and per the visual impact assessment.

**Response to Comment I26-7**

The geometric approval drawings included in Draft Environmental Impact Report/Environmental Assessment Appendix G show more design detail along the State Route 1 corridor. Sound wall S89 is shown on these plans beginning near Moosehead Drive and spanning across the south side (ocean side) of the widened Aptos Creek Bridge.

**Comment I26-8**

Comment #8: My home at 324 Moosehead Drive sits at a higher elevation than most other residential homes. It is important to me that the sound barrier and aesthetic treatments get installed per the plan on the south side of the bridge because my living room looks directly out to the highway. As you can see in the image below, most of my view currently is vegetation that will be cut away. I am deeply concerned that if the sound barrier doesn't get installed then my property value will decrease drastically. For some of us, our homes are our life savings, and we don't want to see decreases of hundreds of thousands of dollars.

**Response to Comment I26-8**

The Caltrans Traffic Noise Analysis Protocol assumes that the receptor is at the outdoor sensitive area (typically a rear yard) at the first floor. As stated in the Draft Environmental Impact Report/Environmental Assessment, soundwall S89 was found to be reasonable and feasible. The final decision on noise abatement will be made upon completion of the project design. If no soundwall is built, vegetation would not need to be removed. The remainder of the comment is not a comment on the draft environmental document analysis. No additional response is required.

**Comment I26-9**

Comment #9: Moosehead Drive (east of Spreckels) is a resident-maintained rd. The residents have called the county several times requesting pot holes be filled and repairs, only to be told that we have to perform the repairs ourselves at our own expense. This project will require several heavy vehicles traveling back and forth down our drive that will further damage the road. We have been told that vehicles will be accessing the area via the highway, but Pacific Gas & Electric and several other companies will go down our road. We ask that you don't place the burden of repairing it on us as homeowners. You are already moving the road in a portion of the area; it wouldn't be that much more to just rip up and repave the rest of the road at the conclusion of the project. Several of us homeowners would be more than willing to let the contractors drive on the road and use it to access hard to reach areas if the project will repave it at the end. This seems like a win win for all.

**Response to Comment I26-9**

Thank you for your comment. New pavement would be installed where Moosehead Drive is realigned.

**Comment I26-10**

Comment #10: Since there seem to be so many different maps, designs, and general concepts for what this project will and will not include, residents would like time to review and comment on the final approved plans. Currently (as seen in the email) there are several errors and discrepancies. We don't know what to expect and what is actually happening. Can an official final design be created and then sent to residents for review and comment on?

**Response to Comment I26-10**

The Environmental Impact Report/Environmental Assessment analyzes all impacts in the study area, which represents a conservative or worst-case scenario. This ensures all potential impacts are analyzed during the environmental review phase. Furthermore, during the permitting process, agencies such as the California Coastal Commission will allow for future input on more advanced designs.

***Response to Comments Michael Lewis and Jean Brocklebank***

**Comment I27-1**

3. There is no alternative identified to reduce the number of trees that must be removed for the Proposed Project. Therefore, there is no basis for selection of an environmentally preferred Alternative to the Proposed Project.

**Response to Comment I27-1**

The improvements have been refined to minimize tree removal. Further eliminating shoulders along the median and outside edges of the freeway is not viable. The outside shoulders on a freeway are 10 feet wide and provide a zone where vehicles can pull over in an emergency. The proposed alternative for improvements along State Route 1 does propose to reduce shoulder width in the median along the corridor, which has been coordinated with Caltrans because they need to approve the reduced width. The reduced shoulder widths in the median does contribute to reducing the number of trees to be removed.

Per State CEQA Guidelines Section 15130, an environmental impact report need only evaluate alternatives that are (1) potentially feasible, (2) capable of meeting all or most project objectives, and (3) capable of reducing one or more of the project's substantial impacts. An environmental impact report need not consider every conceivable alternative to a project per State CEQA Guidelines Section 15126.6. Rather, it must

consider a reasonable range of potentially feasible alternatives that foster informed decision-making and public participation. The lead agency is responsible for selecting a range of project alternatives for examination and must publicly disclose its reasoning for selecting those alternatives. There is no ironclad rule governing the nature or scope of the alternatives to be discussed other than the rule of reason. Alternatives are described in Draft Environmental Impact Report/Environmental Assessment Section 1.6, including several alternatives that are similar to the alternatives discussed during the scoping session. These alternatives include an inland and a coastal alternative to the rail trail alignment and a bus-on-shoulder only alternative. The “Build Alternative” under NEPA is the same as the “proposed project” under CEQA, which may be used interchangeably.

**Comment I27-2**

7. Under Biological Environment (Tree Removal) the only tree survey in the Draft Environmental Impact Report materials was conducted on the Highway 1 component of the Proposed Project (February and March of 2021). 8. There is no tree survey nor are there tree impact maps for the Segment 12 portion of the Proposed Project, yet the Tree Removal section states that 527 trees will be removed in the Segment 12 portion, without explaining how that number was determined. There are no plans or tree inventory for the Optional First Phase Segment 12 component, therefore, there is no way to evaluate it as an environmentally preferred alternative to the Proposed Project.

**Response to Comment I27-2**

Please see Master Response 1 regarding tree removal.

**Comment I27-3**

Our concerns are centered on the lack of sufficient analysis of one very important component of the Proposed project; that is Segment 12 of the rail trail. First and foremost, Segment 12 of the rail trail is insufficiently analyzed, beinginappropriately incorporated in the greater State Route 1 Proposed Project that is the subject of the Draft Environmental Impact Report. Segment 12, including its two crossings over Highway 1 should have had its own Draft Environmental Impact Report.

**Response to Comment I27-3**

While the project contains several components (auxiliary lanes, bus-on-shoulder, and Segment 12 of the Coastal Rail Trail), these components are analyzed as a whole. CEQA requires that an environmental document analyze the “whole of the action”

together that may result either directly or indirectly in physical changes to the environment. NEPA requires that the proposed action under NEPA include all federal connected actions. However, the impacts are also presented individually where possible to provide more specific information on the project components.

**Comment I27-4**

- Second, throughout the document, descriptions of the separate Rail Trail component and the Auxiliary Lanes component of the project are interspersed with insufficient separation and identification.
- All identified purposes do not apply to both projects.
- All identified needs do not apply to both projects.
- Federal Highway Administration 23 Code of Federal Regulations 771.111(f) do not apply to the Segment 12 component.
- The Draft Environmental Impact Report does not include objectives for the Segment 12 component consistent with objectives and policies in the adopted Monterey Bay Sanctuary Scenic Trail Network Master Plan.

**Response to Comment I27-4**

As stated in the project description of the Environmental Impact Report/Environmental Assessment, the project includes several components—the auxiliary lanes, the bus-on-shoulder component, and Coastal Rail Trail Segment 12. The entire project is analyzed together. However, where possible, impacts of specific components are described to provide readers more detail. The purpose and need applies to the project as a whole, which includes all of the project components. For example, reducing delay and improving system reliability and safety is achieved by all of the project components combined. Improving traffic operational movements and local circulation are also achieved by all project components. The commenter incorrectly states that Federal Highway Administration 23 Code of Federal Regulations 771.111(f) does not apply to the Segment 12 component. This component is part of the overall project, which is being analyzed as one project. Environmental Impact Report/Environmental Assessment Section 1.2.3 describes how the project has independent utility and logical termini.

Lastly, the commenter states that the Draft Environmental Impact Report does not include objectives for the Segment 12 component consistent with the Monterey Bay Sanctuary Scenic Trail Network Master Plan. This is incorrect. As stated in Environmental Impact Report/Environmental Assessment Section 1.2.3, one purpose of

the project is to enhance bicycle and pedestrian connectivity and safety, which is directly in line with the goals, objectives, and policies of the Monterey Bay Sanctuary Scenic Trail Network Master Plan. For example, construction of this component would comply with Objective 1.1 of the Monterey Bay Sanctuary Scenic Trail Network Master Plan, which is to "provide a continuous public trail along the Santa Cruz Branch Line railroad corridor and connecting spur trails within Santa Cruz County" and all subsequent policies. It is also consistent with Objective 1.2 "Make the trail functional as a transportation facility" and Objective 13 "Make the trail recognizable as a continuous facility" and all related policies to achieve these objectives. Overall, the project is consistent with the  Monterey Bay Sanctuary Scenic Trail Network Master Plan as it involves construction of Segment 12.

**Comment I27-5**

Third, while the Purpose and Needs section (1.2) did include access for bicyclists andpedestrians "across State Route 1," the scope of the Proposed Project is clearly traffic congestion mitigation for State Route 1. Therefore, Segment 12 of the rail trail, including itstwo crossings over Highway 1 should have had its own Draft Environmental Impact Report. Segment 12 and its environmental impacts got lost in the shuffle.

**Response to Comment I27-5**

Please see response to comment I24-4.

**Comment I27-6**

Fourth, it is clear that there are two separate projects described in the Draft Environmental Impact Report, 1) “to widen State Route 1 to include auxiliary lanes, accommodate Bus-on-Shoulder operations between the Freedom Boulevard and State Park Drive interchanges,” and, 2) “construct Coastal Rail Trail Segment 12.” However, the only connections between the two projects are the two railroad crossings over Highway 1 which must be widened to accommodate the widening of the Highway, which will have to be accomplished regardless of the construction plans for Rail Trail Segment 12.

**Response to Comment I27-6**

State CEQA Guidelines 15478 defines a project as follows: (a) "Project" means the whole of an action, which has a potential for resulting in either a direct physical change in the environment, or a reasonably foreseeable indirect physical change in the environment, and that is any of the following:

(1) An activity directly undertaken by any public agency including but not limited to public works construction and related activities clearing or grading of land, improvements to existing public structures, enactment and amendment of zoning ordinances, and the adoption and amendment of local General Plans or elements thereof pursuant to Government Code Sections 65100- 65700.

(2) An activity undertaken by a person which is supported in whole or in part through public agency contracts, grants, subsidies, loans, or other forms of assistance from one or more public agencies.

(3) An activity involving the issuance to a person of a lease, permit, license, certificate, or other entitlement for use by one or more public agencies."

Like many projects, the proposed project has multiple components, which is not prohibited by CEQA. CEQA requires that an environmental document analyze the "whole of the action" that may result either directly or indirectly in physical changes to the environment. NEPA requires that the proposed action under NEPA include all federal connected actions. All project components, including the auxiliary lanes, bus-on-shoulder, and Coastal Rail Trail Segment 12, would improve system reliability and safety on State Route 1, improve local traffic operations, and promote the use of alternate modes of transportation.

**Comment I27-7**

Fifth, we list the following 10 Draft Environmental Impact Report deficiencies with regard to Segment 12:

1. There are no alternatives other than No Build identified or analyzed, eventhough alternatives were suggested at the 2020 Scoping Sessions (Draft Environmental Impact Report/Environmental Assessment Summary, page S-11). Quoting from the Scoping Session summary:

    "An online scoping open house was open from September 17, 2020 through October 18, 2020. The purpose of the online open house was to present to the public factors to be considered in the draft environmental document and to receive comments. The online scoping open house was announced in the Notice of Preparation. Sixty-two comment letters were received, and comments included:

    "Recommendations for alternatives, including a trail-only project, bus-only lanes instead of auxiliary lanes, increased bus service, construction of a trail without

rail service, and consider the project elements separately rather than combining them."

2. Throughout the Draft Environmental Impact Report, the project is improperly identified as the “Build Alternative,” instead of the “Proposed Project.” This makes it appear that there are two alternatives, when, in fact, there is only one alternative to the Proposed Project, the “No Build Alternative.”

**Response to Comment I27-7**

Per State CEQA Guidelines Section 15130, an environmental impact report need only evaluate alternatives that are (1) potentially feasible, (2) capable of meeting all or most project objectives, and (3) capable of reducing one or more of the project’s substantial impacts. An environmental impact report need not consider every conceivable alternative to a project per State CEQA Guidelines Section 15126.6. Rather, it must consider a reasonable range of potentially feasible alternatives that foster informed decision-making and public participation. The lead agency is responsible for selecting a range of project alternatives for examination and must publicly disclose its reasoning for selecting those alternatives. There is no ironclad rule governing the nature or scope of the alternatives to be discussed other than the rule of reason. Alternatives are described in Draft Environmental Impact Report/Environmental Assessment Section 1.6, *Alternatives Considered but Eliminated from Further Discussion*, including several alternatives that are similar to the alternatives discussed during the scoping session. These alternatives include an inland and a coastal alternative to the rail trail alignment and a bus-on-shoulder only alternative. The “Build Alternative” under NEPA is the same as the “proposed project” under CEQA, which may be used interchangeably.

**Comment I27-8**

At the beginning of Chapter 1, the Proposed Project is correctly identified “to widen State Route 1 to include auxiliary lanes, accommodate Bus-on-Shoulder operations between the Freedom Boulevard and State Park Drive interchanges, and construct Coastal Rail Trail Segment 12.” However, in the next paragraph, the Project is identified as the “Build Alternative.” A project cannot be an alternative to itself. There is only one Alternative to the Proposed Project, the “No Build Alternative.”

**Response to Comment I27-8**

The “Build Alternative” under NEPA is the same as the “proposed project” under CEQA, which may be used interchangeably.

**Comment I27-9**

4. There are no plans or detailed descriptions of the Segment 12 project, identifying extent of the railroad right of way, path widths, locations, height and length of retaining walls, and trees to be removed.

**Response to Comment I27-9**

Segment 12 of the Coastal Rail Trail is described in detail in Environmental Impact Report/Environmental Assessment Section 1.3, and depictions of the width of the trail are shown in Figures 1-4 and 1-5. Right-of-way is shown in Table 1-2. While the project is analyzed as a whole, throughout the analysis, impacts of the individual project components are described where possible. For example, visual impacts are described for both trail users and highway users, impacts related to tree removal are shown for both the auxiliary lanes and the rail trail. Please see Master Response 1 regarding tree removal for additional information. Furthermore, Appendix F contains engineering drawings for both the highway and the rail trail.

**Comment I27-10**

5. The Segment 12 “Optional First Phase” is in reality an Alternative to the Segment 12 component of the Proposed Project, but it does not apply to the Highway 1 component, yet another reason why the two projects should be addressed in separate Environmental Impact Reports.

**Response to Comment I27-10**

Please see response to comment I27-4.

**Comment I27-11**

6. The description of the “Optional First Phase” assumes an Optional Second Phase, which is not included in the Proposed Project and would require its own environmental assessment: the removal of the First Phase trail, rebuilding of the railroad tracks and building the Ultimate Trail beside the tracks. (Draft Environmental Impact Report, Chapter 1, page 11)

**Response to Comment I27-11**

The Optional First Phase assumes the Ultimate Trail Condition, both of which are analyzed as part of the Build Alternative. There is no Optional Second Phase that would require a separate analysis. The commenter is referring to the Ultimate Trail Condition,

which is described in detail in Environmental Impact Report/Environmental Assessment Section 1.3.

**Comment I27-12**

9. The 3.2.4 Biological Resources section (p. 395-396) of the CEQA Evaluation does not address the County's Significant Tree Ordinance (County Code 16.34). Since this is a major component indicative of environmental impacts in an Environmental Impact Report, this is an unacceptable deficiency.

**Response to Comment I27-12**

The County's Significant Tree Ordinance is described in Environmental Impact Report/Environmental Assessment Section 2.1.1. In addition, Environmental Impact Report/Environmental Assessment Section 3.2.4 identifies the number of significant trees that would be removed for each of the project components. Please also see Master Response 1 regarding tree removal.

**Comment I27-13**

10. On page 22 of the Natural Environment Study there is a section called Limitations That May Influence Results ("The biological survey efforts were limited by the lack of access to certain portions of the biological study area"). This is followed by an unsubstantiated conclusion that "these limitations are not expected to have substantially affected the results of this document" (page 24). Since this was a one day survey, with limitations, how can decision-makers or the public have confidence in the the opinion of the author(s) of the Draft Environmental Impact Report?

**Response to Comment I27-13**

Limitations that may influence results are a necessary part of any scientific study and should be disclosed. As stated in the Natural Environmental Study, safety concerns where there is high traffic or steep slopes or lack of access to private property can limit certain areas of a field investigation. However, these areas were investigated by other means (windshield or distant surveys with binoculars). These areas are minimal and were investigated by trained biologists. Many other factors inform a Natural Environment Study, including the most recent species lists provided by the U.S. Fish and Wildlife Service and California Natural Diversity Database.

**Comment I27-14**

- In conclusion, the Draft Environmental Impact Report is insufficient for the following reasons:
- There is a lack of rigorous analysis of Segment 12 of the rail trail.
- There are no reasonable alternatives to the Proposed Project other than the No Build alternative.
- The Biological Survey is limited in scope due to access and does not identify which part is for State Route 1 and which part is for Segment 12.

**Response to Comment I27-14**

Please see responses to comments I27-9 and I27-7 regarding the Segment 12 analysis and reasonable alternatives, respectively. Regarding the biological survey, the biological study area includes the entire area of impact for all project components. Please also see response to comment I27-13.

***Response to Comments Dragan Daich***

**Comment I28-1**

Like to inform your department and fallow-up on comments and concerns that I have raised at public hearings May 04 2023 in Aptos Ca, about impact that will be generated by widening highway 1 south of Rio Delmar Boulevard. As of now no one has reached out to me and it’s of great concern that is not being addressed.

Existing water flow is already eroding my property and aded pavement will provide additional unsustainable erosion and landslide.

Will you please inform me wit whom and wen will I be able to have discussion on subject concern.

Please keep me updated and informed.

**Response to Comment I28-1**

Because this project and the other concurrent or planned projects would be subject to National Pollutant Discharge Elimination System permit requirements and have their own temporary and permanent best management practices, cumulative impacts are expected to be minimal. Additionally, a goal of the project is to maintain the drainage pattern. The proposed drainage facilities would be designed and constructed according

to the Caltrans and Santa Cruz County design guidelines. Stormwater impacts from additional impervious areas would be minimized through the proper implementation of permanent stormwater treatment measures and design pollution prevention best management practices. Portions of the project along State Route 1 within the local jurisdictions' rights-of-way would also be subject to the hydromodification management requirements included in the Central Coast Regional Water Quality Control Board Post-Stormwater Requirements and the Santa Cruz County Design Criteria.

### *Response to Comments Joe Foster*

**Comment I29-1**

I have had the opportunity to review the findings presented in the draft Environmental Impact Report and feel they adequately address the concerns I have about the environmental impact, particularly sound, of this much needed project.

I especially want to call attention to the construction of an 800+ foot sound wall from southbound mile post 9.95-10.1. This sound wall will provide much needed noise abatement for the many residents and wildlife that live throughout the area leading down to the Rio Del Mar Esplanade. Figure 1-3a of the Proposed Project document, clearly outlines the plans for this noise abatement feature and makes it easy to understand where it will be constructed. Appendix G (geometric maps) is a little unclear, but the drawing does show a sound wall on the southbound Aptos Creek Bridge extension.

Thank you for the opportunity to comment on this very important and exciting project for Santa Cruz County.

**Response to Comment I29-1**

Caltrans appreciates the commenter's support for the proposed project.

### *Response to Comments Caroline Frier*

**Comment I30-1**

After attending the public hearing, I would like to comment on the draft Environmental Impact Report. I would like to request that impacts from tree removal be specified beyond this comment from today’s hearing from Zach Siviglia, Project Manager, “to mitigate impact (to trees and environment) as much as possible”. The environmental impact to the land, trees, plants, animals of the project needs to be determined specifically, not in general terms. The protected status of the trees, animals and plants

needs to be considered, addressed and specified in the Environmental Impact Report as well.

**Response to Comment I30-1**

Project impacts on protected species are listed and discussed in Draft Environmental Impact Report/Environmental Assessment Section 2.3.5 ,*Threatened and Endangered Species*, and in the Natural Environment Study. Also, please see Master Response 1 regarding tree removal.

***Response to Comments Kelley Howard***

**Comment I31-1**

I just wanted to voice my thoughts as to public safety. I hope to see Regional Transportation Commission work more strongly with State and County concerning public safety. I hope to see a strong stance and unification between all government agencies that agree the public concerns are important to look into and respond to in a timely manner before more of our children are taken from us.

**Response to Comment I31-1**

Caltrans thanks the commenter for their comment.

***Response to Comments Dennis Stanton***

**Comment I32-1**

Hello, my name is Dennis Stanton and I live at 319 Moosehead Drive, Aptos, California 95003. I'm submitting the following comments in reference to the expansion of highway 1. These comments are in reference to the bridge over Aptos Creek and southbound highway 1.

There needs to be a sound abatement treatment on the bridge over Aptos Creek. The bridge will be widened, resulting in 24 feet closer to the homes. This will definitely increase noise. Sound barriers need to be installed. Since the freeway will be 24 feet closer to the homes. The sound wall of the bridge needs to be extended beyond the bridge past the homes on Moosehead Drive. It is also important to realize that by removing the vegetation, the noise will be increased, since the vegetation does absorb some of the freeway noise.

**Response to Comment I32-1**

The geometric approval drawings included in Draft Environmental Impact Report/Environmental Assessment Appendix G show more design detail along the State Route 1 corridor. Sound wall S89 is shown on these plans beginning near Moosehead Drive and spanning across the south side (ocean side) of the widened Aptos Creek Bridge.

**Comment I32-2**

Due to the wear and tear that will result from the use of Moosehead Drive by vehicles in completing this project, we feel that it is only reasonable that Moosehead Drive be paved at the completion of the project.

**Response to Comment I32-2**

Thank you for your comment. New pavement would be installed where Moosehead Drive is realigned.

**Comment I32-3**

Since the beauty of the natural vegetation is being removed, it is important that the sound walls be aesthetically pleasing.

All of these points, mentioned above, were referenced in the email submitted by Derek Leffers. As I understand it, all of these requests were provided in the documents referenced by Derek. They were approved and recommended.

**Response to Comment I32-3**

The minimization measures depicted in the visual simulations include details such as wall textures and new landscaping of disturbed areas. The aesthetic treatments of structures and specific plant types depicted are representative only. The actual types of treatments, colors, and landscape would be designed in collaboration with the Caltrans' District 5 Landscape Architect. Avoidance, minimization, and/or mitigation measures would be incorporated into the project to avoid and minimize the possibility of visual impacts, including Avoidance Minimization and/or Mitigation Measures VA-1 through VA-18, which can be found in Environmental Impact Report/Environmental Assessment Section 2.1.8.

**Comment I32-4**

Homeowners should be reimbursed for any loss of value of their homes, due to any negative effects of the project. This, I suspect, this will cause home value depreciation. In order to determine the loss of values of the homes, this may require a current assessment and a post assessment.

**Response to Comment I32-4**

Draft Environmental Impact Report/Environmental Assessment Section 2.1.5 analyzes relocations and property acquisition. Caltrans' Title VI Policy Statement is described in Section 2.1.5, which states;

> Owners of private property have federal and state constitutional guarantees that their property will not be taken or damaged for public use unless they first receive just compensation. Just compensation is measured by the “fair market value” of the property to be taken. Where acquisition and relocation are proposed, the provisions of the Uniform Act, as amended, and all applicable regulations would be followed. All real property to be acquired would be appraised to determine its fair market value. An offer of just compensation, not less than the approved appraisal, would be made to each property owner. Each homeowner, renter, or business displaced as a result of the project would be given advance written notice and would be informed of eligibility requirements for relocation assistance and payments.

As stated in the Draft Environmental Impact Report/Environmental Assessment, and as described in the Community Impact Assessment prepared for the project, the project is not anticipated to have impacts related to community character and cohesion. Rather, there would be benefits to neighborhood cohesion with construction of Segment 12 of the Coastal Rail Trail.

**Comment I32-5**

During the on-site meeting that we had on May 31st, 2023, we were told that a study had indicated that there would be no increase of water in the Aptos Creek,due to the expansion of the freeway. I have not been able to find that in the report. I would appreciate it if you would just send that part of the report to me. We were informed that neither detention nor retention would not be required nor recommended. I would really like to have that reference on file, should there be any problems.

**Response to Comment I32-5**

Please refer to the Floodplain Evaluation Report, which is posted on Santa Cruz County Regional Transportation Commission's website: https://sccrtc.org/wp-content/uploads/Highway1AuxLanes_TechStudies/Hwy1AuxLanes_FER-LHS.pdf.

### *Response to Comments Ray Welch*

**Comment I33-1**

I am writing to provide input regarding the Santa Cruz Route 1 Auxiliary Lane Project, Federal Project ID #05-1800-0116.

My property is located at 2611 Estates Drive in Aptos, Assessor's Parcel Number #03915133, and it is adjacent to Hwy 1. My home is approximately 60 feet from the highway and spans 170 feet along the highway. A Noise Abatement Decision Report was conducted and it was determined that my property will be severally impacted by the Route 1 Auxiliary Lane Project with a 74 decibel A Scale noise level. Last year, I was informed by Sarah Christensen that my home does not qualify for sound wall S109 because the impacted receptors (R93) do not generate enough funds to receive approval for a sound wall.

Since then, in preparation for the Auxiliary Lane Project, Caltrans has removed 90%+ of the trees that visually shielded my home from the highway. The removal of the trees has created a direct line of sight to the highway and has caused additional noise, dust, and fumes disturbing the continued use of my backyard. For the above reasons, I would like to request that the Santa Cruz County Regional Transportation Commission grant approval for a reasonable amount of project funds to replant county approved native trees or hedges, directly behind my home/property, that will resolve and restore my home from having a direct line of sight to the highway.

**Response to Comment I33-1**

This comment is regarding a previously approved project, the State Route 1 State Park Drive to Bay Porter Auxiliary Lanes/Bus-on-Shoulder project and is not a comment on the Draft Environmental Impact Report/Environmental Assessment.

### *Response to Comments Nick Arreguy*

**Comment I34-1**

I have good news. We can save the Moosehead Redwoods Grove and Moosehead Drive.

All that is needed is a change in perspective and insight into traffic engineering principals.

There will be little negative impact to the traffic flow by making the change.

Traffic will continue as planned and the bus auxiliary lanes can still work as intended and small business merchants and the Aptos.

There will be no trauma to the residents of Moosehead Drive because their neighborhood will not be uprooted and destroyed.

The two lanes of traffic in each direction will continue with no widening as planned while still benefiting from the upgrades.

The economic prosperity of Aptos will be enhanced by saving these magnificent redwoods at the very entryway to Aptos.

**Response to Comment I34-1**

Please see Master Response 1 regarding tree removal.

**Comment I34-2**

What a cultural resource the redwood trees are between State Park Drive and Rio Del Mar between the two trestles especially from Spreckels and Aptos creek to the second trestle towards Rio Del Mar. This magnificent redwood grove is the introduction and is at the entryway to Aptos. Carmel in the 1800's had to plant the Monterey Pines for which it is synonymous and famous for. But Aptos has these beautiful redwood trees that were a part of the extant forest that now in Nisene Marks State Park.

**Response to Comment I34-2**

Please see Master Response 1 regarding tree removal. Please see the Regulatory Setting in Draft Environmental Impact Report/Environmental Assessment Section 2.1.9, *Cultural Resources*, for further discussion of what constitutes a cultural resource.

**Comment I34-3**

The Golden Gate and Bay Bridges introduce San Francisco to the world; what a sight the glimmering bay is to behold, what curb appeal. Imagine what San Francisco would be like without the bay. Aptos' new trestles will serve to introduce everyone to the Aptos area. Imagine the ugly retaining walls and sound walls with graded hillsides residents, commuters, and visitors will see if the project cuts those trees. Imagine the approach to Freedom Blvd. from the south and the approach from the north. Now imagine the curb appeal of the redwood grove between the two trestles. What a remarkable and beautiful sight to see.If we allow these Aptos gateway redwoods to perish, Aptos will be known as just another city you drive by on freeway on the way to Santa Cruz or Monterey.

Neither one of these cities have both the redwoods and sea. Once these trees are gone, they will never return again.

**Response to Comment I34-3**

Please see Master Response 1 regarding tree removal.

**Comment I34-4**

The Moosehead Redwoods can be the signature of Aptos on the freeway to pique the interest of vacationers and commuters driving by in what Aptos is famous for both the redwoods and the sea.

There at the side of Aptos' scenic highway, these old growth-like redwoods provide a taste of what is to be found in the redwoods of Nisene Marks State Park. The trees themselves advertise to passersby the Aptos Redwoods and Sea.

What would San Francisco be without its bay between its two bridges; what would Aptos be without its redwood grove between its two signature bridges? Parts of the rest of the freeway will look flat, undramatic, and unappealing in comparison to the dramatic Aptos redwood grove beside the freeway.

**Response to Comment I34-4**

Please see Master Response 1 regarding tree removal.

**Comment I34-5**

In fact, there will still be redwoods on both sides, since the northbound side will not have to be impacted.

Why go inland to Scott's Valley and Felton and Highway 9 area when the Redwoods and the sea can all be enjoyed in a single day right here in Aptos in what is to become the Redwoods to the Sea Trail.

Start your day hiking in the Nisene Marks Redwoods state park next to the stream and in the afternoon walk down to the beach to surf, enjoy the beach and watch the sun set.

The right campaign can boost businesses in the Rio Del Mar beach area, such as the restaurants and accommodations. What an opportunity for the business interests to capitalize on and promote. The Moosehead Redwood Grove can help guarantee the success of the small businesses and other enterprises in Aptos.

The Aptos Village might bill itself as the Entryway to the Redwoods and Sea. Dining and shopping. The merchants along Soquel Drive can benefit as well as people walk the Redwoods to the Sea trail and browse, window shop, buy, dine and fix their cars and coiffeurs on their way to and froe on the trail. The redwood grove alongside of the freeway will distinguish from Santa Cruz the Surf City.

Long term positive economic and social impact will accrue.

Costs for building the freeway enhancements should be expected to rise. Cost overruns and delays can be projected. The purchase power of the original allocated budget will continue to dwindle. By not implementing the extensive modifications for the auxiliary lanes in-between the two trestles, tremendous cost savings are available to the public with no degradation in the expected highway flow.

Meeting construction schedules will be enhanced. The busses will have plenty of room to adequately merge in and out of the traffic lanes and would not impact the traffic. The traffic itself would have all the benefits of the freeway enhancements along the entire breadth of the freeway with beneficial impact on traffic flow between the trestles.

Ten years out into the future, the rail, walkway, and bikeway will all be there. All necessary improvements will all be installed. How can anyone contemplate when approaching the precipice of success, the cutting down and destroying of the most iconic symbol of Aptos right on the side of the road between the two Aptos interchanges? It makes no sense at all.

Aptos merchants and boosters please consider this alternative rather than to let perish the redwood grove that which has taken a millennium to gift to Aptos.

**Response to Comment I34-5**

Please see Master Response 1 regarding tree removal.

**Comment I34-6**

My suggestion:

The US Department of Transportation, Federal Highway Administration has written a Freeway Management Handbook covering the basics of freeway design. In Chapter 5 - Roadway Improvements to enhance safety and freeway performance, the following is found in chapter 5.4.1. Auxiliary Lanes:

- When interchanges are widely spaced, it might not be practical or necessary to extend the auxiliary lane from one interchange to the next. In such cases, the auxiliary lane originating at a two-lane entrance should be carried along the freeway for an effective distance beyond the merging point. An auxiliary lane introduced for a two-lane exit should be carried along the freeway for an effective distance in advance for the exit.

There will be negligible impact and, in our case, would not be practical or necessary to extend from one interchange to the next. Please implement ramp metering. You can do it. It can be done!

Contact your representatives today.

**Response to Comment I34-6**

The State Route 1 corridor has a prioritization list for improvements. After pedestrian and bicycle crossings and auxiliary lanes, the next prioritization is interchange improvements that would include ramp metering. One of the purposes of this project is to construct auxiliary lanes and limited improvements to the ramps. Since future improvements propose to reconstruct the interchanges and install ramp meters at all on-ramps, to avoid throw-away costs, this project does not propose any ramp metering improvements.

Ramp metering was studied in the Transportation System Management Alternative in the original Traffic Operations Analysis Report for State Route 1 improvements. The ability of ramp metering to manage mainline freeway traffic flows and on-ramp volumes entering the freeway is limited by the amount of available capacity for vehicle storage on the on-ramps and on the adjacent surface streets approaching the on-ramps. Redesign of the ramps would only partially solve the storage capacity problem. Allowing on-ramp traffic to queue behind the metering lights to the extent that it causes congestion on the surface streets in the area of the interchanges is not desirable and most likely not acceptable to the local communities. As a result, metering rates would need to be kept higher than is desirable for improved freeway operations. Metering in combination with auxiliary lanes would improve freeway operations, which allow for higher metering rates. Please also see Master Response 1 regarding tree removal.

**Comment I34-7**

email confirmation of receipt of suggestion.
easy access to comments and responses on the website.
Otherwise how can anyone be certain their comments were registered and responded

to.
easy access to the dimensions of the trees as taken by the arborists.
Link to handbook:
https://ops.fhwa.dot.gov/freewaymgmt/publications/frwy_mgmt_handbook/chapter5.htm

**Response to Comment I34-7**

After comments are received from the public and reviewing agencies, Caltrans prepares a Final Environmental Impact Report/Environmental Assessment in which responses to all public comments are included. This final environmental document will be posted on the project website.

***Response to Comments Jerry Canella***

**Comment I35-1**

As directed these are some of our main concerns on the proposed Highway 1 work and it's impact on

Moosehead Drive in Aptos.

1. Pacific Gas & Electric Utility Work:
    a. Loss of power due to pole changes.
    b. Pacific Gas & Electric Utility vehicles impact on our privately maintained road.
    c. Who will be responsible for the repair to the roadway as the current road will not withstand the heavy equipment required.

**Response to Comment I35-1**

The design team will continue to coordinate with Pacific Gas & Electric. Any conflicting utilities would be relocated and if relocations are necessary, Pacific Gas & Electric would coordinate the cutover work from old to new utility with affected property owners. New pavement would be installed where Moosehead Drive is realigned.

**Comment I35-2**

2. Soquel Creek Water District Work.
    a. Current Temporary Main which was run from Carrera Circle to 5 homeowners at the top of Moosehead Drive.

1. Replacement of temporary to permanent piping and the impact on the residential homes and roadway.

    a. Has Soquel Creek Water District been consulted and will they be making the main line upgrade at the same time as the work on the road.

    b. Who will be responsible for the repair to the roadway as the current road will not withstand the heavy equipment required.

    c. Placement of Fire Hydrant placement on Moosehead Drive.

    d. Water interruption during construction.

**Response to Comment I35-2**

The design team has coordinated with all utility owners in the project area during the environmental phase of the project. This would continue into the final design phase. Any conflicting utilities would be identified, and the design team would coordinate any necessary relocations with the owner of the utility. New pavement would be installed where Moosehead Drive is realigned. The project would not involve upgrading from a temporary to permanent water system between Carrera Circle and the five property owners at the top of Moosehead Drive unless the temporary water system falls within the limits of the realignment of Moosehead Drive. New pavement would be installed where Moosehead Drive is realigned.

**Comment I35-3**

3. Will Santa Cruz County be responsible for the maintenance of the new road area since Caltrans will be relinquishing control to Santa Cruz County

4. Drainage on the new roadway of Moosehead Drive

5. Retaining walls on Moosehead Drive and the Project Overview Section A-A does not show the existing elevation and proposed elevation

**Response to Comment I35-3**

The commenter is correct that Santa Cruz County would be responsible for maintenance of the new road. New/modified drainage systems along Moosehead Drive would be evaluated and implemented, as needed, as part of the project improvements. The modified drainage along Moosehead Drive would be collected and discharged into existing Santa Cruz County drainage systems. The maximum height of retaining walls is

provided in the Environmental Impact Report/Environmental Assessment Section 1.3, *Project Description*.

***Response to Comments Brad and Annette Clausen***

**Comment I36-1**

I first want to say that as a small business owner in Santa Cruz County, I'm in total support of the Rail Trail. This is the most exciting thing to happen to Santa Cruz County in many years! My wife and I own Seacliff Center Recreational Vehicle Park in Aptos, and The Rail Trail will go right by to my park. We have been the owners for the past 24 years. We have been trying to work with the County to resolve a major drainage problem that affects many of the properties in the Seacliff area. There is a drainage pipe that carries the drain water for 140 plus acres above my property. The drainpipe is a 60-inch pipe that has totally failed and is destroying 4 properties. I've included photos of the damage to my property. We have had several meetings with Matt from planning and Peter from administrative analyst for the county. The County has told us they have no funds to make a repair like this and that we need to find another way to fix the problem. My biggest concern is that with additional pavement from the Highway 1 project and The Rail Trail, the increased drainage water will destroy what is left of the downstream properties. We have come up with a better solution for the drainage to allow more development of the Seacliff area, and the future development of the Par 3 property as well as Poor Clare's property. There is a hotel and other plans for other projects in the Seacliff area but none of them will be done unless the drainage can be resolved. We even have plans for the renovation of our property, but this can't be done until the county’s drainage is addressed.

I'm the owner of the Broadway Street and I'm willing to have the drainage moved to my street and donate the street to the county if the drainage is moved there. With all the upstream construction over the past several years, the water flow has increased substantially.

We love Aptos and the Seacliff area, and this is a perfect opportunity to move some of the funds from the Highway One and Rail Trail projects to fix a drainage problem that has been plaguing the Aptos area for many years. PLEASE HELP!!

**Response to Comment I36-1**

Because the project and the other concurrent or planned projects would be subject to National Pollutant Discharge Elimination System permit requirements and have their own temporary and permanent best management practices, the cumulative impacts are

expected to be minimal. Additionally, one goal of the project is to maintain the drainage pattern. The proposed drainage facilities would be designed and constructed according to the Caltrans and Santa Cruz County design guidelines. Stormwater impacts from additional impervious areas would be minimized through the proper implementation of permanent stormwater treatment measures and design pollution prevention best management practices. Portions of the project along State Route 1 within the local jurisdictions' right-of-way would also be subject to the hydromodification management requirements included in the Central Coast Regional Water Quality Control Board Post-Stormwater Requirements and the Santa Cruz County Design Criteria.

### *Response to Comments Temujin Kuechle*

**Comment I37-1**

Hi!

I finally found this link in regards to submitting comments about the ongoing Rial Trail project in Santa Cruz County.

I think it’s very important for the residents of and visitors to Santa Cruz County to have as many ways to get around as possible. This is why it is crucial to have differ t modes of public transportation available for people to use to get around Santa Cruz County.

The current rail trail project is supported by about 75% of voting country residents and this project has already received state and federal grants to continue with creating the Ultimate Rail and trail project for Santa Cruz County. A light rail system will be a very helpful addition to public Transit options for both residents and visitors alike. We look forward to your continued support on this project.

**Response to Comment I37-1**

Caltrans appreciates the commenter's support for the Coastal Rail Trail Segment 12.

### *Response to Comments Derek Leffers*

**Comment I38-1**

After speaking with both Sarah and Zach on the southbound sound wall it is my understanding that sound walls follow Federal regulations and guidelines. It appears that the 885 ft. long and 14 ft. high sound wall across the Aptos creek bridge is both reasonable and feasible and therefor required per federal regulation. I would like this comment documented for legal purposes because if this soundwall is not constructed or

modified per the specs specified in these reports, we can expect several residents requesting large sum compensation for property value loss or legal reconciliation.

**Response to Comment I38-1**

Comment noted.

***Response to Comments Johanna Lighthill***

**Comment I39-1**

Thank you for considering my comments related to the Highway 1 State Park to Freedom Blvd Aux lanes, Bus-onshoulder and Coastal Rail Trail Segment 12:

Environmental impacts associated with SR1 Aux lane project are distinctly different from those associated with Segment 12 Trail project and would best be discussed in two separate Environmental Impact Reports. My comments relate to highway and trail projects separately.

**Response to Comment I39-1**

The project, which is analyzed as a whole, contains several components, including the auxiliary lanes, bus-on-shoulder, and Coastal Rail Trail Segment 12. Where possible, impacts specific to the components are also shown to provide a more detailed analysis. Commenters may submit comments on the whole project or a specific component.

**Comment I39-2**

Transportation-Trail

This Environmental Impact Report explains that the Santa Cruz Branch Rail Line is an active rail line, but does not address potential user conflicts between trail users and freight operation. The  Monterey Bay Sanctuary Scenic Trail Final Environmental Impact Report addresses this impact: “Impact T-4 Potential conflicts between trail users and railroad traffic could occur at any of the trail railway crossings. These conflicts could result in hazardous conditions for both trail users and rail operators and passengers.” Potential conflicts of trail users with auto or rail traffic at Aptos Creek Road, Parade Street and Trout Gulch Road are not discussed.

**Response to Comment I39-2**

The Monterey Bay Sanctuary Scenic Trail Final Environmental Impact Report states that conflicts between trail users and railroad traffic would be less than significant with

implementation of mitigation that included installing caution signs, signs to warn of agricultural vehicles, and by ensuring right-of-way is prioritized to the facility with the higher volume of traffic, and shall be determined by Regional Transportation Commission in consultation with private property owners where appropriate. The commenter references existing rail crossings at Aptos Creek Road, Parade Street, and Trout Gulch Road. The trail would be parallel and would have its own at-grade crossings. Perpendicular/crossings exist today and improvements would be part of the project. Any pedestrian or bicycle crossing of a public roadway is designed in accordance with current applicable standards, and conflicts are not anticipated.

**Comment I39-3**

Land Use Planning-Trail

This Environmental Impact Report states "…the project would not physically divide an established community." "Both the highway and rail line are linear features that already divide the community." 3.2.11 Land Use Planning, Chapter 3, p20

Despite having no improvements, the Segment 12 corridor serves as an existing bike and pedestrian transportation corridor. Fencing and retaining walls included with the proposed project would deny existing access by neighbors near and adjacent to the trail. Those who currently access the trail through gates, streets, parking lots will be denied access and will be impacted by extensive detours to locations that include heavy auto traffic: RDM Boulevard, Aptos Village and State Park Drive (Photo: existing trail access near Tennis Club of RDM.

**Response to Comment I39-3**

The Coastal Rail Trail Segment 12 component of the project entails construction of a paved bicycle and pedestrian shared-use trail where there currently is none. The dedicated trail would improve accessibility throughout the corridor, as well as provide connectivity along the larger  Monterey Bay Sanctuary Scenic Trail, which would improve accessibility throughout the region. As stated in the Environmental Impact Report/Environmental Assessment Section 1.3, *Project Description*, fences may be used to separate the trail from the railroad, not to block current access. Furthermore, current at-grade crossings would be reconstructed.

**Comment I39-4**

Noise-SR1

Please expand noise analyses to include areas surrounding State Route 1 crossing at Aptos Creek, including the riparian corridor that includes 3 converging creeks, wildlife habitat and crossing, and residents living in RDM flats and on surrounding hillsides.

Consider how increased noise impacts wildlife. “Several lines of evidence suggest that traffic noise is a major factor explaining declines in populations of wildlife near roads.” https://royalsocietypublishing.org/doi/10.1098/rspb.2013.2290

Please explore alternatives to sound walls:

“Walls are not a very effective solution,” said Robert Bernhard, vice president for research at the University of Notre Dame and an expert on noise control. “At highway speeds, the predominant sound for cars is that of tire-pavement.” https://undark.org/2017/12/27/highway-noise-barrier-science/

Quiet Pavement

As The Atlantic has reported – ” Arizona, California, and other states have begun experimenting with something called quiet pavement, a rubberized asphalt or smooth concrete mix designed to lessen sound. In Phoenix, it cut traffic noise by 6 to 12 decibels, according to Robert Bernhard, the vice president for research at the University of Notre Dame.”https://resonics.co.uk/7-ways-future-quiet-soundproof-technology/

Noise Barriers

Sound absorptive, solar https://www.prnewswire.com/news-releases/sustainable-roads-of-the-futurecanada-is-home-to-worlds-first-sound-absorptive-solar-highway-noise-barrier-301565164.html

**Response to Comment I39-4**

The Noise Study Report and Noise Abatement Decision Report follow the Caltrans protocols and methodology for traffic noise analysis. According to the Caltrans Traffic Noise Protocol, "NEPA noise mitigation above and beyond abatement required under 23 of Federal Regulations 772 rarely would be considered or required." Other noise mitigation could include visual treatments, which are included in Environmental Impact Report/Environmental Assessment Section 2.1.8. As stated in Draft Environmental Impact Report/Environmental Assessment Section 2.2.7, no sensitive receptors would

experience an increase in noise that exceeds 12 A-weighted decibels or more over. Regarding noise impacts on wildlife, the project area is in an existing busy transportation corridor that experiences high levels of traffic congestion particularly during peak hours. Noise impacts on wildlife are expected to remain similar to existing conditions.

**Comment I39-5**

Draft Geometric Approval Drawings-Trail

Drawings on Regional Transportation Commission website include “replace existing RR” and differ from drawings displayed at public hearing (RTC meeting 6/10/23). Environmental Impact Report does not discuss replacement of rail as part of the Ultimate trail, nor impacts associated with it. Can you please clarify?

**Response to Comment I39-5**

Replacement of the rail would occur under the Optional First Phase. As stated in Draft Environmental Impact Report/Environmental Assessment page 13, if all or a portion of the Optional First Phase of the trail is implemented, and railroad operations are reactivated, the trail along the existing railroad track alignment would need to be removed, and the Ultimate Trail configuration would be built as described above. The railroad tracks would be reinstalled in their approximate existing location and the at-grade railroad crossings of Trout Gulch Road, Parade Street, and Aptos Creek Drive would be reconstructed. Rail removal is analyzed in the Environmental Impact Report/Environmental Assessment. For example, the historical implications of removing the rail are analyzed in Sections 3.2.5 and Section 2.4, and impacts related to hazardous materials are described in Section 3.2.9. The right-of-way diagrams shown in Appendix F and the geometric approval drawings shown in Appendix G are current, and are also posted on the Santa Cruz County Regional Transportation Commission website and can be found at the following location: State Park Dr-Freedom Blvd Aux Lanes, BOS, & Coastal (sccrtc.org).

***Response to Comments Debie and Brad Macdonald***

**Comment I40-1**

On behalf of ourselves and numerous neighbors we are opposed to the proposed coastal redwood (Sequoia sempervirens) and oak tree cutting along Moosehead Drive and the widening of Moosehead Drive, which lies between the State Park Drive and Rio Del Mar exits along Highway 1 in Aptos. We have learned that there are plans to cut 25-

35 significant trees along Moosehead Drive in order to move and then widen the roadway from its existing nine feet to 20 feet.

**Response to Comment I40-1**

Please see Master Response 1 regarding tree removal.

**Comment I40-2**

Numerous significant trees have been identified along Moosehead Drive (56 redwood Santa Cruz County Significant Trees were identified in the Environmental Impact Report/Environmental Assessment by the Santa Cruz County Regional Transportation Commission in the Moosehead redwood grove extending to the southmost trestle. Many of these are likely 4+ feet in diameter); additionally, many of these trees occur in sensitive habitat (Santa Cruz County Significant Tree definition as stated in Appendix L, pages 323-324 of the Santa Cruz County Regional Transportation Commission's 'Tree Survey Memorandum for the Highway 1 Auxiliary Lanes Project Freedom Boulevard to State Park Drive' document; county code 16.34.030 (A) for significant trees and county code 16.32.040 (10) for sensitive habitat).We understand that Caltrans plans to relinquish their right-of-way on a portion of Moosehead Drive to the County of Santa Cruz, who then plan to cut these significant trees.

**Response to Comment I40-2**

Please see Master Response 1 regarding tree removal.

**Comment I40-3**

Additionally, our understanding is that there has never been a Historic Property Survey Report done by Caltrans for Moosehead Drive, which is a significant cultural resource used by residents for more than 100 years. It's a single lane roadway – which ensures cars drive slowly – that is beautiful to walk along because of the numerous coastal redwoods that grow there. For many years we have observed wildlife in this area – ranging from Great Horned Owls, barn owls, deer, coyote, raccoon, skunk, fox, redtailed hawks, red-shouldered hawks, and numerous other bird species. We believe a Historic Property Survey Report should be required before any decisions are made regarding tree cutting and road widening on Moosehead Drive.

**Response to Comment I40-3**

A Historic Property Survey Report was prepared for the project. The Area of Potential Effects includes the entire project impact area, including Moosehead Drive. As stated in

the Historic Property Survey Report, the Area of Potential Effects includes the project footprint plus a 50-foot buffer. No findings were made related to resources in the area of Moosehead Drive. The records search identified nine cultural resources within the rail trail corridor. One resource is a precontact archaeological site with a minor historic-era component, seven are built environment resources, and one multicomponent precontact and historic-era complex is directly adjacent to the Area of Potential Effects. The records search identified three historic properties or previously recorded historical resources within the Area of Potential Effects, while nine historic-period properties have been determined ineligible through survey evaluation.

Please see the Regulatory Setting in Draft Environmental Impact Report/Environmental Assessment Section 2.1.9, *Cultural Resources,* for further discussion of what constitutes a cultural resource.

**Comment I40-4**

We suggest minimal work along Moosehead Drive – only replacing the lower section below the freeway level and keeping the road above the level of the freeway alone. This would:

- Save time and money,
- Preserve numerous significant trees on both sides of the roadway,
- Maintain the natural buffer along our busy highway, and
- Protect sensitive habitat.

**Response to Comment I40-4**

The segment of Moosehead Drive down level with the State Route 1 is currently within the existing Caltrans right-of-way. The modification of Moosehead Drive is required to meet Santa Cruz County standards for roadway design and fire access and must maintain access to the existing unimproved developable parcels that front Moosehead Drive. The existing narrow roadway does not meet the current Santa Cruz County standards. When the freeway is widened adjacent to Moosehead Drive, existing Moosehead Drive needs to be realigned. However, because there is a steep adjacent hillside and access needs to be maintained to the existing developable parcels, Moosehead Drive needs to be raised up as it pushes further into the hillside. Please see Master Response 1 regarding tree removal.

**Comment I40-5**

We have lived on Shoreview Drive for 27 years and my husband grew up on Shoreview Drive; many of our neighbors (including several who have also signed this letter) have lived on Shoreview Drive for decades. Shoreview Drive is located above Moosehead and many of these trees are visible from the end of our street. Part of the charm of Aptos are the coastal redwoods in and around our town, along the highway, and Nisene Marks State Park. Removing dozens of these significant trees along Highway 1 not only removes that charm but also removes natural buffers and creates a “sterile” look with sound and retaining walls lining the highway.

**Response to Comment I40-5**

The visual analysis determined that impacts from the project would be moderate. However, the impact was determined to be significant and unavoidable under CEQA due to the length of time it takes vegetation to regrow. As stated in Environmental Impact Report/Environmental Assessment Section 2.1.8, the height of the remaining vegetation behind the new sound walls would allow some “borrowed landscape” effect, and the use of vines and shrub plantings along the walls and revegetating disturbed areas could soften the appearance of the walls and areas affected by vegetation removal. The overall visual quality and character, with minimization measures, are anticipated to remain moderate-high, with moderate-high vividness, intactness, and moderate unity. Avoidance, minimization, and/or mitigation measures Avoidance, Minimization and/or Mitigation Measures VA-1 through VA-18 would be incorporated into the project to reduce visual impacts, but not to a level below significance. Please also see Master Response 1 regarding tree removal.

**Comment I40-6**

Moosehead Drive and the surrounding area going up the hillside toward Shoreview Drive is an amazingly beautiful habitat, an ecosystem that thrives amidst housing and a highway. Many of redwoods are hundreds of years old and are candelabra-type redwoods (which inspired the road name). Moosehead Drive also acts as a wildlife corridor connector from Aptos and Valencia Creeks. Additionally, the forest filters rainwater and cleanses it during the infiltration process before reaching salamander habitat on the northbound side of the freeway. If the forest is removed 1) the wildlife corridor becomes either fragmented or non-existent and 2) rainwater becomes stormwater runoff due to increased impermeable surfaces – thereby decreasing infiltration and threatening the salamander habitat with road pollutants. The

environmental impacts from road widening and cutting of 25-35 significant trees would be devastating and irreversible.

**Response to Comment I40-6**

As discussed in Environmental Impact Report/Environmental Assessment Section 2.3.1, *Natural Communities*, project activities could result in temporary and/or permanent impacts on aquatic and riparian habitats along Aptos and Valencia Creeks. Construction activities involving in-water work and dewatering could result in temporary alterations to in-channel conditions within Aptos and Valencia Creeks and adjacent channel banks. To avoid and minimize the impacts of potential erosion and sedimentation, implementation of avoidance and minimization measures AMMBIO-1 through AMM-BIO-23 and Mitigation Measures BIO-17, BIO-22, and BIO-24 identified in Environmental Impact Report/Environmental Assessment Section 2.3.1, *Natural Communities*, and implementation of best management practices would ensure the project would not interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors or impede the use of native wildlife nursery sites within the biological study area. Please also see Master Response 1 regarding tree removal.

**Comment I40-7**

Please help to protect these redwoods and make the most cost-effective choice that also preserves natural buffers by:

- Completing a Historic Property Survey Report,
- Not relinquishing the Caltrans right-of-way to the County of Santa Cruz,
- Not realigning/moving Moosehead Drive 40 feet into a steep hillside,
- Not widening Moosehead Drive from nine feet to 20 feet,
- Not cutting 25-35 significant trees.

**Response to Comment I40-7**

Please see responses to comments I37-1 through I-37-6. The modification of Moosehead Drive is required to meet Santa Cruz County standards for roadway design and fire access and maintain access to the existing unimproved developable parcels that front Moosehead Drive. The existing narrow roadway does not meet the current Santa Cruz County standards. When the freeway is widened adjacent to Moosehead Drive, existing Moosehead Drive needs to be realigned. However, because there is a steep adjacent hillside and access needs to be maintained to the existing developable

parcels, Moosehead Drive needs to be raised up as it pushes further into the hillside. Please see Master Response 1 regarding tree removal.

**Comment I40-8**

Additionally, the Environmental Impact Report should address the following:

- Using metered ramps on the highway as a congestion reducing strategy,
- Considering a movable median barrier (like on the Golden Gate Bridge) to reduce northbound morning congestion and southbound evening congestion on workdays,
- Salamander studies on the northbound side of the highway,
- Stormwater runoff issues if the forest were to be removed.

**Response to Comment I40-8**

A movable median concrete barrier can be viable on some freeway corridors where there are no obstructions in the center median. Along State Route 1, there are several columns for bridges that are a constraint to a movable barrier system. A movable barrier system also would be expensive to install, would require wide areas at each end of the movable barrier system to park the vehicles that would shift the barrier, and would have ongoing annual maintenance costs for workers and equipment.

The State Route 1 corridor has a prioritization list for improvements. After pedestrian and bicycle crossings and auxiliary lanes, the next prioritization is interchange improvements that would include ramp metering. The purpose of this project is to construct auxiliary lanes and limited improvements to the ramps. Since future improvements propose to reconstruct the interchanges and install ramp meters at all on-ramps, to avoid throw-away costs, this project does not propose any ramp-metering improvements.

Ramp metering was studied in the Transportation System Management Alternative in the original Traffic Operations Analysis Report for State Route 1 improvements. The ability of ramp metering to manage mainline freeway traffic flows and on-ramp volumes entering the freeway is limited by the amount of available capacity for vehicle storage on the on-ramps and on the adjacent surface streets approaching the on-ramps. Redesign of the ramps would only partially solve the storage capacity problem. Allowing on-ramp traffic to queue behind the metering lights to the extent that it causes congestion on the surface streets in the area of the interchanges is not desirable and most likely not acceptable to the local communities. As a result, metering rates would need to be kept higher than what is desirable for improved freeway operations. Metering in combination

with auxiliary lanes would improve freeway operations, which allow higher metering rates.

Because this project and the other concurrent or planned projects would be subject to National Pollutant Discharge Elimination System permit requirements and have their own temporary and permanent best management practices, the cumulative impacts are expected to be minimal. Additionally, the plan of the project is to maintain the drainage pattern. The proposed drainage facilities will be designed and constructed according to the Caltrans and Santa Cruz County design guidelines. Stormwater impacts from additional impervious areas would be minimized through the proper implementation of permanent stormwater treatment measures and design pollution prevention best management practices. Portions of the project along State Route 1 within the local jurisdictions' right-of-way would also be subject to the hydromodification management requirements included in the Central Coast Regional Water Quality Control Board Post-Stormwater Requirements and the Santa Cruz County Design Criteria. The project is not anticipated to have any impact on salamanders or salamander habitat, as described in Environmental Impact Report/Environmental Assessment Section 2.3.5.

### *Response to Comments Becky Steinbruner*

**Comment I41-1**

The Rail Trail, as planned would remove roughly 50% of the parking area in front of the historic Bayview Hotel. This taking would alter the historic context of the Hotel, because Jose Arano built the Anchor Hotel (now the Bayview Hotel) so as to be near the railroad passenger station that existed nearby. The Bayview Hotel is on the National Historic Registry as National Register #92000259.

**Response to Comment I41-1**

The parcel in question, including the parking area, is owned in fee by Santa Cruz County Regional Transportation Commission.

The Bayview Hotel was also analyzed as a cultural/historic resource in Environmental Impact Report/Environmental Assessment Section 2.1.9. The assertion that the historic context of the Bay View Hotel would be altered by the project is not accurate. As described in Environmental Impact Report/Environmental Assessment Sections 2.1.9 and Section 3.2.5, a survey of historic resources was conducted for the project and the potential for the project to affect historic properties, including the Bay View Hotel, were analyzed.

The National Register of Historic Places guidance lists specific adverse effect types that have the potential to result in an adverse effect on a historic property. Project elements, including the multi-use path and railroad were analyzed to determine if these would adversely affect the historic character and setting of the hotel. While the presence of the railroad is an important element of the Bay View Hotel's original historic setting dating to its period of significance because the building was moved in 1946, after the period of significance, the resource's relationship to the historic setting has been severed. Therefore, the construction of Coastal Rail Trail Segment 12, including both the interim and ultimate trail configurations, does not have the potential to adversely affect the Bay View Hotel.

**Comment I41-2**

The deed makes it clear that no structure can be built on the Hotel property without written consent of the owner. Although the Right-of-Way Maps provided in the Draft Environmental Impact Report/Environmental Assessment show the Santa Cruz County Regional Transportation Commission will need to acquire the property in front of the Bayview Hotel and adjacent Trout Gulch Crossing commercial property, Mr. Mendez and Ms. Christensen recently informed the owner of the Bayview Hotel, Ms. Cristina Locke, during a meeting at which I attended, that the Santa Cruz County Regional Transportation Commission owns the property as part of the railroad line.

This is not accurate.

The altered map that Mr. Mendez and Ms. Christensen had removed any need for a right-of-way acquisition on the Bayview Hotel property, as the contiguous line of proposed right-of-way acquisition no longer reflected the true property boundaries of the private rail crossing that is shared by Ms. Locke and Ms. Laurie Negro, who owns the Trout Gulch Crossing property. The 1877 agreement between Mr. Jose Arano and the Santa Cruz Railroad described this crossing; the crossing property was split much later when the Trout Crossing commercial property sale was made. The right-of-way remains the same for the two properties relative to the railroad line.

**Response to Comment I41-2**

First American Title Insurance Company's report indicates that Union Pacific Railroad owned the parcel referred to in this comment with fee simple interest, and the Santa Cruz County Regional Transportation Commission acquired the property interests that Union Pacific Railroad owned.

**Comment I41-3**

The commercial value of the Bayview Hotel will be significantly and adversely affected. The Conditional Use Permit for the Hotel restricts special events, such as weddings, to no more than 50 guests, due to limited parking available. The Segment 12 Rail Trail will reduce the existing parking in front of the Hotel by 50%, thereby removing any real ability of the Hotel owner to host lucrative special events in the future.

**Response to Comment I41-3**

This parcel, including the parking area, is owned in fee by Santa Cruz County Regional Transportation Commission. As stated in Draft Environmental Impact Report/Environmental Assessment Section 2.1.4, construction of Coastal Rail Trail Segment 12 would improve bicycle and pedestrian access for residents and businesses in Aptos Village. It is anticipated that the trail would be used primarily by local residents for transportation and recreation, and that most would bike or walk from their residence. In terms of parking, there is a parking lot with 27 spaces at Aptos Village County Park, and informal and on-street parking at various locations (e.g., throughout the commercial area along Soquel Drive, Parade Street, and residential streets).

**Comment I41-4**

I do not feel it is in the best interest of preserving the important historic and cultural resources of Santa Cruz County to take the land in front of the Bayview Hotel for this Project as it is proposed. I feel that reducing the width of the Rail Trail as it traverses Aptos Village is reasonable because Soquel Drive has a bike lane on both eastbound and westbound lanes and offers cyclists that option with traffic lights for safety at the intersections.

**Response to Comment I41-4**

Moving the trail closer to the rail for the trail route across the frontage of the Bayview Hotel is constrained by the existing rail crossing signals for the rail crossing on Trout Gulch Road at the Soquel Drive intersection. The new trail crossing at Trout Gulch Road would be required to cross on the northeast side of the rail crossing signals, so the trail would need to be routed accordingly. The trail cannot cross Trout Gulch Road between the rail crossing signals and the rail.

The Coastal Rail Trail segments including Segment 12 through the Town of Aptos are designed as multi-use paths per the guidelines of the Monterey Bay Sanctuary Scenic Trail Master Plan. The preferred paved width of the trail is 12 feet, while 10 feet can be

used in constrained locations. However, reducing the paved width of the trail across the frontage of the Bayview Hotel from 12 feet to 10 feet would still affect the existing parking area.

**Comment I41-5**

I feel that constructing only a sidewalk adjacent to the railroad tracks, with a width of four feet (4') would provide adequate space for pedestrians and would be in keeping with historic context of the Bayview Hotel property as well as the adjacent Trout Gulch Crossing property. It would require less taking of land for right-of-way, if any at all, and would better serve the real needs of the public and area businesses.

**Response to Comment I41-5**

The Coastal Rail-Trail segments are multi-use paths for use by pedestrians and bicyclists. Providing only a sidewalk would serve pedestrians but not bicyclists and would not be consistent with the other segments of the trail.

**Comment I41-6**

Therefore, I protest the current proposed 14'-16'-wide Rail Trail in Aptos Village because it would significantly and adversely affect the historic character of the Village properties, especially the Bayview Hotel and Trout Gulch Crossing, would adversely affect important cultural and historic resources of the County, and would signficantly and adversely impact the commercial value of the historic properties such that owners could not operate their businesses and thrive economically to serve the public.

**Response to Comment I41-6**

Moving the trail closer to the rail for the trail route across the frontage of the Bayview Hotel is constrained by the existing rail crossing signals for the rail crossing on Trout Gulch Road at the Soquel Drive intersection. The new trail crossing Trout Gulch Road would be required to cross on the northeast side of the rail crossing signals so the trail would need to be routed accordingly. The trail cannot cross Trout Gulch Road between the rail crossing signals and the rail.

The Coastal Rail-Trail segments including Segment 12 through the Town of Aptos are designed as multi-use paths per the guidelines of the  Monterey Bay Sanctuary Scenic Trail Master Plan. The preferred paved width of the trail is 12 feet, while 10 feet can be used in constrained locations. However, reducing the paved width of the trail across the frontage of the Bayview Hotel from 12 feet to 10 feet would still affect the existing parking area.

**Comment I41-7**

Please add reducing the Rail Trail through Aptos Village to direct bicycle traffic to Soquel Drive at Trout Gulch Road and Aptos Creek Road, both of which are signalized for pedestrian and bicycle traffic, and to construct a sidewalk only in the aforementioned area as an Project Alternative and take no land for ROW from the area property owners. [Email chain attached includes back and forth from commenter and Regional Transportation Commission]

**Response to Comment I41-7**

Please see response to comment I41-6.

***Response to Comments Elissa Wagner***

**Comment I42-1**

I am writing in response to the Draft Environmental Impact Report for the Santa Cruz County Highway 1 State Park Dr to Freedom Blvd Aux Lanes, Bus-on-Shoulder & Coastal Rail Trail Segment 12 Project.

The overall problem with this project – especially aux lanes and bus-on-shoulder -- is that the reality will not live up to the idealized picture painted by the Santa Cruz County Regional Transportation Commission and CalTans.

The website states that the purpose of this project is to “Reduce delay and improve system reliability and safety along State Route 1.”

Various questions arise about this:

I do not see true evidence of improved safety, that fewer collisions will occur. In fact, higher speeds, if they actually occur, will cause more collisions than current conditions. Also, as stated below, actual use of aux lanes could result in increased collisions.

**Response to Comment I42-1**

The safety analysis was conducted using a crash modification factor-based methodology. The crash modification factor is used to compute the expected number of crashes after implementing a countermeasure on a road or intersection. The analysis assessed the safety benefits of “adding auxiliary lanes” and “education and enforcement” due to the project. For “adding auxiliary lanes,” a crash modification factor of 0.79 was adopted from the Federal Highway Administration’s crash modification

factor clearing house. This crash modification factor is based on before-and-after conditions for actual highway improvement projects involving the addition of auxiliary lanes. As a result, it takes into account the changes in travel speeds that are a likely outcome of the improvement in highway operations that is typically associated with auxiliary lane projects. It also factors in the reduction in accidents likely resulting from the improving weaving and merging characteristics creates by auxiliary lanes. Crash modification factor varies by improvement type and limited improvement types apply to a freeway system such as the project location. The crash modification factor was not compared for adding auxiliary lanes to other safety improvement types. However, in reviewing the Federal Highway Administration Clearinghouse of crash modification factors for “Principal Arterial Other Freeways and Expressways”, “All” crash types and “All” crash severity types combined, the crash modification factors vary widely from 0.016 to 4.21 across the relevant 212 improvement types with a median value at 0.86, which is comparable to the crash modification factor for adding auxiliary lanes. Crash modification factors below 1.0 means that the crashes will reduce after improvement; crash modification factors above 1.0 means they will increase after improvement.

**Comment I42-2**

Also, the notion that “Some of these [current] types of collisions [rear end and side swipe] may be attributed to the lack of auxiliary lanes,” as stated by the consultant, is pure conjecture and thus meaningless.

I don’t see any true evidence that the auxiliary lanes will mitigate traffic delay.

This is at least partly because there appears to be an idealized view of the auxiliary lanes, that they will be used for smooth on-and-off traffic flow. However, the reality is that because traffic on the main highway will remain heavy, drivers will attempt to use the aux lanes as bypasses to the congestion, weaving in and out of the aux lanes at will. This in turn will cause more collisions.

**Response to Comment I42-2**

The actual experience with the operation of auxiliary lanes as evidenced by the use of crash modification factors indicates that the auxilary lanes do result in reduced number of crashes. Similiary, traffic operations evaluations of existing auxiliary lanes using tools that are calibrated to existing conditions indicate that overall traffic operations are improved as compared to the No-Build Alternative. This includes consideration of drivers who try to use the auxiliary lane as a bypass of mainline freeway congestion.

**Comment I42-3**

Further, using the auxiliary lanes as part of the bus-on-shoulder plan defeats the purpose of bus-on-shoulder. Buses having to use aux lanes will be subject to the vagaries of traffic instead of escaping it. At peak hours, the lanes will fill up, causing the buses to slow down, undermining their efficiency.

**Response to Comment I42-3**

Auxiliary lane speeds tend to be higher than those on the freeway mainline even during periods of peak congestion. Under the proposed project, buses would be able to take advantage of these higher speeds.

**Comment I42-4**

Also, it is a lovely idea that the buses will be more appealing to residents; however, this falls into the wishful thinking category. Few drivers will be willing to give up the autonomy and privacy of their cars. I would hope for major educational, informative campaigns to increase transit ridership. However, ridership will not increase enough to make a significant difference in reducing individual cars.

**Response to Comment I42-4**

The commenter expresses their opinion on ridership. Bus-on-shoulder operations around the country have proven to be very popular with both the general public and transit riders. Thier low cost, easy implementation, and high visibility are all factors in their success.

**Comment I42-5**

The ultimate savings in greenhouse gases (negligible) and smooth traffic flow (not significant, especially by horizon year 2045, when minutes saved revert back to current times) hardly seem worth all the devastation that will occur to the trees, land, water, air, sensitive animal species, and human sanity. I appreciate all the avoidance and mitigation measures that will be put in place, or at least attempted. However, there is ideal science, and there is reality. We can be sure that accidents and mistakes of construction will happen that will not necessarily be remediable. There are also areas where not enough consideration has been given, despite the many Avoidance, Minimization, and/or Mitigation Measures outlined. An example of this is the Santa Cruz long-toed salamander, a fully protected species. I appreciate that avoidance is being attempted, including mending the fence along the highway and Valencia Lagoon.

However, it is likely that the salamanders' health will be adversely affected by all the ongoing nearby noise, vibration, and lights for nighttime construction.

**Response to Comment I42-5**

As stated in Environmental Impact Report/Environmental Assessment Section 3.3, the project would not increase the vehicle capacity of the roadway. This type of project generally causes minimal or no increase in operational greenhouse gas emissions. Because the project would not increase the number of travel lanes on State Route 1, no increase in vehicle miles traveled would occur. While some greenhouse gas emissions during the construction period would be unavoidable, no increase in operational greenhouse gas emissions is expected. Traffic in the area is anticipated to increase as population increases, and the project would serve to reduce delay and improve system reliability and safety, improve traffic operational movements with auxiliary lanes, enhance bicycle and pedestrian connectivity and safety, and promote alternative transportation modes. In terms of the Santa Cruz long-toed salamander, it is a federally listed and state fully protected species. There are no occurrences in the biological study area; however, Avoidance, Minimization, and/or Mitigation Measure BIO-63 includes 2 years of preconstruction surveys prior to project construction, and Avoidance, Minimization, and/or Mitigation Measure BIO-64 includes construction exclusion fencing to protect the Valencia Ecological Preserve to avoid construction impacts to the species.

**Comment I42-6**

"Potential long-term noise impacts due to traffic noise [will occur]. Polling of the benefitted receptors would be required." Traffic noise already prevails in this area, disrupting outside activities for residents. Increased noise is unacceptable. Also, while the draft does not go into detail about induced traffic, this is implied here: increased noise signifies increased traffic. Ultimately, increased traffic will negate any benefits possibly accrued from this project.

**Response to Comment I42-6**

The commenter states their opinion regarding the project benefits. The Traffic Noise Analysis was completed in accordance with all applicable federal and state standards. As stated in Environmental Impact Report/Environmental Assessment Section 2.1.7, the Build Alternative would improve traffic operations county wide. It would not result in increased traffic, but would reduce delay and eliminate bottlenecks in the corridor, which would, in turn, improve traffic speeds and safety in the corridor. As shown in Environmental Impact Report/Environmental Assessment Table 2-33, the project would

result in a county-wide net decrease in vehicle miles traveled due to the combination of auxuliary lanes, bus-on-shoulder, and coastal rail trail components.

**Comment I42-7**

I am also quite concerned about water, especially the increase in impermeable surfaces for the Soquel Creek Water District's aquifers. " An increase in impervious surfaces would result in a loss in volume or amount of water that may have previously recharged localized aquifers and thereby reduce regional groundwater volumes." Also, "Permanent impacts from runoff from the increased impervious surface area could increase pollutants to the receiving waterbodies." These aquifers are so threatened by seawater intrusion that the District has embarked on a project using wastewater to back-fill, in order to cushion aquifers against seawater. So it is a teeth-clenching notion that these aquifers, dependent on rain and ground water, will have even less surface from which to absorb groundwater.

**Response to Comment I42-7**

As stated in Environmental Impact Report/Environmental Assessment Section 2.2.2, impacts related to temporary and permanent water quality resulting from discharge or increased impervious surface are not anticipated. Because this project and the other concurrent or planned projects would be subject to National Pollutant Discharge Elimination System permit requirements and have their own temporary and permanent best management practices, cumulative impacts are expected to be minimal. This project proposes to implement permanent stormwater control facilities such as biofiltration swales/strips and trash-capture devices to remove pollutants from stormwater runoff and to reduce impacts on receiving waters. In addition, treatment best management practices from the Caltrans list of approved treatment best management practices that allow stormwater infiltration would be considered for the project; design pollution prevention infiltration areas, retrofitted with soil amendments, are proposed to promote infiltration.

**Comment I42-8**

As a Rio Del Mar resident who lives between the Rio Del Mar and Freedom Boulevard on/off-ramps, I am heartsick, as are my neighbors, at the prospect of losing beautiful redwoods, coastal oaks, pines, and other evergreens that make this stretch of highway uniquely lovely: "The context and extent of the project's contribution to this cumulative impact were considered, noting the distribution of visual impacts of the project, including the loss of mature trees along the project corridor, the length of time required for replacement trees to reach maturity, and the inability to fully mitigate the visual impacts

of the proposed project. These factors suggest that the incremental contribution of the proposed project to the cumulative visual impact may be considerable."
By the way, the draft states elsewhere that "skyline trees" would be planted, implying the planting of mature trees, as opposed to what is stated above, that trees would need to grow to maturity.

**Response to Comment I42-8**

Skyline trees would be included in the replacement mix where feasible, but in general, replacement trees would become skyline trees after several years. Avoidance, Minimization, and/or Mitigation Measure VA-2 states that during design and construction, skyline trees will be protected to the extent feasible. Please see Master Response 1 regarding tree removal.

**Comment I42-9**

I am equally concerned about local species of plants, animals, and birds losing habitat and generally being disrupted, disturbed, possibly killed. This is the cost of progress and improvement, you might counter. And I would reply that, again, the projected improvements in traffic speed and safety are unrealistic and therefore not worth the years of disruptive construction, dollars, tree, plant and animal lives lost.

**Response to Comment I42-9**

The commenter expresses their opinion that the project improvements are unrealistic and not worth the project impacts. The Environmental Impact Report/Environmental Assessment found that there would be no adverse or significant impacts on plants and wildlife. The only significant and unavoidable impact found was the visual impact due to the lenghth of time it takes for vegetation and new trees to mature.

**Comment I42-10**

By the way, for the Least Bell's Vireo and Southern Willow Flycatcher, they forgot to say. "These factors indicate that the incremental contribution of the proposed project to the cumulative impact on [these species] would not be considerable." What does it mean that this was left out?

**Response to Comment I42-10**

The discussion in Environmental Impact Report/Environmental Assessment Section 2.4, particularly on page 379 of the Environmental Impact Report/Environmental Assessment includes the evidence as to why impacts on Least Bell's vireo and southern

willow flycatcher would not be cumulatively considerable. The following statement has been added to Environmental Impact Report/Environmental Assessment Section 2.4: "These factors indicate that the incremental contribution of the proposed project to the cumulative impact on Least Bell's Vireo and Southern Willow Flycatchers would not be considerable."

**Comment I42-11**

There is also the sense in the draft Environmental Impact Report that, because past human encroachment has compromised various ecosystems and habitats, like the various woodlands, then it is in essence acceptable for further degradation of these habitats and ecosystems, that Avoidance, Minimization, and/or Mitigation Measures would help: For example, “These factors indicate that the incremental contribution of the proposed project to the cumulative impact on the coast live oak woodland natural community would not be considerable.” Again, this is assuming that the Avoidance, Minimization, and/or Mitigation Measures would actually be put in place and would be adequate or better.

**Response to Comment I42-11**

The commenter expresses their opinion that the project would further degrade disturbed areas and that avoidance, minimization, and/or mitigation measures would be implemented. The avoidance, minimization, and/or mitigation measures, as well as best management practices, are incorporated into the project. These measures, derived from Caltrans protocol and standard practice, have been recommended by practicing subject-area specialists, including trained biologists and botanists, historians, water quality specialists, and hydrologists. Environmental Impact Report/Environmental Assessment Table 2-58 lists the maximum amount of disturbed land cover that could occur as a result of the project, which would be refined during final design. The table separates ruderal/disturbed and landscaped areas separately from different types of habitat, and reports on the total habitat are included. Avoidance, minimization, and/or mitigation measures are included in the project for each type of habitat that would be affected. For example, Avoidance, Minimization, and/or Mitigation Measure BIO-18 through Avoidance, Minimization, and/or Mitigation Measure BIO-22 are measures that would specifically address impacts on oak woodland habitat.

**Comment I42-12**

The draft states, “Following completion of the project, State Route 1 may be more attractive for existing and potential future freeway users compared to the current condition,” There it is again: unacknowledged induced travel.

“but proposed improvements would occur along a short section of an existing freeway corridor, addressing projected traffic volumes,” This has not been proven, especially in the light of induced travel.

“and encouraging drivers to use public transit or non-motorized transportation” This is yet another statement of wishful thinking, unproven.

**Response to Comment I42-12**

The analyses provided in the Traffic Operations Analysis Report and related documents, including the supplemental vehicle miles traveled analysis, clearly support these conclusions. An analysis of induced traffic consistent with Office of Planning and Research guidelines was provided.

**Comment I42-13**

Another question arises: If this project were to go ahead, why can’t all the widening be done in the median strip, as between Rio Del Mar and Freedom Boulevards.? That would cut out a lot of the tree, plants, and animal disruptions.

**Response to Comment I42-13**

The existing median width between the Freedom Boulevard and Rio Del Mar Boulevard interchanges is wider than other parts of State Route 1 in the project limits and provides the opportunity to do the majority of widening in the median area.Heading north of the Rio Del Mar Boulevard interchange, the median narrows along State Route 1 with the narrowest point at the existing Aptos Creek Bridge, where it begins to widen again approaching the State Park Drive interchange. There is no opportunity to widen into the median from north of Rio Del Mar Boulevard to south of State Park Drive; therefore, outside widening of State Route 1 is necessary.

**Comment I42-14**

The tables from pp 70-71 show barely any improvement of Build over No Build, and what improvement there is, is negated by horizon year 2045.

In conclusion, I cannot accept that the minimal, if any, benefits from widening the highway are worth the major, possibly catastrophic, disruptions caused by this project.

**Response to Comment I42-14**

The commenter expresses their opinion on the project benefits. No response is required.

***Response to Comments Linda Wilshusen***

**Comment I43-1**

Thank you for the opportunity to comment on the Draft Environmental Impact Report and Environmental Assessment for Santa Cruz County State Route 1 Auxiliary Lanes and Bus-on-Shoulder Improvements Freedom Boulevard to State Park Drive and Coastal Rail Trail Segment 12 (Project).

Comments

This Draft Environmental Impact Report/Environmental Assessment should be determined to be inadequate, significantly revised, and recirculated for the following reasons:

1. The Vehicle Miles Traveled analysis is inadequate. Key elements of the highway widening aspect of the Project - four new Auxiliary Lanes and new Bus-on-Shoulder Operations - are omitted from the vehicle miles traveled analysis. The proposed Auxiliary Lanes between State Park Drive and Rio Del Mar Boulevard. are effectively 1 mile in length and should be analyzed for vehicle miles traveled impacts in the Draft Environmental Impact Report/Environmental Assessment. In the Draft Environmental Impact Report/Environmental Assessment and related traffic studies, the stated length of the proposed Project auxiliary lanes between State Park Drive and Rio Del Mar Boulevard is .99 miles Northbound (about 25 feet short of the 'required analysis' length at each ramp) and .98 miles Southbound (about 50 feet at each ramp). For the vehicle miles traveled analysis, these apparent measurements are used to justify completely ignoring the traffic impacts and functionality of the primary rationale for the Project, namely the auxiliary lanes and bus-on-shoulder operations. This is not a rational approach in light of the primary, highway-related stated purpose of the Draft Environmental Impact Report/Environmental Assessment: "Reduce delay and improve system reliability and safety along State Route 1; Improve traffic operational movements, local circulation, and transit operations." The draft environmental documents and associated traffic studies must be corrected and revised to include a full and adequate vehicle miles traveled analysis of the Project.

**Response to Comment I43-1**

The vehicle miles traveled impacts of the project are not ignored. A vehicle miles traveled analysis was conducted and presented in the additional traffic analysis memorandum. The methodology used is different from that required by the Office of Planning and Research guidelines, but still provides a reasonable assessment of vehicle miles traveled impacts. The project does not add capacity to the mainline freeway, only to areas in between freeway interchanges, which result in improved operations and safety. No significant new information was presented and therefore, recirculation is not required. Please also see Master Response 3 regarding vehicle miles traveled.

**Comment I43-2**

2. The Vehicle Miles Traveled Summary is inaccurate and misleading. Current assertions in the Draft Environmental Impact Report/Environmental Assessment and associated traffic studies that the Project will “slightly reduce” Vehicle Miles Traveled in the horizon year are not justified. The stated difference between the model-produced current and future vehicle miles traveled is .1%: in other words, a difference of 1/one-thousandth. On the other hand, traffic volumes on Highway 1 on in this segment are projected to increase between 17-21% by the “horizon” year 2045. Together with concerns about the vehicle miles traveled analysis noted in Comment #1, please remove all references to “slight reduction” or “slightly reduced” 2045 vehicle miles traveled throughout the Draft Environmental Impact Report/Environmental Assessment and in all traffic studies, text, Project Summary and figures.

**Response to Comment I43-2**

The analyses presented in the Traffic Operations Analysis Report and the additional traffic analysis memorandum support the use of the words "slightly reduce" to describe the result. There terms “slight reduction” and “slightly reduced” are not used in the traffic analysis presented in the Draft Environmental Impact Report/Environmental Assessment.

**Comment I43-3**

3. The experimental Bus-On-Shoulder Project benefit is negligible. To quote Regional Transportation Commission staff at the Project Draft Environmental Impact Report/Environmental Assessment public hearing yesterday (June 1, 2023), “It wasn’t easy getting approvals.” The 2021 Traffic Operations Analysis Report states

that Bus-on-Shoulder would result in “a reduction of 240 vehicles/day on the freeway, on average,” out of a total estimated current daily traffic volume of about 100,000. The 2023 Additional Traffic Analysis Memorandum doubles this estimated reduction to 510 vehicles/day. A 2019 State Route 1 Auxiliary Lane Bus-on-Shoulder Concept of Operations study predates both this Draft Environmental Impact Report/Environmental Assessment and the amendment of this Project into the 2016 Measure D local sales tax transportation funding program (February 2020). The Draft Environmental Impact Report/Environmental Assessment states that the new lanes (“shoulders”) traversing the underside of the interchanges will only be used “under congested mainline conditions” and that buses will not exit the freeway anywhere in this Project segment to pick up or drop of passengers. The “ConOps” report - the 2019 Concept Study - and both Draft Environmental Impact Report/Environmental Assessment traffic reports neglect to describe how buses weaving in and out of auxiliary lanes, shoulders, and on-ramps will contribute toward accomplishing the stated Project Purpose and Need; the data, however, tells the story that there’s essentially no benefit at all.

**Response to Comment I43-3**

The purpose of bus-on-shoulder operations during congestion (i.e., when speeds on the main line fall below 35 miles per hour) is to reduce large delays and variability in travel times for buses. Bus-on-shoulder operation improves the transit user experience greatly due to its high visibility. Bus-on-shoulder improvements are made over a short segment of the Watsonville-Santa Cruz bus services using State Route 1, so the end-to-end travel times for these services improve slightly. As a result, the only small quantities of mode shift from auto to transit are estimated due to this project element combined with increase in service frequency and shortening of 91X route. Use of in-lane stops, transit signal priority, and modernizing amenities at stops, etc. are off-freeway, surface street transit strategies that complement the bus-on-shoulder strategy to further improve the end-to-end travel time and transit user experience, and increase transit use, but are not part of this project. The project does not prohibit these improvements in the future.

**Comment I43-4**

4. The Draft Environmental Impact Report/Environmental Assessment Transportation Demand Modeling results in an inaccurate picture of future travel. 2012, 2016 and 2019 data were used to modify the Association of Monterey Bay Area Governments Regional Transportation Demand Model as described in this Draft Environmental Impact Report/Environmental Assessment; this data pre-dates the COVID-19 pandemic. The Draft Environmental Impact Report/Environmental Assessment

must include a discussion and analysis of the significant, observable changes to regional traffic patterns and peak periods resulting from highly-altered pandemic-related remote work, communications, and commerce options. Also, land use designations in the Draft Environmental Impact Report/Environmental Assessment transportation model do not include current State Regional Housing Needs Allocations; the location and nature of future housing both inside and outside of Santa Cruz County will affect future travel patterns considerably. Transportation modeling experts noted in 2020 that most transportation demand models are off by an average of +/- 17% (a range of about 35%). The Traffic Operations Analysis Report and associated regional transportation demand model runs need to be updated at least to current conditions and assumptions prior to recirculating the revised Draft Environmental Impact Report/Environmental Assessment.

**Response to Comment I43-4**

The use of pre-COVID-19 data represents a worst-case approach because traffic volumes during the timeframe of the COVID pandemic have been generally lower than those observed in 2019. During the pandemic travel, behavior was dramatically affected, and it would not have been prudent to use traffic data from this time as a basis for the analysis.

Since 1969, the state of California has required that all local governments (cities and counties) adequately plan to meet the housing needs of everyone in the community. Senate Bill 375, passed into state law in 2008, requires the coordination of housing planning with regional transportation planning through the Metropolitan Transportation Plan/Sustainable Communities Strategy. The Association of Monterey Bay Area Governments is the agency responsible for the coordination of the housing and transportation plans. The Association of Monterey Bay Area Governments prepares the Regional Housing Needs Allocation Plan, which establishes the total number of housing units that each city and county must plan for within the 8-year planning period. The transportation forecasts used in the traffic operations analysis for this project were based upon the Regional Housing Needs Allocation plan for the Association of Monterey Bay Area Governments region, which was prior to the most recent plan, which was issued in 2022 (Association of Monterey Bay Area Governments 2023.) Subsequent analyses which were prepared for the previously referenced project grant applications in 2023, were based upon Association of Monterey Bay Area Government's population and employment forecasts, which incorporated the 2022 Regional Housing Needs Allocation plan. The estimates of vehicle miles traveled changes provided in the Draft Environmental Impact Report/Environmental Assessment were based on these updated projects. These more recent analyses did not provide any evidence that the

forecasts of traffic presented in the draft Environmental Impact Report/Environmental Assessment would be changed in any significant way due to the updated Regional Housing Needs Allocation.

**Comment I43-5**

5. Blaming a "Downstream Bottleneck North of the Soquel Avenue Interchange" for minimal north bound Project improvement is mysterious. I'm confused by frequent references in the 2021 Traffic Operations Analysis Report to "northbound downstream bottleneck" at the Soquel Ave. interchange. The persistent bottleneck is in the southbound direction where the westernmost (northernmost) southbound Highway 1 auxiliary lane ends at the southbound Soquel Drive/Avenue exit. Northbound, traffic consistently speeds up after the Soquel Drive/Ave. interchange as it moves toward the improved Highway 1/17 interchange. Please correct or more fully document this "downstream bottleneck" in the Northbound direction at this location.

**Response to Comment I43-5**

The existence of this bottleneck is well documented in the Traffic Operations Analysis Report. The fact that the commentor observes that traffic conditions improve north of the Soquel interchange is confirmation of the existence of this bottleneck in this location. The bottleneck results in extensive queuing and congestion to the south of the interchange.

**Comment I43-6**

6. References in the Draft Environmental Impact Report/Environmental Assessment to the Highway 1 high-occupancy vehicle "Tier I" project and this current Project as a "Tier II" Project misrepresent the current status of the Tier I Environmental Impact Report. The Tier I documents are referenced throughout the Draft Environmental Impact Report/Environmental Assessment and technical studies, including in the Traffic Operations Analysis Report and the Cumulative Impact Analysis. The August 2022 Sacramento County Superior Court decision requires a Revised Draft Environmental Impact Report for the Tier I High Occupancy Vehicle Lanes Project; this has not yet been made available or approved. Therefore, references to the Tier I project and environmental document should be deleted throughout the Draft Environmental Impact Report/Environmental Assessment and technical appendices. This Project cannot be characterized as a Tier II project because there is currently no approved Tier I project Environmental Impact Report/Environmental Assessment.

**Response to Comment I43-6**

Please see Master Response 2 regarding tiering.

**Comment I43-7**

7. The Draft Environmental Impact Report/Environmental Assessment Cumulative Impact Analysis does not address the eventuality that Project auxiliary lanes, shoulders and experimental bus-on-shoulder lanes could become through lanes in the future. As stated in Draft Environmental Impact Report/Environmental Assessment, this Project is unlikely to result in any traffic improvements at all, thereby likely increasing public frustration (after years of construction) and increasing public pressure (after it's clear things aren't working) to convert the exclusive bus-on-shoulder lanes, the auxiliary lanes, and shoulders to though lanes. In fact, this was discussed by members of the public and the Regional Transportation Commission during yesterday's public hearing. The Cumulative Impact Analysis of the Draft Environmental Impact Report/Environmental Assessment states that "The existing two-span Santa Cruz Branch Line railroad bridges (underpass structures) are proposed to be replaced with longer spans to accommodate the planned State Route 1 ultimate improvements that are a six-through-lane concept plus an auxiliary lane in each direction between interchanges." Pertinent to Comment #6 above, this section goes on to say that the "ultimate configuration" is derived from the (now Court-rejected) Tier I Final Environmental Impact Report/Environmental Assessment with a Finding of No Significant Impact for the Tier I High Occupancy Vehicle Lanes and Tier II 41st Avenue to Soquel Avenue/Drive Auxiliary Lanes Project (Tier I/Tier II Final EA/EIR/Finding of No Significant Impact). There is currently no approved Tier I project Environmental Impact Report/Environmental Assessment/Finding of No Significant Impact; therefore, there is no approved "six-through-lane concept plus auxiliary lane". This calls into question key aspects of the current project design, in addition to necessitating not-insignificant revisions to this Draft Environmental Impact Report/Environmental Assessment.

**Response to Comment I43-7**

High-occupancy vehicle lanes on State Route 1 remain listed on the Regional Transportation Commission's 2045 Regional Transportation Plan as a future project, which was approved in June 2022. The cost to complete the entire high-occupancy vehicle Lanes and Transportation System Management Alternatives project on State Route 1 is beyond the amount of discretionary funding available. The Regional

Transportation Commission approach is to prioritize funding for the initial phases of the project. Railroad bridges are designed and built with a 100-year lifespan, and any State Route 1 expansion would have to go through the same process/review. The draft environmental document analyzes what is proposed and does not speculate about future changes that may or may not occur. CEQA prohibits using speculation as the basis for the analysis. As stated in Environmental Impact Report/Environmental Assessment Section 1.2.3, the project has independent utility and is not dependent or reliant on any other project for implementation. The proposed project does not preclude a future six-lane facility. Please also see Master Response 2 regarding tiering. The project would not restrict other reasonably foreseeable transportation improvements and would not be needed in order to complete other planned transportation projects.

**Comment I43-8**

8. The Project Purpose and Need is not accomplished by the Project. Although the Environmental Impact Report/Environmental Assessment states that “The project would improve travel times and reduce traffic delay on State Route 1 [and] the Bus-on-Shoulder feature would increase the use of public transit…”, the data in the Draft Environmental Impact Report/Environmental Assessment itself demonstrates no sustained traffic-relief benefit from this Project. The Project does not accomplish the stated Purpose and Need.

**Response to Comment I43-8**

The travel time improvement/delay reduction goal would be met by the project to the extent the project design and site constraints allow. The agency finds that this is sufficient to meet this objective under CEQA.

From a design standpoint, the purpose of auxiliary lanes is to smoothen traffic merge/diverge operations and improve safety. The purpose of bus-on-shoulder operations during congestion (i.e., when speeds on the mainline fall below 35 miles per hour) is to reduce large delays and variability in travel times for buses. The trail reduces reliance on autos for short-distance trips, improves safety and promotes health. These project elements are not aimed to eliminate congestion on State Route 1 but to better manage road or vehicle operations during congestion, reduce large delays and improve travel time reliability.

The project has an external constraint in the form of a northbound bottleneck downstream of the project limits (around the Soquel interchange) that limits the amount of travel time savings. In the northbound direction, commuters would experience improved travel reliability due to the reduction in the number of crash incidents with their

resulting delays, and in the southbound direction, they would experience both improved travel time reliability and travel time savings. Commuter trips between the south county and the north county would involve travel in both north and south directions over a day. Overall, the project is expected to have measurable travel time savings and travel time reliability improvements for commuters at a daily level.

**Comment I43-9**

9. Public involvement in this Project has been consistently curtailed. Traffic studies, benefit-cost analyses, and other information related to Regional Transportation Commission and Caltrans grant funding applications to State and Federal agencies for this Project, referenced in the Draft Environmental Impact Report/Environmental Assessment, have not been made available for public review and are not included in Draft Environmental Impact Report/Environmental Assessment documentation. Public information requests for some of this information have been denied. No public hearings have been held about this Project prior to yesterday's required public hearing on the Draft Environmental Impact Report/Environmental Assessment.

**Response to Comment I43-9**

As described in Environmental Impact Report/Environmental Assessment Section 4.1, *Scoping Process*, a Notice of Preparation for the proposed project was sent to elected officials, agencies, and interested parties. In addition, an online scoping open house for the proposed project was held from September 17, 2020 through October 18, 2020 to receive comments on the scope of the proposed project from the public. Two public meetings—one virtual and one in-person—were held to solicit public comments and the Draft Environmental Impact Report/Environmental Assessment were circulated to the public for review for 45 days between April 18, 2023, and June 2, 2023. Further, as stated in Draft Environmental Impact Report/Environmental Assessment Appendix H, *List of Technical Studies*, copies of the technical studies, reports, documents or the Environmental Impact Report/Environmental Assessment could be obtained by emailing the following address: info-d5@dot.ca.gov. These actions meet the CEQA requirements for notice and engagement.

**Comment I43-10**

10. Finally, geography is still geography. Soquel Creek and the hill to the south between Bay Avenue/Porter Street and Park Avenue will always slow down Mid-county traffic, whether it's climbing uphill southbound from Capitola, braking downhill northbound toward the highly proximate Bay Avenue and 41st Avenue

interchanges, or taking the scenic route through Soquel Village. None of the vast volumes of climate-unfriendly concrete required by this Project will change that fact.

**Response to Comment I43-10**

Comment noted. The terrain and gradients on the existing freeway mainline were considered in the traffic analysis.

***Response to Comments Susan Wright***

**Comment I44-1**

The procedure for this Environmental Impact Report/Environmental Assessment is highly irregular and should be rejected for the following reasons:

First, the environmental impact of the proposed Rail/Trail has been broken up into many small segments. This is completely misleading. The Rail/Trail in its entirely will remove many acres of woodland, meadows, and wetland and the environmental impact is severe—essentially running the equivalent of a new road through what is now green space. Because the public only sees the impact of one small segment at a time, it is denied its right to understand the impact of the whole project and its implications for the south of Santa Cruz County.

**Response to Comment I44-1**

While the project contains several components (auxiliary lanes, bus-on-shoulder, and Segment 12 of the Coastal Rail Trail), these components are analyzed as a whole. CEQA requires that an environmental document analyze the “whole of the action” together that may result either directly or indirectly in physical changes to the environment. NEPA requires that the proposed action under NEPA include all federal connected actions. However, the impacts are also presented individually where possible to provide more specific information on the project components.

**Comment I44-2**

Second, the Environmental Impact Report/Environmental Assessment for Segment 12 of the proposed Rail/Trail has been combined with an Environmental Impact Report/Environmental Assessment for a completely different project, concerning construction of auxiliary lanes on Highway 1. The two projects are in different places, have different impacts, and require two separate assessments.

**Response to Comment I44-2**

State CEQA Guidelines 15478 defines a project as follows: (a) "Project" means the whole of an action, which has a potential for resulting in either a direct physical change in the environment, or a reasonably foreseeable indirect physical change in the environment, and that is any of the following:

(1) An activity directly undertaken by any public agency including but not limited to public works construction and related activities clearing or grading of land, improvements to existing public structures, enactment and amendment of zoning ordinances, and the adoption and amendment of local General Plans or elements thereof pursuant to Government Code Sections 65100- 65700.

(2) An activity undertaken by a person which is supported in whole or in part through public agency contracts, grants, subsidies, loans, or other forms of assistance from one or more public agencies.

(3) An activity involving the issuance to a person of a lease, permit, license, certificate, or other entitlement for use by one or more public agencies.

Like many projects, the project in question has multiple components, which is not prohibited by CEQA. CEQA requires that an environmental document analyze the “whole of the action” together that may result either directly or indirectly in physical changes to the environment.  NEPA requires that the proposed action under NEPA include all federal connected actions. The project components, including the auxiliary lanes, bus-on-shoulder, and Coastal Rail Trail Segment 12, all would improve system reliability and safety on State Route 1, improve local traffic operations, and promote the use of alternate modes of transportation.

**Comment I44-3**

Third, consideration of these two environmental impacts, blended together as if they are for one project, is being rushed through, with insufficient time provided to the public for informed comment.

Therefore I request that separate environmental impact assessments are carried out for the two projects.

**Response to Comment I44-3**

The commenter expresses their opinion that there is insufficient time to provide public feedback. The project was open for a 45-day review period as required by CEQA, and

there were two public meetings (one Zoom and one in-person) to solicit feedback from the public. Please also see response to comment I44-2.

**Comment I44-4**

Furthermore, I request that the irregular procedure of breaking up the environmental impact of the Coastal Rail/Trail into small segments is halted and is replaced with an assessment of the environmental impact of the entire Coastal Rail/Trail project. Unless an environmental assessment of the whole project is completed, with the required, well-publicized public comment period, it would appear that the assessment is not in compliance with the National Environmental Policy Act.

**Response to Comment I44-4**

Please see response to comment I44-2.

## PH Public Hearing Comments

### *Response to Comments from The Public Hearing*

**Comment PH1-1 (Barry Scott)**

I live right around the corner, and I have been excited about the rail line and the trail since 2014. And I belong to three organizations that support this. The biggest one and the oldest one is called Friends of the Rail and Trail. And the other is Coastal Rail Santa Cruz. And finally, Coast Futura, which brought a streetcar demonstration here in 2021, and that was a battery electric streetcar demonstration that ran on our tracks in Watsonville for three days, and then between Santa Cruz Boardwalk and Capitola for four days, every hour. People rode free. We're excited about the trail because people need safe ways, away from traffic, to go from place to place. And the rail corridor provides enough space for the tracks to provide transit and for a trail to be built for pedestrians and cyclists. Better still, people can use bikes. If they're train passengers, they can use bikes to get to the train, and then when they get to their destination, they can use that bike to go where they need to go. That's called "The First Mile22 Last Mile Problem." And when you combine bikes with buses or trains, you solve that problem. That's my pitch. And if I were to send anyonto a website, it would be coastfutura.org. Thank you.

**Response to Comment PH1-1**

Caltrans thanks the commenter for their support of the development of the Monterey Bay Sanctuary Scenic Trail.

**Comment PH1-2 (L.D. Freitas)**

First off, we're not going to ever defeat global warming without having much more public transportation. Electric cars are fine; I have one, but we can't rely on just having electric cars. There's still a lot of cars on the road. So instead of burning gasoline, they're just going to be taking up space on freeways. It's very expensive to widen freeways.

We have a rail line here that use to be used for passenger rail. Before 1940, it went over and through the Santa Cruz Mountains to Santa Clara and San Jose. After 1940, after World War II, they rerouted the Suntan Special, so that would go through Gilroy, Pajaro, and then up to the Boardwalk. It was 15 minutes slower than the other way. That's all, 15 minutes slower.

Anyway, that's in the past. My dad rode it way back when. When I was a kid, I rode the Del Monte Express, again, we used to have the Del Monte Express rom Pacific Grove up to San Francisco. So that disappeared in 1971. We haven't had a real passenger rail since then in this county. We had a few demonstration trains in the '70s and the '80s and '90s, like the bicentennial one in 1976.

And lately, of course, we have the Coast Futura. I rode that. I thought it was great. I really saw that, you know, this is electric. It's hydrogen. It's clean. No pollution. It's not like a diesel electric like Caltrain. I love Caltrain, actually, but you know, it's an old-fashion technology. To them, it's state-of-the-art. So I can see that being used between Pajaro Junction and the west side of Santa Cruz and help get some of the cars off the road and relieve the congestion.

So I know it's going to take some work. And it's going to take some money to fix the tracks, but without having to do overhead wires, like the Muni in San Francisco, or the Valley Transportation Authority in San Jose, that cost is gone with TIG/m, the Coast Futura train, because they are self-propelled. They don't need the overhead wires. So that cost of billions is out the window. It wouldn't be incurred. The only cost is going to be building the trail and fixing up the tracks. So what does it cost to fix up tracks? We're really talking about an upgrade of up to Grade 2, 25-mile per hour limit. That's not going to be very expensive, overall. It's not like you're changing the tracks so a train could go 80 miles an hour like Amtrak, like the tracks that go through Pajaro Junction and Elkhorn and up to Gilroy. Those are tracks built for faster trains. So we don't need that. We need a slower speed. And I think it would be great if we had that Coast Futura, also known as the TIG/m.

One last thing I'll talk about. I'm watching this thing here with the bike and watch trail next to the tracks. I saw something like that in Massachusetts this past summer near Boston, near the town of Milton. They have something like that. It's an old trolley system that goes for about 10 miles, and it hooks up one town to where the main Bart-type of train goes into Boston itself.

Another trip, I was in the United Kingdom last month in March. You can imagine, I never got behind the wheel of a car. I took trains, mostly trains, buses, to get around. And one thing I would say is my girlfriend and I, we stayed down in Plymouth, near Cornwall and Devon. Plymouth is about the size of Monterey. We took a train there to a coastal town in Cornwall about 15 miles up the coast. So we took the train to a town called Lyskeard, got off the train there, got another one that went down to Loee. Loee is about the size of Capitola Village. And I'm thinking like, they have all this stuff in the UK, where's our train. Anyway, that's all I have to say.

**Response to Comment PH1-2**

The commenter expresses their support for increased transit service, particularly rail transit. This is not a comment on the draft environmental document analysis. The proposed project does not include implementation of rail service on the Santa Cruz Branch Line. Regional Transportation Commission has completed prior studies regarding rail transit service, including the Transit Corridor Alternatives Analysis and associated Business Plan (2021), which provides information about potential funding sources, ridership projections and, options to address additional funding needs to develop Rail Transit on the Santa Cruz Branch Rail Line. In 2022, Regional Transportation Commission allocated Measure D funding and awarded a consultant contract to initiate a Project Concept Report for Zero Emission Rail Transit on the Santa Cruz Branch Rail Line as a separate project. The Zero Emission Rail Transit Project Concept Report will include developing the alignment for rail transit along the rail right-of-way, conceptual rail transit operations plan and related facilities, ridership forecasts, and cost estimates.

**Comment PH1-3 (Rosemary Sarka)**

So I am so in favor of the trail as it goes through in this area. I think people don't realize what a boon it will be. They're so afraid that it's in their backyard, but it actually is going to be a tremendous asset. I am less excited about widening Highway 1, because I think it will only add to more congestion. If they build it, they will come. So I think that will be a problem.

But I'm very much appreciate the trail, and I am so looking forward to a passenger rail going throug here. Aptos traffic going to Santa Cruz is horrible, every hour, every season, every day, it doesn't matter, the weekend, 3:00 in the afternoon inbound still is just awful.

I think the passenger rail would really help us out a lot. And I have to dream big, and I would like to see a freightliner on that line, too. Electric, efficient, economical freight, we can bring in all kinds of things and get trucks off the road. We can have a freightliner come in from Salinas into Pajaro. We can do it at night. We can do it quietly. We can do it efficiently. We can take care of cars. And especially, the big trucks going over 17, which are a danger, as well as an issue of congestion.

So that's my dream, is to get passenger rail, a freightliner, trail. Highway 1 not so much. That's all.

**Response to Comment PH1-3**

Caltrans thanks the commenter for their support of the development of the Monterey Bay Sanctuary Scenic Trail. Please also see response to comment PH1-2.

**Comment PH1-4 (Dragan Diach)**

So I need to address my property and the concerns that I have. So I am Dragan Diach, and I'm a property owner of 9081 and 9083 Soquel Drive in Aptos. It is located on the northeast side of Rio Del Mar Boulevard and Highway 1 intersection. Currently, there is water being released, drainage water being released that is collected on the southwest side of the Rio Del Mar Boulevard, referred to as Valencia Lagoon and Rob Roy Junction, that's right by Freedom Boulevard. Water that's being released is severely eroding my property, and it has been a going concern for years. The County of Santa Cruz did some improvements to mitigate the problem, however, current increase in a paved surface and expansion on Highway 1 from State Park Drive to Freedom Boulevard will increase and add to the drainage issues. Currently, the flow line has been lowered in the neighborhood of 10 to 15 feet from discharge to inlet point, which is at Valencia Creek, and that creates an adverse condition which promotes landslides. And there is a landslide currently in place at 9081 Soquel Drive that happened in January 2023.

So the current drainage and the other drainage, the current water outlets are not able to hold the water without damaging my property and adjacent properties. So in going forward and in the design or the expansion of the highway, I would appreciate it if you create a stable flowline so that it won't erode the property further. And it should be the

responsibility of the state and county together. I am not sure who is responsible for it. However, it's not fair to have one single landowner burdened with the drainage concerns for the whole county, or Santa Cruz, that encompasses the development.

So adding additional pavement, which is close to 4 acres of the paved surface will add to the current problem, because it increases the drainage of the water flow, because there is no area to absorb the current -- it can't absorb the water because there is no permeable surface left. I really would appreciate it if somebody would get in touch with me so that I can be informed as to how they'll be mitigating the drainage problem. Please contact me at 831-688-2111 and/or e-mail me at dragandevelop@icloud.com. Thank you.

**Response to Comment PH1-4**

As this project and the other concurrent or planned projects would be subject to National Pollutant Discharge Elimination System permit requirements and have their own temporary and permanent best management practices, cumulative impacts are expected to be minimal. Additionally, a goal of the project is to maintain the drainage pattern. The proposed drainage facilities would be designed and constructed according to the Caltrans and Santa Cruz County design guidelines. Stormwater impacts from additional impervious areas would be minimized through the proper implementation of permanent stormwater treatment measures and design pollution prevention best management practices. Portions of the project along State Route 1 within the local jurisdictions' rights-of-way would also be subject to the hydromodification management requirements included in the Central Coast Regional Water Quality Control Board Post-Stormwater Requirements and the Santa Cruz County Design Criteria.

**Comment PH1-5 (Angelina Medina)**

I fully support the coast rail trail. We need it to mitigate future growth, and it would be costly and foolish to rip out the rail and then later pay to implement for new ones. Let's work together with what we have and keep both rail and trail for future generations. Let's think forward!!!

**Response to Comment PH1-5**

Caltrans thanks the commenter for their support of the development of the Monterey Bay Sanctuary Scenic Trail.

**Comment PH1-6 (Becky Steinbruner)**

I would like to begin with the archeological and cultural resources. I want to have mapping and analysis of an archeological site that I'm aware of along Highway 1 near Aptos Creek. I have seen documents Caltrans owns from when Highway 1 was put in, and there were actually burial sites there, Native American burial sites there. The state archeologist that showed me this document was upset that the highway had been put in, and there was no real protection of these resources, but they were mapped. So I reviewed with the man, Rich, and he wasn't aware of that site.

He showed me in the Environmental Impact Report, the one in Aptos Village, which I'm aware of, and another one nearby. There was also a burial site there near Aptos Village Park. So the Native American people definitely need to be involved in this. And I feel there should be no ground disturbance, at all, until they are brought on site and consulted with.

I'm concerned about the construction impacts on the almost 100-year old concrete Aptos Creek Bridge that was built in 1929, and there would be, I'm assuming, a lot of heavy construction traffic and vibration, and I think the impacts of that construction work need to be analyzed and any reinforcement to the 1929 bridge, Aptos Creek Bridge, should be done before construction begins.

I am really worried that in seeing the trail planned in Aptos Village area will go into the parking lots of the historic Bay View Hotel, as well as the businesses next door. The Bay View Hotel is on the national historic registry, and the context of its area cannot be changed without getting the approval of the owner and going through the proper processes with the state historic registry. It's on the national historic registry. So that needs to be analyzed.

There are other artifacts in the Aptos Village area along the train tracks that I am aware of and have personally seen when the County of Santa Cruz put in the Trout Gulch -- new railroad crossing at Trout Gulch and Soquel. I was standing by watching, and the tracker operator found a glass bottle that dated back to the early Chinese history time. It was the Chinese that built that railroad in the 1800s and he unearthed a bottle. I believe I gave that to the Aptos History Museum, John Hibble, but -- yes, I did. I gave it to Mr. John Hibble. So there are Asian artifacts, historic artifacts from the 1800s in that area as well. And so I think that the Asian community should be consulted, and should be there to collect anything that is pertinent to their culture as well.

Now, jumping to my concerns about hazardous materials. Railroad track beds are known for their high contamination in their soil. And I am aware that the County of Santa Cruz Environmental Health, Mr. John Gerbrandt, he and another fellow did a lot of work with the Aptos Village Project developers because the soils there are very contaminated, very high in lead, arsenic, and also petrol chemicals. The soils I think at No. 15, either 10 and 15 Parade Street, those new buildings in the Aptos Village Project had to be excavated and hauled off to a place in Santa Clara County because they were so contaminated. So that needs to be carefully monitored and more extensively tested for signs of contamination. That whole area in Aptos Village near Parade Street used to be a turntable, an old turnaround table for the trains, so there is likely high contamination there. The developers destroyed the turntable when they did their construction. But the soils are still very contaminated in that site and should be very carefully sampled and monitored. And I would like to see Mr. John Gerbrandt from the County of Santa Cruz run on to consult directly -- or whoever his follow-up person is. I can't remember his name right now. But he has someone that works with him. I'm very concerned about the soil disturbance near Aptos Creek and also Valencia Creek, because of the potential contamination from any uncontrolled silt runoff during construction but also postconstruction as the soils settle in. So I want to see all construction areas near the creeks, when there is drainage, have soil fabric that will -- and planting that will maximize erosion control into those creeks. Aptos Creek is a known for salamander and the coho salmon area, mostly the coho and salmon creeks, and we really have to protect it. So I want extra mitigations for silt control during construction, and also for a period of five years, that would be effective for five years after construction is completed.

I'm concerned about the increased stormwater runoff from the Highway 1 increase impervious areas, and also the impervious areas of the trail, as they may affect Aptos Creek and Valencia Creek, and I want to see those -- stormwater runoff from those areas captured and piped to another area nearby for groundwater recharge rather than just dumping them in the creek. If that is not feasible, I want to see some type of charcoal canisters, filters for the stormwater coming from these areas that would help remove some of the petrol chemical contamination from the freeway. And certainly trash collectors, that would prevent more trash from going into the creeks, and that those be maintained on a regular basis by the Regional Transportation Commission.

I'm very concerned about the removal of several large redwood trees next to the freeway. It just shouldn't happen. It just shouldn't happen. And I know they're saying that it has to, but no matter how many small trees you plant, those trees have been there for hundreds of years. They should not be removed.

For any trees that are removed, I want the replacement trees planted as close to the corridor as possible, not any further away than a half a mile from the corridor. I'm aware that in Segment 2 of this project, you are planting the replacement trees miles away in a place where they'll not get any water. And it's ridiculous. In Anna Jean Cummings Park, really, to replace trees cut out of Arana Gulch, that's ridiculous. So I want all replacement trees planted within a half mile of the corridor. And if that's not feasible, I want to know why.

I'm concerned about what the gentleman told me, that the culverts for the creeks will be changed to improve fish traffic through the creeks in the construction area. I want to know how that will be done. I want to see the designs of those culverts. Some of them are actually historic themselves in design, and I want to know how that will be done and how that will affect the stream flows during construction, migration of the fish and of the aquatic insects, and how it will affect the riparian animals, the raccoons, deer, all of the things that come to those creeks, and how that would be mitigated.

I have seen plans for the Aptos Village Project, the way they mitigated is they'll just fence it off so the animals can't come there, but I do not feel that is an effective mitigation to just expect the animals to not go where the fence is. They will try, and probably go up on the freeway.

I think these are the main things. I'll read the document and do my best to submit written comments, but I appreciate you taking my comments. These are my thoughts after talking with the people at the stations and reading little bits and pieces that they have pointed out to me. Thank you.

One more comment. Close to Freedom Boulevard exit there's a salamander preserve there on the south side of the freeway, how will that be affected? There will be increased stormwater drainage in there that's toxic. How will that stormwater be managed in the area of the preserve. It's a preserve, but it's fenced to keep the salamanders there, safe or something, but the water quality of the stormwater drainage needs to be filtered with charcoal in that area to preserve the water quality for that salamander preserve. And that's near the Freedom Boulevard off-ramp, Highway 1, southbound side.

**Response to Comment PH1-6**

Archaeological resources were identified in the Area of Potential Effects (62.8 acres) using records searches, background research, Native American and historical society consultation, and archaeological and architectural field surveys including test

excavations. See Environmental Impact Report/Environmental Assessment Section 2.19, *Cultural Resources,* for descriptions of archaeological resources identified in the study area. Avoidance, minimization, and/or mitigation measures are also included to protect both identified resources and in the event a previously unknown archaeological resource is encountered.

Caltrans has initiated the tribal consultation and outreach process per the National Historic Preservation Act Section 106 and Assembly Bill 52. Consultation with the Native American Heritage Commission and local Native American representatives was conducted by Caltrans with assistance from Far Western. Coordination to date is described in Environmental Impact Report/Environmental Assessment Section 2.1.9, *Cultural Resources*, and Chapter 4.

If the commenter is referring to the vehicle-bearing concrete Aptos Creek Bridge built in 1928, this bridge is outside the project area and would not be affected by project construction. The only bridge in the project area built circa 1929 is the Aptos Creek and Spreckles Drive Railroad Bridge. As described in Environmental Impact Report/Environmental Assessment Section 2.1.9, *Cultural Resources*, this 71-foot 1-span open-deck girder bridge was determined not eligible for listing in the National Register of Historic Places. However, the project would have no impacts on this bridge, as well.

The project would require a permanent right-of-way take at this property and some parking would be removed. Parking was analyzed in the community impact assessment and in Environmental Impact Report/Environmental Assessment Section 2.1.7. The Build Alternative would result in the loss of 15 on-street parking spaces that serve residential and commercial uses along Aptos Street near Aptos Village to accommodate Coastal Rail Trail Segment 12, and up to three parking spaces could be removed on the east side of Aptos Creek Road. These spaces would not be replaced; however, given the availability of existing parking spaces in Aptos Village, the parking loss is anticipated to be minor. Economic impacts are not anticipated. The Bayview Hotel was also analyzed as a cultural/historic resource in Environmental Impact Report/Environmental Assessment Section 2.1.9.

As described in Environmental Impact Report/Environmental Assessment Section 2.2.5, *Hazardous Wastes/Materials*, previous investigations and soil sampling conducted along the railroad corridor identified a variety of toxic contaminants including arsenic and heavy metals. Because of the potential for soil/groundwater contamination near railroads, the Environmental Impact Report/Environmental Assessment includes measures to reduce the potential of encountering hazardous materials. Please see the

section titled, *Avoidance, Minimization, and/or Mitigation Measures* in Environmental Impact Report/Environmental Assessment Section 2.2.5, *Hazardous Wastes/Materials*, for measures that require soil samples be analyzed along the railroad corridor before project construction and the requirements of soil management plans and/or remediation if soil and/or groundwater contamination is identified.

The standards of the Construction General Permit, Caltrans, and the County of Santa Cruz require the project's contractor to implement a Stormwater Pollution Prevention Plan to comply with the conditions of the Construction General Permit (Standard Measure WQ-1), which would include soil stabilization and other controls to reduce erosion. As stated in Environmental Impact Report/Environmental Assessment Section 2.2.2, the portions of the project area along State Route 1 that are under the local jurisdictions' rights-of-way would be subject to the Central Coast Regional Water Quality Control Board and Santa Cruz County hydromodification management requirements. Avoidance, Minimization, and/or Mitigation Measure GEO-2 would also be implemented, as described in Environmental Impact Report/Environmental Assessment Section 2.2.2.

As stated in Environmental Impact Report/Environmental Assessment Section 2.2.2, impacts related to temporary and permanent water quality resulting from discharge or increased impervious surface are not anticipated. Because this project and other concurrent or planned projects would be subject to National Pollutant Discharge Elimination System permit requirements and have their own temporary and permanent Best Management Practices, cumulative impacts are expected to be minimal. This project proposes to implement permanent stormwater control facilities such as biofiltration swales/strips and trash capture devices to remove pollutants from stormwater runoff and to reduce impacts on receiving waters. In addition, treatment best management practices from the Caltrans list of approved treatment best management practices that allow stormwater infiltration would be considered for the Project; design pollution prevention infiltration areas, retrofitted with soil amendments, are proposed to promote infiltration.

Regarding tree removal, please see Master Response 1.

Caltrans has been coordinating with the U.S. Fish and Wildlife Service, California Department of Fish and Wildlife and National Marine Fisheries Service on the Valencia Creek temporary fish passage solution. Agency coordination to date, which is described in Environmental Impact Report/Environmental Assessment Chapter 4, includes a field visit with California Department of Fish and Wildlife in November 2022, a call with California Department of Fish and Wildlife in January 2023, a field visit with California Department of Fish and Wildlife and National Marine Fisheries Service in April 2023,

and a follow-up meeting in August 2023. The Draft Environmental Impact Report/Environmental Assessment assesses impacts of the fish passage construction and operation based on the best available information at the time. The fish passage solution would take place entirely within the culvert and area studied within the biological study area. If additional analysis is needed or design of the fish passage changes significantly than what is conceptualized at this time, additional CEQA and NEPA review would be conducted as necessary.

The project is not anticipated to have any impacts on salamanders or salamander habitat, as described in Environmental Impact Report/Environmental Assessment Section 2.3.5. It is a dederally listed and state fully protected species. There are no occurrences in the study area; however, Avoidance, Minimization, and/or Mitigation Measure BIO-63 includes 2 years of preconstruction surveys prior to project construction, and Avoidance, Minimization, and/or Mitigation Measure BIO-64 includes construction exclusion fencing to protect the Valencia Ecological Preserve to avoid construction impacts.

## CC Comment Card Comments

### *Response to Comments from Comment Cards*

#### Comment CC1-1 (Joe Martinez)

I support the building of auxiliary lanes and bus on shoulder. I do not support the current Coastal Rail Trail Project. Remove tracks and build a trail on top of the tracks.

#### Response to Comment CC1-1

Caltrans appreciates the commenter's support for the project and the Optional First Phase. As stated in the project description of the Environmental Impact Report/Environmental Assessment, the Optional First Phase is an option if the common carrier files for abandonment, and the rail line could be railbanked to preserve the corridor for future freight reactivation. Under the ultimate condition, the rail would remain.

#### Comment CC1-2 (Ellen Martinez)

Please stop wasting time and money doing studies for a train that will never materialize.

Please implement the Interim Trail and focus on the retro. It’s terrific that retro was awarded funding from the government.

It's great that we are widening Highway 1. Let's accelerate the plan.

**Response to Comment CC1-2**

Caltrans appreciates the commenter's support for the project and Optional First Phase. As stated in the project description of the Environmental Impact Report/Environmental Assessment, the Optional First Phase is an option if the common carrier files for abandonment, and the rail line could be railbanked to preserve the corridor for future freight reactivation. Under the ultimate condition, the rail would remain.

**Comment CC1-3 (Diane Dryer)**

The "Interim Trail" complicates the process, confuses the public, has high costs for staff (to evaluate, design, etc.), delays construction substantially (years) AND has no funding possibility!!

The public wants the trail and rail transit ASAP!

Please stop wasting time and public money on the "Interim Trail".

**Response to Comment CC1-3**

Caltrans appreciates the commenter's support for the project and Ultimate Condition. As stated in the project description of the Environmental Impact Report/Environmental Assessment, the Optional First Phase is an option if the common carrier files for abandonment, and the rail line could be railbanked to preserve the corridor for future freight reactivation. Under the ultimate condition, the rail would remain.

**Comment CC1-4 (Michael Saint/Rick Longinotii (Chair-Campaign for Sustainable Transportation)**

DID YOU KNOW?

DRAFT Environmental Impact Report SEGMENT 12

1. The DRAFT Environmental Impact Report is not valid since it is tiered from a Tier I Environmental Impact Report that was invalidated in court.

2. The DRAFT falsely claims the Project is exempt from vehicle miles traveled analysis mandated by Senate Bill 7 43.

3. The DRAFT fails to substantiate claims of safety benefits of the auxiliary lanes.

4. The DRAFT's partial analysis of vehicle miles traveled is not compliant with Senate Bill 7 43.

5. The DRAFT fails to analyze a project alternative

6. The DRAFT unjustifiably eliminates Bus-on-Shoulder Only from further study

7. The Project Objectives are inadequately drawn.

8. The Project does not substantially meet the Project Objectives.

9. The DRAFT's conclusion that the Project would result in countywide reduction in vehicle miles traveled is invalid.

10. The Climate Change analysis is flawed and inadequate

11. The Project conflicts with state climate legislation

**Response to Comment CC1-4**

Please see Master Response 2 regarding tiering. Please also see response to comments O3-1 to O3-23.

The project is exempt from the vehicle miles traveled analysis requirement as the Office of Planning and Research guideance stipulates under the discussion of Project Types Not Likely to Lead to a Measurable and Substantial Increase in Vehicle Travel that, “Addition of an auxiliary lane of less than one mile in length designed to improve roadway safety.” As the auxiliary lane sections included in this project are all under i mile long the project is not required to prepare a vehicle miles traveled analysis.

Safety benefits of the project are described in Environmental Impact Report/Environmental Assessment Section 1.3, and the Traffic Operations Analysis Report provides updated traffic safety data and an analysis that is more specific to the attributes of the project, as it is now defined, and the No-Build Alternative. The safety analysis presented in the Traffic Operations Analysis Report uses a methodology that is consistent with current professional practices, based on recent studies of traffic safety on state highways. That analysis should be used as the source for assessing the safety impacts of the project.

As described in response to comment O7-11, the “no project alternative” under CEQA is the same as the “no-action,” “no-project,” or “no-build” alternative, which may be used interchangeably, under NEPA. Similarly, the “Build Alternative” under NEPA is the same

as the “proposed project” under CEQA, which also may be used interchangeably. Four alternatives were evaluated as part of the proposed project (the Build Alternative (State Route 1 and Bus-on-Shoulder) [i.e., the project under CEQA], Build Alternative (Optional First Phase), Build Alternative (Ultimate Trail Configuration), and No-Build (No-Action), [i.e., the no project alternative under CEQA]).

This project has a long history during which an extensive number of alternatives have been considered both within the freeway corridor and within the broader coastal corridor between Santa Cruz and Watsonville. Project alternatives and variations that have been considered include high-occupancy vehicle lanes, bus on shoulder (for the full extent of the corridor including the segments with auxiliary lanes), bus and rail transit alternatives (on the rail right-of-way), and ramp metering. The information gained from these efforts was used to narrow the options considered for this project as some options were rejected due to design or performance flaws and others (such as transit use of the rail right-of-way) were considered as compatible with the project alternative. The Bus on Shoulder Feasibility Study, considered a bus-on-shoulder only alternative and an high-occupancy vehicle  lane alternative. Both of these alternatives did not include auxiliary lanes. That study found that the hybrid auxiliary lane plus bus-on-shoulder alternative (the project) was the most effective in terms of potential ridership versus cost. Alternatives considered but eliminated from further discussion are described in Environmental Impact Report/Environmental Assessment Section 1.6.

The climate change analysis is provided in Environmental Impact Report/Environmental Assessment Section 3.3. It follows Caltrans’ protocol and methodology for a non-capacity-increasing project. The comment’s assertion that the project conflicts with state climate legislation is not supported by the content of the Environmental Impact Report. Individual projects are not responsible for greenhouse gas reduction proportionate to the statewide greenhouse gas reduction target. Projects included in an approved Regional Transportation Plan or Metropolitan Transportation Plan that meet or exceed its regional greenhouse gas reduction goal are considered to contribute to the statewide greenhouse gas reduction goal. Santa Cruz County Regional Transportation Commission is a member of Association of Monterey Bay Area Governments Metropolitan Planning Organization; Association of Monterey Bay Area Governments’ target from Air Resources Board is 6% greenhouse gas reduction per capita by 2035 relative to 2005. The project is included in Association of Monterey Bay Area Governments’s 2045 Metropolitan Transportation Plan/Sustainable Communities Strategy.

The commenter expresses their opinion regarding the alternatives, objectives, and vehicle miles traveled and climate change analysis, but does not provide substantive comments on the analysis. No further response is required.

**Comment CC1-5 (Michael Saint)**

I am really disappointed that the bus is planned to run in the aux lanes with cars and traffic.

Why not a dedicated bus on shoulder project check out bus-on-shoulder in San Diego, they are going it correctly.

Building infrastructure for single occupancy vehicles is old school and will increase vehicle miles traveled and greenhouse gas emissions.

Other parts of the multi modal are great. Bike lanes, pedestrian projects, transit improvements on Soquel.

Also support the rail corridor plan but feel a more technically advanced and smaller system would be better for Santa Cruz County i.e. PRT, a lot more ridership possibility and flexible in expanding the system.

**Response to Comment CC1-5**

The Bus-on-Shoulder Feasibility Study considered a bus-on-shoulder-only alternative, as well as a high occupancy vehicle lane alternative. Neither alternative included auxiliary lanes. That study found that the Auxiliary Lane plus Bus-on-Shoulder Alternative (the project) was the most effective in terms of potential ridership versus costs. Environmental Impact Report/Environmental Assessment Section 1.6, *Alternatives Considered but Eliminated from Further Discussion*, describes all alternatives considered.

Per State CEQA Guidelines Section 15130, an environmental impact report need only evaluate alternatives that are (1) potentially feasible, (2) capable of meeting all or most project objectives, and (3) capable of reducing one or more of the project's substantial impacts. An environmental impact report need not consider every conceivable alternative to a project per State CEQA Guidelines Section 15126.6. Rather, it must consider a reasonable range of potentially feasible alternatives that foster informed decision-making and public participation. The lead agency is responsible for selecting a range of project alternatives for examination and must publicly disclose its reasoning for

selecting those alternatives. There is no ironclad rule governing the nature or scope of the alternatives to be discussed other than the rule of reason.

Alternatives are described in Environmental Impact Report/Environmental Assessment Section 1.6, including several that are similar to alternatives discussed during the scoping session. These alternatives include an inland and a coastal alternative to the rail trail alignment, and a bus-on-shoulder only alternative.

**Comment CC1-6 (Elizabeth Saint)**

I think that toll type camera monitors should be used when freeway transitions from aux lanes that cars can use to shoulder lanes that only buses can use. I understand that there will be signs and police can ticket cars in shoulder lanes but I don't think the burden should fall on police. A simple toll camera (in addition to signs) will be able to capture and then mail fines to cars that ignore the signs. We need to make buses more efficient if we want to entice use.

I like the posts protecting bike lanes and think we should use them everywhere.

I am excited about the prospect of the pedestrian/bike trail and pleased we are preserving the rail for future transportation neds.

I think the bus frequency times need to be increased AHEAD of demand in order to stimulate demand for bus usage.

This means a cost to County for several years until demand catches up. We should compare cost for freeway expansion and maintenance and use those funds to subsidize bus fares to make bus travel cheap, convenient and attractive.

**Response to Comment CC1-6**

Caltrans appreciates the commenter's support for the Coastal Rail Trail Segment 12. At this time, toll cameras are not being considered and there is no plan to increase bus frequency.

**Comment CC1-7 (Barry Scott)**

Thank you for creating the rail + trail plans, Together, these provide the greatest return on our investments.

Please include new, longer rail bridges with attached or separate new trail bridges.

Do not risk loss of the rail line by attempting railbanking or adverse abandonment.

**Response to Comment CC1-7**

Caltrans appreciates the commenter's support for rail and trail and public transit projects. As stated in the project description of the Environmental Impact Report/Environmental Assessment, the Optional First Phase is an option if the common carrier files for abandonment, and the rail line could be railbanked to preserve the corridor for future freight reactivation. Under the ultimate condition, the rail would remain. As stated in the project description of the Environmental Impact Report/Environmental Assessment, the project includes longer rail bridges to span State Route 1.

**Comment CC1-8 (Sarah Ringler)**

Santa Cruz County traffic is horrible unless you like driving at a snails speed a certain hour of the day.

We need to get people off the road and offer alternative transportation.

A light rail using existing tracks would be a wonderful and efficient way to offer some people a way to et from south county to north county.

I live in South county and am excited about some of the plans to increase + more frequent bus routes.

I also support the auxiliary lanes although worry about traffic during construction.

Can trains come first?

**Response to Comment CC1-8**

Passenger rail service is not within the scope of the proposed project. However, the project includes multi-modal benefits including construction of Segment 12 of the Coastal Rail Trail, which would increase accessibility for bicyclists and pedestrians, and the bus-on-shoulder component would increase transit reliability and ridership in the corridor.

**Comment CC1-9 (LD Freitas)**

We need public transportation much more of it. I rode the TIG-m in October 2021. Great ride! I could see it would work on the branch line and hook up with longer route trains at Parejo Junction.

**Response to Comment CC1-8**

Caltrans appreciates the commenter's support for the Coastal Rail Trail. Electric passenger rail is not within the scope of the project.

**Comment CC1-10 (Pauline Seales)**

Many good features including

2 new trail bridges with trail at one side

Better street layout for bikes/pedestrians in Soquel

Problems:

Planned set up with buses using “Aux Lanes” will minimize the increased use of the bus as it will still be slowed by cars. Metered on ramps could increase the safety where buses and cars need to cross.

**Response to Comment CC1-10**

Ramp metering was studied in the Transportation System Management Alternative in the original Traffic Operations Analysis Report for State Route 1 improvements. The ability of ramp metering to manage main line freeway traffic flows and on-ramp volumes entering the freeway is limited by the amount of available capacity for vehicle storage on the on-ramps and on the adjacent surface streets approaching the on-ramps. Redesign of the ramps would only partially solve the storage capactiy problem. Allowing on-ramp traffic to queue behind the metering lights to the extent that it causes congestion on the surface streets in the area of the interchanges is not desirable and most likely not acceptable to the local communities. As a result, metering rates would need to be kept higher than what is desirable for improved freeway operations. Metering in combination with auxiliary lanes would improve freeway operations, which allow higher metering rates.

**Comment CC1-11 (Trink Praxel)**

I strongly support this project-all elements. We have planned it for years and I’m so glad to see it starting. It is sad to lose trees, but we need the extra highway widening more. With more trees planted elsewhere. I fully support the potential rail trail which will get more cars off the highway and make it work even better. Thank you!

**Response to Comment CC1-11**

Caltrans appreciates the commenter's support for the Coastal Rail Trail.

**Comment CC1-12 (Angelina Medina)**

I support leaving in the coastal rail fully. We need it to mitigate future growth. It would be costly (and foolish) to rip out the coastal rail then later pay to implement new ones. Let’s work with what we have and keep both rail and trail for future generations. Let’s think forward!

**Response to Comment CC1-12**

The commenter expresses their support for the ultimate condition of the Coastal Rail Trail component. No response is required.

**Comment CC1-13 (Paula Bradley)**

The Regional Transportation Commission has done an incredible job for the last 20 years getting this project a reality. The preservation of the rail for a transit corridor is critical as well as the trail for a multi modal transportation system in our county. Connecting at Pajaro to Monterey County and the state rail system is future thinking. Widening the highway is temporary relief but the only way to avoid gridlock is public transit and a clean passenger rail accessible to all county residents, equity in transit is the goal among many others. I have walked segments 10 and 11 and asked questions previously. I am concerned of delays with Segment 12 with the Caltrans bridges. If separate bike bridges are the best alternative to get the trail faster that would be great. Do not stop working towards the rail and bridge project.

The auxiliary lanes should be dedicated. Once the bus gets to the aux lane they will be stuck in traffic so not much faster than without it. Bus on shoulder instead of dedicated is disappointing.

Keep on getting the rail and trail ultimate approved project done.

**Response to Comment CC1-13**

Caltrans appreciates the commenter's support for the Coastal Rail Trail. The Rail Trail from Davenport to Pajaro and passenger rail service are not within the scope of the proposed project. However, the project includes multi-modal benefits including construction of Segment 12 of the Coastal Rail Trail, which would increase accessibility

for bicyclists and pedestrians, and the bus-on-shoulder component would increase transit reliability and ridership in the corridor.

**Comment CC1-14 (David Rayround)**

With regard to rail/trail

Estimated cost of rail renovations?

Where would stations be located?

How would people arrive/disperse from stations?

How noisy would trains be for residents close to track?

When is feasibility study due?

My comment is that cost would be prohibitive and would require significant change in people's attitude towards transport.

**Response to Comment CC1-14**

The proposed project does not include implementation of rail service on the Santa Cruz Branch Line. Regional Transportation Commission has completed prior studies regarding rail transit service, including the Transit Corridor Alternatives Analysis and associated Business Plan (2021), which provide information about potential funding sources, ridership projections and, options to address additional funding needs to develop rail transit on the Santa Cruz Branch Rail Line. In 2022, Regional Transportation Commission allocated Measure D funding and awarded a consultant contract to initiate a Project Concept Report for Zero Emission Rail Transit on the Santa Cruz Branch Rail Line as a separate project. The Zero Emission Rail Transit Project Concept Report will include b developing the alignment for rail transit along the rail right-of-way, conceptual rail transit operations plan and related facilities, ridership forecasts, and cost estimates.

**Comment CC1-15 (David Lieby)**

Over the years I have voted to have rail service and a bicycle path along side with the rail. I have voted time and again for funds to get this done. Every time some group tries to stop the rail and trail it has failed.

To be creating the interim trail would be a grave ecological mistake. Placing pavement over the rail ROW, then removing it is a waste.

Government agencies both Federal and state are pushing for rail availability and willing to put out the funds to delay would cost a lot of money.

**Response to Comment CC1-15**

The commenter expresses their support for the ultimate condition of the Coastal Rail Trail component. No response is required.

**Comment CC1-16 (Gerl Lieby)**

It is historically foolish to remove tracks

Are you legally allowed to remove tracks?

How long would it take to try for permission?

How long a delay and what financial cost would this make?

If the rail removal be were approved then would this impact the trail construction?

**Response to Comment CC1-16**

Replacement of the rail would occur under the Optional First Phase. As stated in Environmental Impact Report/Environmental Assessment page 13, if all or a portion of the Optional First Phase of the trail is implemented, and railroad operations are reactivated, the trail along the existing railroad track alignment would be built.

***References***

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***Personal Communications***

Kuzak, Chris, Caltrans Director of Equity, Sustainability, and Tribal Affairs, Sacramento, CA. March 6, 2023 – email to Lara Bertaina.

# **Appendix J** Public Comments

**From:** Pertschuk, Mark <Pertschuk.Mark@epa.gov>
**Sent:** Friday, June 2, 2023 4:28 PM
**To:** Bertaina, Lara E@DOT
**Cc:** Dunning, Connell
**Subject:** EPA comments for the Draft Environmental Assessment for the Highway 1 Auxiliary Lanes/Bus-on-Shoulder/Coastal Rail Trail Segment 12 Project
**Attachments:** 2023-6-2_Hwy1_AuxLanes-Bus-on-Shoulder-RailTrail_SantaCruz_DEA_EPAComment_ltr.pdf

**EXTERNAL EMAIL.** Links/attachments may not be safe.

Please find attached the EPA's comments on the Draft Environmental Assessment for the Highway 1 Auxiliary Lanes – State Park Drive to Bay Avenue/Porter Street project. EPA appreciates the opportunity to participate in the NEPA process and looks forward to working with you as a cooperating agency. Please do not hesitate to contact me at Pertschuk.mark@epa.gov.

**Mark Pertschuk**
Environmental Review Branch
U.S. EPA, Region 9
75 Hawthorne Street, TIP-2
San Francisco, CA 94105-3901

Mail: pertschuk.mark@epa.gov

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105-3901

June 2, 2023

Ms. Lara Bertaina
Senior Environmental Planner
California Department of Transportation
Environmental Planning, Division Management South, District 5
50 Higuera Street
San Luis Obispo, California 93401

Subject: EPA comments for the Draft Environmental Assessment for the Highway 1 Auxiliary Lanes – State Park Drive to Bay Avenue/Porter Street Project, Santa Cruz, California

Dear Lara Bertaina:

The U.S. Environmental Protection Agency has reviewed the California Department of Transportation's Draft Environmental Impact Report/Environmental Assessment pursuant to the California Environmental Quality Act and the National Environmental Policy Act. Our review and comments are provided for the DEA for the project, pursuant to NEPA, Council on Environmental Quality regulations (40 CFR Parts 1500-1508), and Section 309 of the Clean Air Act.

Caltrans, in cooperation with the Santa Cruz County Regional Transportation Commission and the County of Santa Cruz, proposes to reduce congestion, improve safety, and encourage alternative transportation modes by widening State Route 1 to include auxiliary lanes, accommodate Bus-on-Shoulder operations between the Freedom Boulevard and State Park Drive interchanges, and construct Coastal Rail Trail Segment 12. We recognize Caltrans has integrated our previous scoping comments and recommend Caltrans consider our further comments regarding air quality, aquatic resources, biological resources, and environmental justice when preparing the final Environmental Assessment. These impacts are discussed further below.

**Air Quality**

Santa Cruz County is in attainment and not in violation of the National Ambient Air Quality Standards. We note that in the draft EIR/EA for the project Caltrans committed to construction phase mitigation measures such as diesel equipment idling avoidance, fugitive dust mitigation, and other measures near sensitive receptors. In the DEA, Caltrans identifies Seacliff Village Park, Aptos Village Park, the Tennis Club of Rio del Mar, and Valencia Elementary School as Environmentally Sensitive Areas with sensitive receptors vulnerable to construction emissions. We recommend Caltrans consider adopting any additional mitigation measures that apply and are practicable from the following list.

***Recommendations***:

Fugitive Dust Source Controls

- Develop a dust control plan documenting sprinkling, temporary paving, speed limits, and expedited revegetation of disturbed slopes as needed to minimize construction impacts on existing communities.

- Apply water or dust palliative to the site and equipment as frequently as necessary to control fugitive dust emissions.
- Spread soil binder on any unpaved roads used for construction purposes and on all project construction parking areas.
- Wash off trucks as they leave the right-of-way as necessary to control fugitive dust emissions.
- Stabilize open storage piles and disturbed areas by covering and/or applying water or chemical/organic dust palliative where appropriate, including during workdays, weekends, holidays, and windy conditions.
- Install wind fencing and phase grading operations where appropriate and operate water trucks for stabilization of surfaces under windy conditions.
- Route and schedule construction traffic to avoid peak travel times as much as possible to reduce congestion and related air quality impacts caused by idling vehicles along local roads.

Mobile and Stationary Source Controls

- Properly tune and maintain construction equipment and vehicles.
- Use low-sulfur fuel in all construction equipment.
- Limit on-road and off-road diesel equipment idling time to no more than 5 minutes. Post signs in the designated queuing areas and/or job sites to remind drivers and operators of the 5-minute idling limit.
- Lease or buy newer, cleaner equipment using the best available emissions control technologies.
- Use lower-emitting engines and fuels, including electric, liquified gas, and/or alternative diesel formulations if feasible.
- Consider the potential near-roadside air pollution mitigation benefits from sound walls and vegetative barriers outlined in emergent research.[1]

**Aquatic Resources**

We recognize that Caltrans and its partners have completed an analysis of the potential upstream hydrologic impacts of the proposed project, including the growing risks associated with climate change. Receiving waters for the project are Aptos Creek, Valencia Creek, Valencia Lagoon, and the Pacific Ocean; Aptos Creek and Valencia Creek are creeks within designated Federal Emergency Management Area floodplains and located within the project's footprint. Most of the project site, however, is in outside of FEMA's special flood hazard areas and represents minimal flood hazard. The project would not be a significant encroachment on the base floodplain. The overall existing land use of the project watershed area would be maintained. The effect of the proposed project on water surface elevation and stream flow are anticipated to be negligible and there would be no significant floodplain encroachment.

***Recommendations:***

- Implement and maintain erosion control measures, including sediment barriers (e.g., fiber rolls and straw bales) between the project site and adjacent streams, wetlands and other waters, checked and maintained daily throughout the construction period.
- To the greatest practicable extent, conduct work within stream channels during the dry season (June 1–September 30). If in-stream work will be necessary, a Diversion and Dewatering Plan will be prepared, submitted for agency approval, and implemented.

[1] Recommendations for Constructing Roadside Vegetation Barriers to Improve Near-Road Air Quality (2016). https://cfpub.epa.gov/si/si_public_record_report.cfm?Lab=NRMRL&dirEntryId=321772

- During project activities, clean and refuel mobile equipment and vehicles only within a designated staging area and at least 100 feet from wetlands, other waters, or other aquatic areas. This staging area will conform to Best Management Practices applicable to attaining zero discharge of stormwater runoff.

*Stormwater*

We see from the DEA that because the project would disturb more than 1 acre of land, and a construction stormwater general permit would be required for the build alternative. In compliance with the Caltrans and Phase 2 Municipal Separate Storm Sewer System (MS4) permits, the project is required to adopt permanent Best Management Practice design features that reduce potential negative impacts. We recommend Caltrans review the BMPs in the MS4 permit for the proposed project and include any additional BMPs that are applicable and practicable from the EPA's National Menu of Best Management Practices (BMPs).[2] Also consider adding any of the following recommendations as they apply and are practicable for the proposed project.

***Recommendations:***

- Prior to the onset of work, prepare a Hazardous Materials Response Plan to allow a prompt and effective response to any accidental spills. Inform all workers of the importance of preventing spills and of the appropriate measures to take should a spill occur.
- Comply with the conditions of the Construction General Permit, including the preparation and implementation of a Stormwater Pollution Prevention Plan.
- Conserve natural areas, including existing trees, stream buffer areas, vegetation, and soils.
- Minimize disturbances of natural drainages.
- Design and construct pervious areas to effectively receive runoff from impervious areas, taking into consideration the pervious area's soil conditions, slope, and other design factors.
- Implement landscape and soil-based Best Management Practices such as amended soils and vegetated strips and swales where feasible.
- Use climate-appropriate landscaping that minimizes irrigation and runoff. This promotes surface infiltration and minimizes the use of pesticides and fertilizers.
- Implement the California Office of Emergency Services' Hazardous Material Incident Contingency Plan.

*Climate Adaptation*

Climate change is expected to produce increased variability in precipitation, rising temperatures, rising sea levels, variability in storm surges and their intensity, and in the frequency and intensity of wildfires. Accordingly, Caltrans considers these types of climate stressors in how transportation projects are planned, designed, built, operated, and maintained. We note the Caltrans Climate Change Vulnerability Assessment for District 5[3] found that no roadway segments in the County of Santa Cruz, including the project area, would be affected by up to 6 feet of sea level rise, and that no locations in the project area would be affected by a combination of sea level rise and storm surge. We also note that Caltrans analyzed the hydrologic flow through the project area and considered the risks of extreme precipitation in the uplands with landslide effects downstream and found the proposed project area would not be significantly adversely affected by heavy precipitation events.

[2] https://www.epa.gov/npdes/national-menu-best-management-practices-bmps-stormwater-construction.

[3] https://dot.ca.gov/-/media/dot-media/programs/transportation-planning/documents/2019-climate-change-vulnerability-assessments/ada-remediated/d5-technical-report-a11y.pdf

Caltrans' hydrological assessment evaluated whether the project would affect 100-year water surface elevations within the project vicinity. The sea level rise analysis and the floodplain evaluation report both concluded that the project would not be vulnerable to inundation by sea level rise of 7 feet plus 100-year storm surge at about 2100 under the medium-high risk aversion scenario. The project's water quality assessment found that minimal net impervious area would drain to the different receiving waters within project limits and would not change water surface elevation upstream of State Route 1 during a 100-year event with sea level rise. Bridge freeboard within the project area was found to be more than adequate to pass any increased flows. New drainage systems would be designed to convey 100-year flow, existing undersized culverts would be replaced, and treatment Best Management Practices and hydromodifications to enhance percolation would be conducted in accordance with requirements of Caltrans, Santa Cruz County, and the Central Coast Regional Water Quality Control Board. Accordingly, the project is not likely to be affected by the projected changes in 100-year storm precipitation.

**Biological Resources**

We note that Caltrans is already planning to study potential impacts to federally listed animal species, California Rare Plant Rank species, California Species of Special Concern, and nesting native birds in the project area. Caltrans will also complete a fish passage assessment in the biological study area and consult with the US Fish and Wildlife Service and National Marine Fisheries Service. The DEA also states that Caltrans is also coordinating and consulting with the California Coastal Commission, California Department of Fish and Wildlife, U.S. Army Corps of Engineers, and the Regional Water Quality Control Board on potential impacts to wildlife.

***Recommendations***:

- We recommend Caltrans continue its ongoing consultation and collaboration with the US Fish and Wildlife Service, National Marine Fisheries Service, California Coastal Commission, California Department of Fish and Wildlife, US Army Corps of Engineers, and Regional Water Quality Control Board to analyze, minimize, and mitigate impacts to wildlife in the project area.
- Include a wide enough representative area of the watershed to adequately assess the biological impacts of the proposed project.
- Protect migratory and nongame birds, their occupied nests, and their eggs by avoiding construction during the nesting season, stopping all work within a 100-foot radius of a discovery, notifying the project engineer, and implementing protective measures.
- Prepare/finalize a Mitigation and Monitoring Plan, consistent with federal, state, and local regulatory requirements, to avoid and mitigate impacts on vegetation and natural habitats, amended with any required regulatory permit conditions.
- Prior to any ground-disturbing activities, install environmentally sensitive area fencing around sensitive waters and the dripline of trees to be protected within project limits.
- Monitor compliance with avoidance and minimization measures within the project environmental documents.
- Ensure that the spread or introduction of invasive exotic plant species is avoided to the maximum extent possible. When practicable, remove and properly dispose of invasive plants in the project site.

- Following construction, restore temporary impacts on streamside vegetation used as sheltering areas or streambed sandbars, gravels, and cobbles used by fish species to their preconstruction conditions, at a minimum.
- If any construction activities are proposed to occur during the typical nesting season (February 15 to September 15), conduct a nesting bird survey of the area of disturbance to determine presence/absence of nesting birds within the project area.
- Establish environmentally sensitive areas to minimize the impact on California red-legged frog, California giant salamander, and Santa Cruz black salamander habitat. If regulatory agency approval allows, qualified biologists shall capture and relocate any Santa Cruz black salamanders (if present) or other sensitive species to suitable habitat outside of the area of impact.
- Conduct preconstruction surveys for bats species that could be utilizing existing structures or trees for roosting habitat. If bats are identified as utilizing areas within the biological study area for day or night roosting, a qualified biologist shall identify the species of bat present.
- If construction activities are scheduled to occur within potentially suitable monarch butterfly habitat between October 1 and March 1, conduct pre-construction surveys for overwintering monarch butterflies in appropriate habitat. If an active roost or aggregation is present, prohibit construction grading or other development within 100 feet of the active roost between October 1 and March 1. If feasible, avoid eucalyptus tree removal or other disturbance of eucalyptus habitat from October 1 to March 1 to avoid potential impacts on winter roosting monarch butterflies.

**Environmental Justice**

The proposed project shares a geographic area with the communities of Aptos and Rio del Mar and other unincorporated areas of Santa Cruz County. EPA EJ Screen shows a slight overlap between above 80$^{th}$-percentile unemployed population, above 90$^{th}$ percentile over-64 years of age, and above 90$^{th}$ percentile proximity to traffic and associated vehicle emissions in the proposed project area.

The DEA indicates that the affected environment for potential impacts related to land use includes properties adjacent to the proposed Coastal Rail Trail Segment 12, which would be impacted by land acquisitions and temporary construction easements. The proposed project would require temporary easements for construction activities associated with the proposed improvements, including the construction of sound walls and retaining walls along north and southbound State Route 1. The Build Alternative would require full or partial property acquisitions for the construction of the rail trail segment within the existing right of way of the Santa Cruz Branch Rail Line. The acquisition of property would occur along Soquel Road, north of SR 1, and east of the existing rail segment, south of SR 1.

We understand that the project is not expected to alter land use patterns or change land uses beyond the minor land acquisition needed to construct Coastal Rail Trail Segment 12 and is consistent with adopted local planning goals and policies for improving the existing SR 1 corridor. The project alignment has been adjusted to fit within existing right of way where feasible. The proposed project would be subject to the policies and programs set forth in the Santa Cruz County 1994 General Plan/Local Coastal Program and other state and local transportation and land use plans.

***Recommendations***:

- EPA recommends that Caltrans continue to coordinate with local government agencies to harmonize the proposed project with local active transportation plans.

- Assess and disclose any potential impacts of the project on sensitive populations and communities with environmental justice concerns. We recommend Caltrans continue to work with local government agencies and community representatives to include these populations in community outreach and communication for the proposed project.

Thank you for the opportunity to review this combined DEIR/DEA. We would appreciate receiving an electronic copy of the Final EA once it is available for review. If you have any questions, please contact me at 415-972-3308, or contact Mark Pertschuk, the lead reviewer for this project, at 415-972-3322 or Pertschuk.mark@epa.gov.

Sincerely,

*for* Janice Chan,
Acting Manager, Environmental Review Branch

cc (by e-mail): Sarah Christensen, Santa Cruz County Regional Transportation Commission
Karl Mikel, Caltrans Division 5
Brenda Powell-Jones, Caltrans HQ
Matt Machado, Santa Cruz County Planning Department

**From:** Zamora, Cherry@CATC <Cherry.Zamora@catc.ca.gov>
**Sent:** Friday, June 2, 2023 8:45 AM
**To:** Bertaina, Lara E@DOT
**Cc:** Pennebaker, Laura@DOT
**Subject:** Draft EIR for the SR 1 Auxiliary Lanes and Bus-on-Shoulder Improvements - Freedom to State Park Dr - and Coastal Rail Trail Segment 12

Hello Ms. Bertaina:

The California Transportation Commission (Commission) has received the California Department of Transportation's *Draft Environmental Impact Report/Environmental Assessment for the State Route 1 Auxiliary Lanes and Bus-on-Shoulder Improvements—Freedom Blvd. to State Park Dr.—and Coastal Rail Trail Segment 12 Project*. Commission staff do not have comments at this time.

Regards,

Cherry Zamora
California Transportation Commission
(916) 654-4245 | cherry.zamora@catc.ca.gov

**CALIFORNIA COASTAL COMMISSION**
CENTRAL COAST DISTRICT
725 FRONT STREET, SUITE 300
SANTA CRUZ, CA 95060
PHONE: (831) 427-4863
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WEB: WWW.COASTAL.CA.GOV

**June 8, 2023**

**Sent Electronically**
Lara Bertaina, Senior Environmental Planner
Caltrans, District 5
50 Higuera Street
San Luis Obispo, CA 93401

Subject: **DEIR for the Highway 1 Auxiliary Lanes and Bus-on-Shoulder Improvements—Freedom Boulevard to State Park Drive—and Coastal Rail Trail Segment 12 Project**

Dear Lara:

Thank you for the opportunity to provide comments on the Draft Environmental Impact Report (DEIR) for the proposed Highway 1 Auxiliary Lanes and Bus-on-Shoulder Improvements—Freedom Boulevard to State Park Drive—and Coastal Rail Trail Segment 12 Project (project). As a preliminary matter, we would like to emphasize that we continue to be very supportive of the development of the Monterey Bay Sanctuary Scenic Trail (MBSST) as a critical component and central "spine" of the California Coastal Trail (CCT) network and for expanding multi-modal transportation opportunities in the region. The MBSST/CCT are envisioned as key ingredients of a sustainable and interlinked transportation system in the coastal zone, a goal echoed in federal, state, and local policies and programs alike, including the California Coastal Act and the Santa Cruz County Local Coastal Program (LCP).

Improving transportation in Santa Cruz County by offering safer, greener, and healthier options for bicycling, walking, and public transit in ways that connect residential areas with employment areas, schools, parks, beaches, and community centers along the coast would provide many benefits. Designed with these factors in mind, the MBSST/CCT can also help advance the state and local sustainability measures of improved coastal access and recreation, mobility, environmental conditions, safety, economic vitality and health, as well as to reduce vehicle miles traveled (VMTs) and greenhouse gas (GHG) emissions.

At the same time, we also recognize that a project of this nature invariably raises some questions and issues, and we appreciate that the CEQA process can help identify and address such questions and issues, provide a forum for public discussion, and develop materials to help facilitate the forthcoming coastal development permit (CDP) processes. With that in mind, we offer the following comments to consider in the development of the final EIR and subsequent project development.

**Project Description**
The project will construct northbound and southbound auxiliary lanes between the State Park Drive and Freedom Boulevard interchanges, replace the two existing overhead railroad bridges between the State Park Drive and Rio del Mar interchanges, and widen the Aptos Creek bridge. The auxiliary lanes will connect the on-ramps with the next off-ramp to improve traffic operations and reduce cut-through traffic diverting to local streets and neighborhoods. The existing railroad bridges will be replaced with longer span bridges to accommodate the addition of auxiliary lanes. The new bridges will also be able to accommodate future high-capacity public transit and freight operations. This project includes construction of Segment 12 of the Coastal Rail Trail, a bicycle and pedestrian trail along an approximately 1.14-mile segment of the Santa Cruz Branch Rail Line (SCBL) right-of-way from State Park Drive to Rio Del Mar Boulevard. Additionally, independent bicycle and pedestrian bridges adjacent to the SCBL bridges will be constructed over Highway 1, Aptos Creek, and Valencia Creek. The new bridges, soundwalls, and retaining walls will incorporate aesthetic treatments consistent with the visual character of the corridor and the adjacent community.

**Jurisdiction and Permitting**
Based on the map of the proposed project boundaries in Figure 1-2, it appears that all of the proposed project except the segment of Rail Trail inland of Highway 1 is located within the Coastal Zone. The portions of the project within the Coastal Zone appear to be located within the Local Coastal Program (LCP) jurisdiction of Santa Cruz County. Due to the project size, location, and potential funding sources, there are several possible regulatory pathways for securing Coastal Act approval for the project (e.g., County Coastal Development Permit, Federal Consistency). As such, we suggest that Caltrans coordinate with Coastal Commission staff and Santa Cruz County staff to determine the most efficient and appropriate permitting pathway to meet regulatory requirements. Please be aware that staging, storage, signage, traffic diversion, and other construction-related activities that constitute development would also be considered part of the project area for the purposes of Coastal Act approval.

This area also falls within the Commission's appeal jurisdiction. First, pursuant to Coastal Act Section 30603(a)(2) and 30603(a)(3), those portions of the project area within 100 feet of wetlands or within sensitive coastal resource areas are within the Commission's appeal jurisdiction. Ultimately, Coastal Act Section 30603(a)(5) establishes that the Coastal Commission has appeal jurisdiction over all major public works projects, including this project in its entirety. As such, we suggest revising Figure 2-1 to accurately reflect these appeal jurisdictions.

**Coastal Resource Impacts**
Sea Level Rise. We applaud the inclusion of a robust analysis of the potential impacts of sea level rise and associated coastal hazards on the proposed project. In particular, we observe that the DEIR considers a range of SLR scenarios for the project area based on the 2018 California Ocean Protection Council Sea Level Rise Guidance. Using these projections, the DEIR summarizes a hydraulic analysis which considers future stream elevations in Aptos Creek resulting from a combination of sea level rise and a 100-year storm. The DEIR concludes with a clear description of the remaining

freeboard from the highway bridge soffit under multiple scenarios, including finding that the bridge would not be impacted by the SLR projected in the Extreme Risk Aversion scenario for 2100 plus a 100-year storm. Such analysis is precisely what California's modern sea level rise policy obliges for critical infrastructure projects. We commend Caltrans' inclusion of the analysis in the DEIR, and we believe it will greatly inform efficient regulatory review of the project.

Sensitive Habitat and Wetlands. The proposed project will have both temporary and permanent effects on the natural environment and a number of special status species within the Coastal Zone that are protected under both the Coastal Act and the LCP, including riparian non-wetlands, wetlands, coast live oak, tidewater goby, central coast steelhead trout, Santa Cruz long-toed salamander, California reg-legged frog, monarch butterfly, and others. As a general matter, we recommend that the final EIR further define "temporary" and "permanent" impacts as understood both physically and temporally; ecology is not only a function of space, but also a function of time. Typical Coastal Commission guidance recommends "temporary" impacts be understood as those where there is no significant ground disturbance or killing of native vegetation, and the vegetation recovers to its pre-disturbance state within one year; everything else is considered "permanent". For example, if from the point of initial disturbance, vegetation will take more than one year to recover, the temporal losses of important ecological functions such as successional processes, plant maturity, shading, and seedbanking may require years to recover even from relatively temporary disturbances. Further defining and considering the temporal aspects of impacts may better serve the natural environment being affected and provide clearer guidance on any necessary mitigation measures.

The DEIR contains a fairly detailed description of the project's potential impacts on habitat and wetlands. We observe that Caltrans anticipates that the project would result in a total permanent impact of 6.897 acres and total temporary impact of 13.663 acres. Approximately half of the permanent impacts would be to already landscaped areas, while the remainder would be to various natural communities. The project would also result in temporary impacts to 1.473 acres and permanent impacts to 0.061 acres of wetlands. These potential impacts would be associated with significant project features. In Aptos Creek, for example, ESHA and wetlands impacts would result from the implementation of temporary creek diversions and the construction of new foundations for the existing highway bridge columns.

We appreciate the careful consideration of wetlands and riparian non-wetlands as they pertain to the Coastal Zone. Dividing waters by jurisdiction, as is done in the DEIR, aids the regulatory review process. We recommend that a similar approach pertaining to other types of habitats is included in the final EIR. For example, identification and quantification of the habitat area impacted within the Coastal Zone that qualifies specifically as environmentally sensitive habitat area (ESHA)[1] under the LCP can

[1] Defined in IP Section 16.32.040.

enable Caltrans to better evaluate the project for consistency with LCP and Coastal Act ESHA policies.

We note that the DEIR does not include mitigation proposals to compensate for these anticipated impacts, but instead defers developing such proposals to the permitting process. While Caltrans does propose to mitigate permanent impacts at a 3:1 ratio and temporary impacts at a 1:1 ratio, we suggest Caltrans quickly move beyond these ratios and include substantive mitigation proposals as part of the project, and coordinate early with Coastal Commission and Santa Cruz County staff to develop a full and adequate mitigation proposal. Mitigation remains a consistent source of permitting delays in the Coastal Zone, and early coordination is essential. Incorporating the necessary mitigation into the overall project will allow permitting staff to evaluate the entire project for consistency with Coastal Act and LCP policies so that the project may be permitted efficiently. Generally, mitigation may include, but is not limited to, onsite restoration and habitat enhancement for temporary impacts and commensurate offsite compensatory restoration and habitat enhancement and/or creation for permanent impacts. We recommend that the final EIR identify potential sites for compensatory mitigation and analyze the feasibility of habitat restoration, enhancement, and creation at these sites to ensure that proper mitigation can be achieved.

We are also surprised by the absence of detail regarding the proposed fish passage improvements at Valencia Creek. As noted on page S-11, fish passage barrier remediation at Valencia Creek is a statutorily required component of this project under Senate Bill 857 and Streets and Highways Code Sections 156.3 and 156.4. In our experience, remediating fish passage barriers can be a significant undertaking warranting detailed planning and analysis. However, based on the text of page 303, this component of the project is still in its earliest stages. In this respect, the project proposed in the DEIR appears to be incomplete insofar as it does not establish even basic parameters around which to evaluate the contemplated fish passage improvements. We urge that Caltrans provide additional detail in the final EIR to allow for meaningful agency analysis and public review of this important project component.

Specific to the Rail Trail portion of the project, the major impacts would include vegetation removal in the County right-of-way (including the removal of an estimated 121 significant trees[2]) and net new impervious surfaces totaling 6.51 acres (3.84 of new impervious surface) under the Ultimate Trail configuration.

With respect to vegetation removal, the DEIR states that tree surveys were completed for both the Highway 1 improvement areas and the Rail Trail Segment 12 areas, but only the tree survey for the Highway 1 improvement areas was included. The final EIR should include the tree survey for the Rail Trail Segment 12 project areas and identify all significant trees consistent with the numbers reported in the DEIR.

[2] Defined in Santa Cruz County IP Section 16.34.030 but generally meaning a tree with a 20-inch diameter at breast height or greater within the Urban Services Line, where the proposed project is located, or those located in an environmentally sensitive habitat area.

With respect to new impervious surfaces, the DEIR states that treatment for surface runoff of the additional impervious surfaces along the County right-of-way will not be necessary due to its pedestrian and bicycle use.[3] Still, the 6.51 acres of net new impervious surface area expected under the Ultimate Trail Configuration has the potential to affect drainage patterns as these would be newly paved areas over previously pervious surfaces. Therefore, we recommend that the final EIR and subsequent project design include a drainage analysis for Segment 12 of the Rail Trail in addition to the drainage analyses for the Highway 1 improvements due to its proximity to Aptos Creek and Valencia Creek. Such an analysis will better constrain runoff pathways from these paved areas into these wetland and riparian habitats.

Visual Resources/Aesthetics. Coastal Act Section 30251 requires that the scenic and visual resources of the coastal area around Highway 1 be protected as a resource of public importance, and that development be visually compatible with the character of the surrounding area, and sited and designed to minimize alteration of natural landforms. The policies of the Santa Cruz County LCP mirror these policies and provide additional policy direction for projects along Highway 1 and in Seacliff Village.

We appreciate that Caltrans is proposing multiple measures to avoid and minimize the potential visual impact of the project, including aesthetically treating the proposed soundwalls, planting screening vegetation to gradually hide new hardscape elements, and other project elements that serve to blend the project with the surrounding landscape to the extent feasible. We also appreciate that several project elements, including the proposed rail-trail highway crossings, will provide some visual benefit in the form of a more visually pleasant design than the existing crossings. Nevertheless, we recognize that the DEIR concludes that the proposed project would have significant and unavoidable impacts on aesthetics, including scenic views of and from Highway 1. In particular, the two soundwalls, gore paving, and inside shoulder paving would result cumulatively in a more build landscape evocative of urbanized areas and at odds with the surrounding tree canopies, forests, and parklands.

We strongly advise that Caltrans identify and propose visual mitigation to compensate for these unavoidable impacts. Compensatory mitigation—which is not included the project, despite the enumeration of several so-named “Mitigation Measures”—is necessary to ensure that highway projects in the vicinity do not substantially alter the scenic value of the highway in a manner that is impermissible under the policies of the LCP and the Coastal Act.

Public Access. The Coastal Act and the Santa Cruz County LCP contain policies protecting and promoting public coastal access. As the primary arterial through the Central Coast, Highway 1 is a critical resource for providing public access to and along the coast. While CEQA does not consider a project’s impacts on public coastal access, in our experience it has become commonplace for Caltrans to include in its CEQA documents an analysis of a project’s consistency with relevant Coastal Act and LCP public access policies. The inclusion of such an analysis in the CEQA document allows

[3] Apart from 0.23 acres within the County’s right-of-way that intersect vehicular use areas.

for timely identification and remediation of any potential public access impacts associated with the project, which may be more difficult for Caltrans to address in later stages of project development. Given this traditional practice, the omission of public access from the DEIR, aside from the glancing reference to Public Resources Code Section 30252 on page 56, strikes us as an oversight that should be corrected in the final EIR.

Setting aside this misstep, Commission staff support the overall goal of the project to provide a safe and reliable roadway through the project area while minimizing environmental impacts. At the same time, we are mindful that road and ramp closures (as mentioned on page 61) have the potential to cumulatively, if temporarily, impact public coastal access by constricting highway traffic. Given the importance of Highway 1 to public coastal access throughout the project area, we suggest that the proposed Traffic Management Plan schedule any traffic restrictions to avoid the summer season, when coastal visitorship is highest, particularly on weekends and holidays. This measure will help avoid significant impacts to public access and ensure the project's consistency with the public access policies of the Coastal Act and the Santa Cruz County LCP.

**Project Design**

Coastal Rail Trail Segment 12 would require four bridges: Two crossings over Highway 1, one crossing over Aptos Creek, and another over Valencia Creek. Currently, there are existing SCBL bridges at all of these crossings, yet the project proposes to build separate, independent bridge structures for the Rail Trail. The DEIR states that where the SCBL crosses over Aptos Creek and Valencia Creek, there is not enough data to cantilever the Rail Trail on these existing bridges. Similarly, where new SCBL bridges are proposed over Highway 1, the Ultimate Configuration for the Rail Trail would include separate, independent bridge structures as well. We recommend that the final EIR identifies in full the potential for cantilevering the Rail Trail on the SCBL crossings at all four locations, as we believe this may potentially limit the overall development footprint of the project, especially with respect to any necessary grading and installation of structural supports adjacent to riparian non-wetlands and stream channels.

Thank you for your consideration of these comments. We look forward to reviewing the EIR and subsequent project design when they are available, and we are available for questions should Caltrans and its EIR team need clarification on these comments. We also look forward overall to continuing to work with Caltrans to bring this important public access improvement project to fruition. Please do not hesitate to contact us at any time.

Sincerely,

DocuSigned by:
Nolan Clark
77591515633A40D...

Nolan Clark
Coastal Planner, Central Coast District
California Coastal Commission

**From:** Stephanie Hansen <Stephanie.Hansen@santacruzcountyca.gov>
**Sent:** Tuesday, September 12, 2023 1:28 PM
**To:** Bertaina, Lara E@DOT <lara.bertaina@dot.ca.gov>
**Cc:** Sarah Christensen <schristensen@sccrtc.org>; Annie Murphy <Annie.Murphy@santacruzcountyca.gov>
**Subject:** Revised County Historic Comments for Segment 12

**EXTERNAL EMAIL.** Links/attachments may not be safe.

Good afternoon Ms. Bertaina,

Please accept these revised comments on the County of Santa Cruz's historic resources. Santa Cruz County Community Development and Infrastructure Department is providing the following comments on the Draft EIR for the Coastal Rail Trail Segment 12:

The Historic Property Survey Report, page 5, provided as a technical study in the EIR, comments that a list of multiple properties within the Area of Potential Impact for the project were evaluated and found not eligible for inclusion in the NRHP. However, three of the properties referenced in the list are designated in the County's Inventory of Historic Resources as historic resources of local historic significance:

> 7992 Soquel Drive, Aptos (Rice House): APN 039-232-03. Rated NR-3, eligible in the opinion of the Historic Resources Commission (HRC) for listing on the National Register.
> 7996-A Soquel Drive, Aptos (Jose Arano House): APN 039-232-01. Rated NR-4, a property which may become eligible for listing on the National Register if additional research provides a stronger statement of significance, or if the architectural integrity is restored.
> SPRR Bridge 36-0011, Hwy 1 Over Aptos Creek, located at the Intersection of Soquel Drive and Spreckels Drive (Aptos Creek Bridge). Rated NR-3, eligible in the opinion of the HRC for listing on the National Register

Projects affecting these properties are subject to review by the Community Development and Infrastructure under Chapter 16.42 of the Santa Cruz County Code, which provides criteria and permit requirements for demolition, new construction and exterior alterations on designated historic properties.

In order to protect these historical properties, it is also recommended that structures on these sites be protected during construction activities occurring on the subject parcel or adjacent sites, including temporary fencing as appropriate.

The related DPR forms adopted by the County for the three designed historic properties referenced above are attached to this email.

Sincerely,

**Stephanie Hansen**

Assistant Director – Policy, Housing
& Code Compliance
Community Development &
Infrastructure

**Phone**: 831-454-3112
701 Ocean Street, Room 400

*The Department's Building, Zoning, and Environmental Planning counters are open*
***BY APPOINTMENT, Monday through Thursday from 8:00 to 11:30 AM*** *in-person or telephone.*
*Self-schedule your appointment here.*

State of California – The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
# PRIMARY RECORD

Primary #
HRI #
Trinomial
NRHP Status Code NR-3
Other Listings
Review Code ____ Reviewer ____ Date ____

Page 1 of 3 *Resource Name or #: (Assigned by recorder) Aptos Creek Bridge

P1. Other Identifier:

*P2. Location: ☐ Not for Publication ☒ Unrestricted a. County: Santa Cruz

and (P2b and P2c or P2d. Attach a Location Map as necessary.)

b. USGS 7.5' Quad Soquel Date 1994 Revised T 11S R 1E B.M. Mt. Diablo

c. Address Soquel Drive/Aptos Creek City Aptos Zip 95003

d. UTM: (Give more than one for large and/or linear resources) Zone 10S 597757mE 4092829mN

e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, etc., as appropriate)

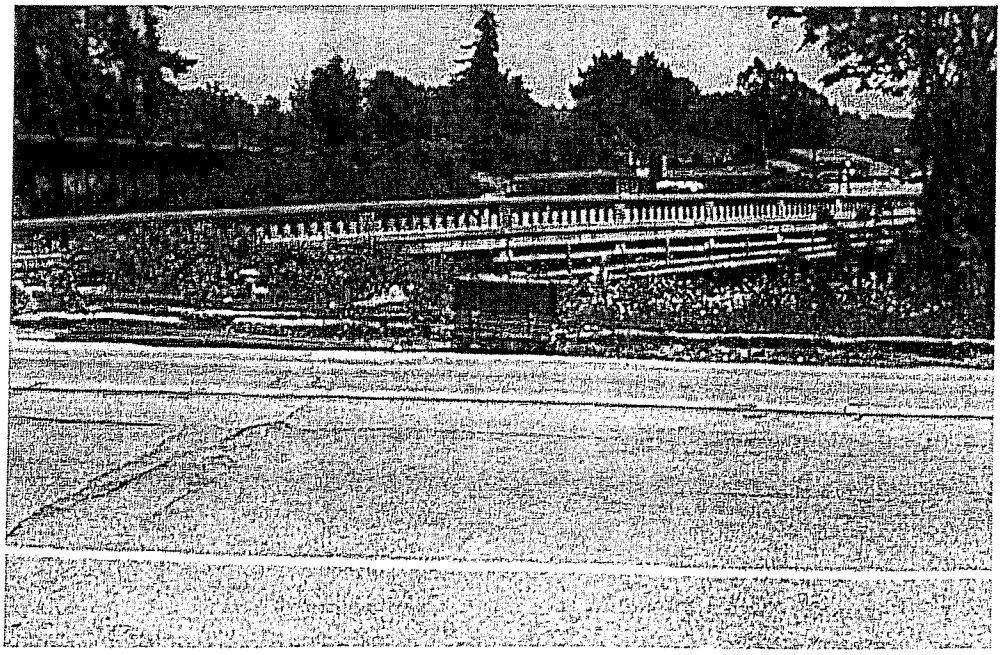
The bridge spans Aptos Creek [following Soquel Drive] beginning at the junction of Spreckles and Soquel Drive.

*P3a Description: (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

Designed by D. M. McPhetre, this bridge is a minor example of a work by a significant designer. The Aptos Creek Bridge, competed in 1928, is an excellent example of a concrete, open spandrel arch bridge. The Aptos Creek Bridge spans 253 feet with a 24 foot roadway with two 4½ wide sidewalks flanking the concrete decking. The roadway slab, which is 13 inches in thickness and of 15-foot spans throughout, is supported on transverse beams and columns. The sidewalk and railings are carried by curved brackets that are a continuation of the transverse beams. Longitudinal arched beams spring from the column caps and continue along under both sides of the roadway over Aptos Creek, which is 72 feet below the roadway grade. An arch structure of two ribs spanning approximately 123 feet between massive concrete abutments supports the superstructure of columns and the deck that comprise the bridge. **(Section P3a continued on page 3)**

*P3b. Resource Attributes: (List attributes and codes) HP19

*P4 Resources Present: ☐ Building ☒ Structure ☐ Object ☐ Site ☐ District ☐ Element of District ☐ Other (Isolates, etc.)



P5b. Description of Photo: (View, date, accession #)
Looking northwest at the southeast side of the bridge. June 2002.

*P6. Date Constructed/Age and Sources:
☒ Historic ☐ Prehistoric ☐ Both

1928

*P7. Owner and Address:

County of Santa Cruz
701 Ocean Street
Santa Cruz, CA 95060

*P8. Recorded by: (Name, affiliation, and address)
Kara Oosterhous
Dill Design Group
110 N Santa Cruz Ave
Los Gatos, CA 95030
Charlene Duval (Consultant)

*P9. Date Recorded: June 2002

*P10. Survey Type: (Describe) Intensive

*P11. Report Citation: (Site survey report and other sources or enter none) Arch Bridge Rating Sheet by CALTRANS, August 1986.

*Attachments: ☐ NONE ☐ Location Map ☐ Sketch Map ☒ Continuation Sheet ☒ Building, Structure and Object Record ☐ Archaeological Record ☐ District Record ☐ Linear Feature Record ☐ Milling State Record ☐ Rock Art Record ☐ Artifact Record ☐ Photograph Record ☐ Other (List)

State of California – The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
Primary #
HRI #
# BUILDING, STRUCTURE, AND OBJECT RECORD



*NRHP Status Code 3 - recommended for listing in the NR

*Resource Name or # (Assigned by recorder) Aptos Creek Bridge

B1. Historic Name: N/A

B2. Common Name: N/A

B3. Original use: Transportation Related

B4. Present Use: Transportation Related

*B5. Architectural Style: Open spandrel arch bridge

*B6. Construction History: (Construction date, alterations, and date of alterations) Constructed 1927.

*B7. Moved? ☒ No ☐ Yes ☐ Unknown Date: N/A Original Location: N/A

*B8. Related Features: N/A

B9a Architect: D. M. McPhetre b. Builder: Thompson Brothers

*B10. Significance: Theme Architecture/Engineering Area Aptos, CA, Santa Cruz County
Period of Significance 1928 Property Type Bridge Applicable Criteria 3

(Discuss importance in terms of historical or architectural context as defined by theme, period, and geographic scope. Also address integrity.)

Prior to 1919, the alignment of the County Road across Aptos Creek on the western end of Aptos Village was located north of the current road location. On the west side of Aptos Creek, the old bridge met the County Road at a right angle at the foot of a steep grade. In 1919, when the new cement highway was constructed through the Village, the right angle was modified to a sharp curve. As the traffic increased with automobiles capable of faster speeds, the accident rate increased; and by the late 1920s, the need for changes to the western approach to Aptos Village was acknowledged. In 1927, survey work, under the direction of County Surveyor Lloyd Bowman, began for the construction of a new bridge across Aptos Creek and for improvements to the County Road on either side of the bridge. To eliminate the steep approach to the bridge on the west side of the creek, the roadbed was graded and lowered to create a more gradual approach to the crossing, which also necessitated modifications to the railroad underpass. On the eastern approach, the road was realigned to the south side of the railroad tracks with a sweeping curved approach. The new design resulted in the rebuilding of 1200 feet of highway and a new curved bridge. The bridge itself was

(Section B10 continued on page 3)

B11. Additional Resource Attributes: (List attributes and codes) N/A

*B12. References:

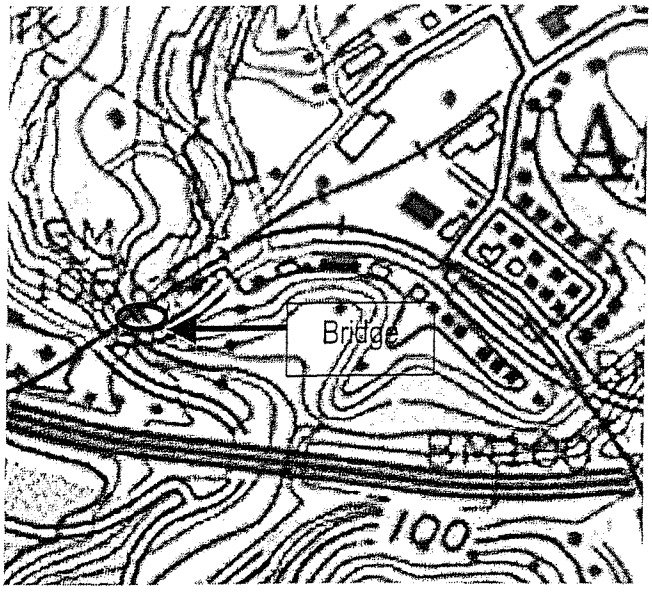
Leonard, V.
1972 Old County Road Full of Hazards. *Watsonville Register-Pajaronian*. 8 November.

(Section B11 continued on page 3)

B13. Remarks: This bridge was documented by CALTRANS in 1986 and deemed a significant historic resource.

*B14. Evaluator: K. Oosterhous

*Date of Evaluation: 19 September 2002






*Required information

(Section P3a continued from page 1)

The following information is excerpted from a report generated by CALTRANS in 1986:

This bridge is an important example of the work of D. M. McPhetre. It was featured in engineering periodicals as a viable solution to a common problem - retaining aesthetic beauty in a curved concrete arch bridge. Decorative features for open spandrel arch bridges, especially cantilever brackets, are distorted when the roadway curves. McPhetre's solution was use of wide arch ring, on which columns could be spaced according to the curvature of the roadway, leaving uniform overhangs and bracket lengths. As with many of his structures, this bridge combines technical inventiveness with attention to aesthetic detail.

Despite some deterioration due to the age of the bridge, the Aptos Creek Bridge displays integrity of location, setting, design, feeling, association, workmanship, and materials.

(Section B10 continued from page 2)

designed by local Santa Cruz structural engineer D. M. McPhetre. As designed, the bridge was 362 feet long and had a 24-foot roadway with two four and a half-foot sidewalks. The light fixtures on the bridge consisted of four Novalux lanterns and operated with a motor driven time clock that automatically turned them on. The brass plates at either end of the bridge were made by Robert and Howard Cardiff, and were made in the foundry at Stanford University.

Significance
The Aptos Creek Bridge is an important example of the work of D. M. McPhetre representing an inventive approach to the design and construction of a bridge following the curvature of the road. Possessing high artistic values, the Aptos Creek Bridge is an excellent example of a concrete, open spandrel arch bridge and embodies the distinctive characteristics of this type of bridge. The bridge also exemplifies the construction techniques employed by designer D. M. McPhetre and therefore is potentially eligible for inclusion in the National Register of Historic Places under Criterion C, as well as inclusion on the California Register of Historic Resources under Criterion 3. Under the County of Santa Cruz Rating System this bridge would be classified as NR-3 - recommended for listing in the National Register of Historic Places.

(Section B11 continued from page 2)

CALTRANS
1986 Arch Bridge Rating Sheet. August 1986.

Morgan, C. and J. P. Eidsness
1998 Archaeological Reconnaissance of the Proposed Aptos Creek Bridge Earthquake Retrofit, Aptos, California. Report prepared for Ecosystems West by Pacific Legacy, Inc.

McPhetre, D. M.
1929 Marks Epoch Development Road System. *Santa Cruz Sentinel.* 17 May.

State of California - The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
# PRIMARY RECORD

Primary #
HRI #
Trinomial
NRHP Status Code
Other Listings
Review Code Reviewer Date NR-4



*Resource Name or # (Assigned by Recorder): SCC10R

P1. Other Identifier: 50

*P2. Location: Not for Publication X Unrestricted *a. County Santa Cruz

and (P2b and P2c or P2d. Attach a Location Map as necessary.)

*b. USGS 7.5' Quad Soquel Date 1954 Revised 1994 R1W T11S Mt Diablo B.M.

c. Address: 7996 Soquel Drive City Aptos ZIP: 95003

d. UTM: (Give more than one for large/or linear resources) 10S 597471mE 4092800mN

e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, etc., as appropriate)

Assessor's Parcel Number: 039-232-01

*P3a. Description:: (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

This two-story building is rectangular in shape, with a roof gabled to the front and rear gabled roof. A National Style building in the American folk tradition, it is representative of buildings of this type, built throughout the country during the 1860s era of railroad expansion. There are at least two generations of additions, one on the south façade at the side of the building and another on the east facade at the rear of the building. The steeply-pitched roof is covered with contemporary composition shingles and penetrated by skylights. The eaves are boxed and lack ornamentation in the current configuration. The primary volume is sheathed in dual beveled wood siding that does not appear to be original to the building. A mix of window types includes six over six double hung sash, skylights, aluminum sliders, and stained glass. The windows in the two-story volume have decorative shutters, and the front windows flank a centrally-located front door under a small gabled porch. This porch is not original to the building. It is supported by square posts and framed by an open railing. Access is from the side, and the roof is front gabled over open rafters. The site is at the edge of a parking lot and the additions attached to the original structure are of plywood shed construction.

P3b. Resource Attributes: (List attributes and codes) HP2 - Single family property

P4. Resources Present: X Building Structure Object Site District Element of District Other (Isolates, etc.)

P5b. Description of Photo: (View, date, accession #)
February 2001
View from south

*P6. Date Constructed/Age Sources:
c1850
1986 DPR

*P7. Owner and Address:
Dennis Jacobsen
P.O. Box 1004
Aptos CA 95003

*P8. Recorded by:
A.Engle/C.Duval
Dill Design Group
110 North Santa Cruz Ave
Los Gatos CA 95030

*P9. Date Recorded: March 2001

*P10. Survey Type: (Describe)
Survey Update

*P11. Report Citation: (City survey report and other sources, or enter "none".)
Dill Design Group, Historic Inventory Update Year 1, for the County of Santa Cruz, March 2001.

Attachments: NONE Location Map Sketch Map Continuation Sheet X Building, Structure and Object Record Archaeological Record
District Record Linear Feature Record Milling State Record Rock Art Record Artifact Record Photograph Record Other (List)



*Required information

State of California - The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
Primary #
HRI#
# BUILDING, STRUCTURE, AND OBJECT RECORD

*NRHP Status Code: 5S



*Resource Name or # (Assigned by recorder): SCC10R

B1. Historic Name: José Arano House
B2. Common Name: None
B3. Original Use: Single family residential B4. Present Use: Single family residential
*B5. Architectural Style: National Style
*B6. Construction History: (Construction date, alterations, and date of alterations)
Built c 1867. Remodeled with new porch, siding, etc after 1910.

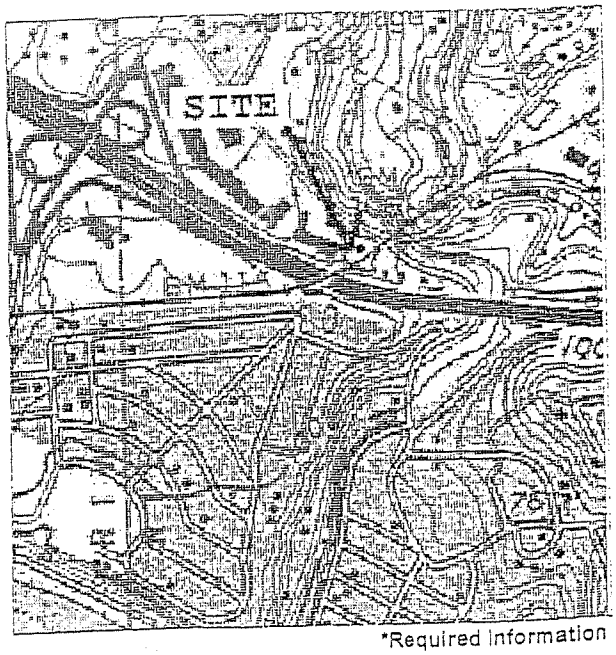
*B7. Moved? No Date: N/A Original Location:
*B8. Related Features: None
B9. Architect: Unknown b. Builder: Unknown
*B10. Significance: Theme Residential and commerical dev Area Aptos
Period of Significance 1870s-1920s Property Type Residential Applicable Criteria None
(Discuss importance in terms of historical or architectural context as defined by theme, period, and geographic scope. Also address integrity.)

José Arano, a native of Barcelona, Spain, arrived in Santa Cruz County in 1834 at age 17. Local oral history has his arrival in the Aptos area in the 1850s; however, in the 1860 census, he was living in Watsonville and working in a hotel. He married Augustia Castro, the 18-year old daughter of Rafael Castro, in 1862. In 1867, Rafael Castro leased Arano the site of this building for 10 years, for $5 per year. At the end of the lease period, he was entitled to remove any improvements that Arano had built. It was probably at this time that the house at the corner of Soquel and Aptos Wharf Drive was constructed. By 1870, the building housed a grocery business and the first Aptos post office. This was the center of Aptos until 1878 when Arano built the Anchor House Hotel, later known as the Bay View Hotel, further east on Soquel-Watsonville Road (Soquel Drive). After the railroad was constructed through Aptos in 1876, the site near the depot was a better location for business. After the Aranos moved to the hotel, it is said that their grocery store/house was used briefly as the schoolhouse. When the new school was constructed across the street, the old house became a community hall. The Aranos owned the property until at least the 1920's. It appears to have been used as a residential rental, probably lived in by the Edward Sawyer family in the early 1900's. In the recent past, it was the property of Ray Palmer, former owner of Palmer Glass.
The building is an important reflection of early commercial development in the area, and was owned by a prominent local family. The building was previously reviewed for eligibility for the National Register and was found to be eligible for local listing only. Because of a lack of integrity to its original configuration and fabric, the building remains ineligible for listing. However, it remains an important reminder of local community development patterns and would continue to qualify as an NR-4.

B11. Additional Resource Attributes: (List attributes and codes) None
*B12. References

Jos. Arano, *Santa Cruz Sentinel*, 11/6/1875.
Memories of Don Rafael Castro and his Day when California's Historic Hospitality Thrived, *The Evening News*, 5/16/1929.
Hihn Collection Map, #31, HBE, undated [c1925].
*Santa Cruz Sentinel*, 4/2/1870.
U.S. Census, 1860, 1870, 1880, 1900, 1910.
Waid, B. H., *My Inherited Destiny, Ten First Families of California*, 1985.
County Leases, Castro to Arano, 1/18/1867.

B13. Remarks: None
*B14. Evaluator: Franklin Maggi
*Date of Evaluation: March 2001




(This space reserved for official comments)

*Required Information

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

# HISTORIC RESOURCES INVENTORY

Ser. No. - 30 -
HABS ___ HAER ___ Loc ✓ SHL No. ___ NR Status 5
UTM: A 10/597496.4021601 C ___
B ___ D ___

## IDENTIFICATION

1. Common name: ___
2. Historic name: Jose Arano House
3. Street or rural address: 7996 SOQUEL DRIVE
   City Aptos Zip 95003 County Santa Cruz
4. Parcel number: 03923201
5. Present Owner: Raymond Palmer Address: P.O. Box 519
   City Aptos Zip 95001 Ownership is: Public ___ Private X
6. Present Use: Residence Original use: Store/Residence

## DESCRIPTION

7a. Architectural style: Vernacular - Greek Revival

7b. Briefly describe the present *physical appearance* of the site or structure and describe any major alterations from its original condition:

This two and one half story structure is basically rectangular with additions to the side and rear. The fenestration is offset between the floors on the main facade end gable. The center entrance is covered by a gable roof supported on paired columns. No windows are visible on the sides. Skylights have been placed in the roof. Shutters are at each window and window crowns are of classic design.

The original pre-1859 building is severly altered, however, elements exist as a part of the present edifice. Additions to the sides and the removal of a full width porch with flat roof and railing, the center second story door are most noticeable. Extensive interior remodelings are reported to have removed all but the building's structural components.

8. Construction date:
   Estimated 1850 Factual ___
9. Architect Unknown
10. Builder Unknown
11. Approx. property size (in feet)
    Frontage 58 Depth 130
    or approx. acreage 7540 ±
12. Date(s) of enclosed photograph(s) May 1986

13. Condition: Excellent ___ Good X Fair ___ Deteriorated ___ No longer in existence ___

14. Alterations: Skylights, additions, windows

15. Surroundings: (Check more than one if necessary) Open land ___ Scattered buildings ___ Densely built-up ___
Residential ___ Industrial ___ Commercial X Other: ___

16. Threats to site: None known ___ Private development X Zoning ___ Vandalism ___
Public Works project ___ Other: ___

17. Is the structure: On its original site? ___ Moved? ___ Unknown? X

18. Related features: ___

SIGNIFICANCE

19. Briefly state historical and/or architectural importance (include dates, events, and persons associated with the site.)

Constructed by Jose Arano in the 1850s this structure is one of the oldest in the County. Originally a residence above and general store below the building was also the Post Office for many years.

Jose Arano parlayed his fortunes derived from business in this structure into subsequent business ventures including developing the Bay View Hotel. Married to the youngest daughter of Don Raphael Castro, Jose Arano was one of the founding fathers of Aptos Village.

The significance of this building is found in the association with Jose Arano one of the founders of Aptos Village in the 1850's. Although the original form of the building is discernible, extensive remodeling has destroyed the architectural integrity of the simple design. The loss of architectural integrity is unfortunate, however the historic association warrants preservation planning under the County historic preservation ordinance criteria.

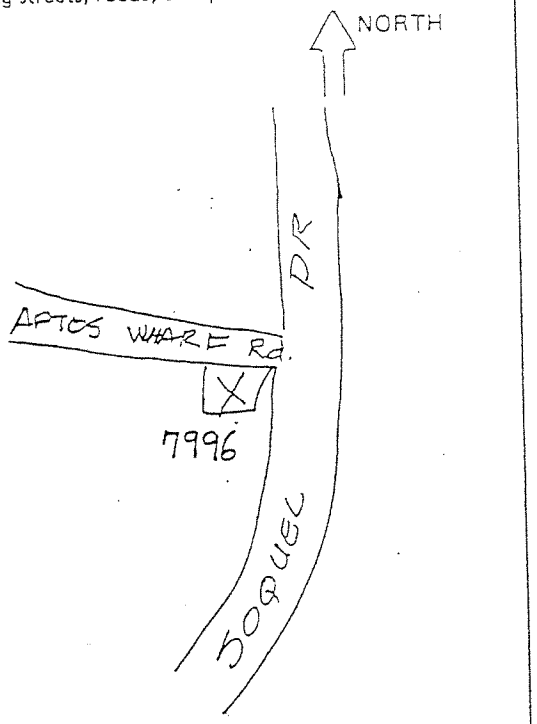
20. Main theme of the historic resource: (If more than one is checked, number in order of importance.)
Architecture ___ Arts & Leisure ___
Economic/Industrial 1 Exploration/Settlement 2
Government ___ Military ___
Religion ___ Social/Education ___

21. Sources (List books, documents, surveys, personal interviews and their dates).

Sanborn Maps 1888, 1906
Parade of the Past, Margaret Koch
American Architecture Since 1760, Whiffen
Octagon Files
Register-Pajaronian 2/5/73

22. Date form prepared April 1986
By (name) The Firm of
Organization BONNIE L. BAMBURG
Address: 247 N. Third Street
City San Jose, CA Zip 95112
Phone: (408) 971-1421

Locational sketch map (draw and label site and surrounding streets, roads, and prominent landmarks):



Jose Arrano House (7996 Soquel Drive)

## ADDENDUM—1994

PHYSICAL INSPECTION

**Date:** April 22, 1994

Result of Inspection: No apparent changes.

CONSULTANT'S PRELIMINARY RECOMMENDATIONS:

No Change.

(Change of rating pending public hearing before the Historical Resources Commission with final approval by the Board of Supervisors).

**Context:** 2 (architecture)

**Property type:** house

State of California - The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
# PRIMARY RECORD

Primary #
HRI #
Trinomial
NRHP Status Code NR - 3
Other Listings
Review Code Reviewer Date



*Resource Name or # (Assigned by Recorder): SCC09R

P1. Other Identifier: 48

*P2. Location: Not for Publication X Unrestricted *a. County Santa Cruz

and (P2b and P2c or P2d. Attach a Location Map as necessary.)

*b. USGS 7.5' Quad Soquel Date 1954 Revised 1994 R1W T11S Mt Diablo B.M.

c. Address: 7992 Aptos Wharf Road City Aptos ZIP: 95003

d. UTM: (Give more than one for large/or linear resources) 10S 597467mE 4092783mN

e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, etc., as appropriate)

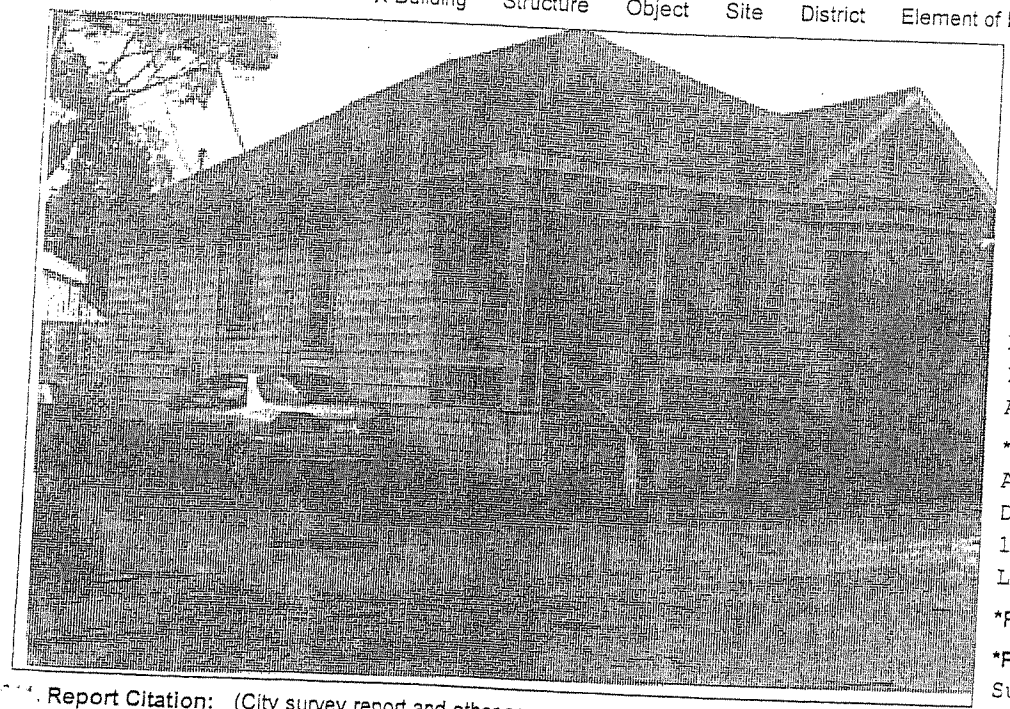
Assessor's Parcel Number: 039-232-03

*P3a. Description:: (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

This one-story building with a hipped roof sits on a raised foundation. The eaves are boxed and the roof is covered with composition shingles. It is asymmetrical in plan with a gable-covered bay window at the southwest corner of the house. The porch is recessed beside the front-gabled bay and is supported by two large square posts. Turned balusters support the porch railing. The majority of the windows are one over one double-hung with wood sash. There is a centrally-located vent over the bay window. The windows in the bay as well as the window on the porch do not appear to be original to the structure. The building is sheathed in channel rustic siding.

*P3b. Resource Attributes: (List attributes and codes) HP2 - Single family property

*P4 Resources Present: X Building Structure Object Site District Element of District Other (Isolates, etc.)



P5b. Description of Photo: (View, date, accession #)
February 2001
View from northwest

*P6. Date Constructed/Age Sources:
c1890
1986 DPR

*P7. Owner and Address:
Robert & Lou Unberger
P.O. Box 252
Aptos CA 95003

*P8. Recorded by:
A.Engle/C.Duval
Dill Design Group
110 North Santa Cruz Ave
Los Gatos CA 95030

*P9. Date Recorded: March 2001

*P10. Survey Type: (Describe)
Survey Update

*P11. Report Citation: (City survey report and other sources, or enter "none".)
Dill Design Group, Historic Inventory Update Year 1, for the County of Santa Cruz, March 2001.

*Attachments: NONE Location Map Sketch Map Continuation Sheet X Building, Structure and Object Record Archaeological Record
District Record Linear Feature Record Milling State Record Rock Art Record Artifact Record Photograph Record Other (List)



*Required information

*NRHP Status Code: 4S

*Resource Name or # (Assigned by recorder): SCC09R

B1. Historic Name: Rice House
B2. Common Name: None
B3. Original Use: Single family residential B4. Present Use: Single family residential
*B5. Architectural Style: National Style
*B6. Construction History: (Construction date, alterations, and date of alterations)
Built c1889

*B7. Moved? Not known Date: Original Location:
*B8. Related Features: None
B9. Architect: Unknown b. Builder: Unknown
*B10. Significance: Theme Residential architecture Area Aptos
Period of Significance 1870's-1910' Property Type Residential Applicable Criteria A & B
(Discuss importance in terms of historical or architectural context as defined by theme, period, and geographic scope. Also address integrity.)

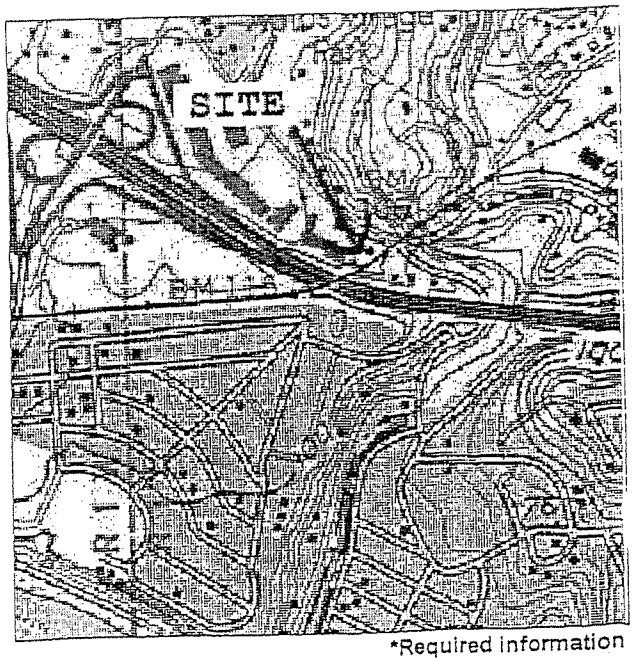
David M. Rice, a native of Missouri, came to Santa Cruz in 1858. He is said to have run a hotel in Aptos as early as 1860, however, census records show him living in Nevada County at that time. By 1870, he was operating a saloon in Soquel. By 1874, he and his wife, Jennie, were proprietors of the Rice Hotel, probably on Aptos Wharf Road, which was then the center of Aptos. The site of this hotel may have been the same site as the subject building, as in 1879, Jennie M. Rice, wife of David Rice, acquired ownership of the property, which was identified as being next to Arano's Store. Rice's wife Jennie Rice was the daughter of Issac Graham, a well-known American immigrant to Mexican California, who settled near Branciforte in 1833. Jennie was one of his heirs after his death in 1863. The Rice Hotel, reported to have 12 rooms, operated until at least 1888. By 1889, Rice identified himself as a saloonkeeper, and their new house, owned by Jennie M. Rice, was located on property valued at $50 and the house was valued at $975. In May 1889, the Rice family was the subject of considerable controversy, as the sons beat up a local schoolteacher who was boarding at the Rice home (the school was located across the street). The sons alleged that the schoolteacher had insulted their mother. The article mentions the Rice house, but not a hotel. In 1890, D.M. Rice purchased A.J. Jenning's store in the village at the northeast corner of Trout Gulch Road and Aptos Street. He operated this store until 1896 when it and the adjacent empty building (formerly a saloon) burned. In 1900, Rice's occupation was listed as "own income," unlike in an earlier census and directories where he was identified as a hotelkeeper. The family remained in Aptos until about 1915 when they moved to Calexico, Mexico. David Rice died in 1916 and Jennie in 1923. Two of their sons, Charles and William Rice, inherited the parcel. A third son, Jessie, died in 1918.
Built by early Aptos area pioneers, the building is associated with personages important to the history of Aptos and would appear to be eligible for the National Register under Criterion B. It was previously reviewed by the State Historic Preservation Officer who found it might become eligible as a separate property, and it appears to have sufficient integrity for listing. It would therefore qualify for local listing as an NR-3.

B11. Additional Resource Attributes: (List attributes and codes) None

*B12. References

A Sensation at Aptos, *Santa Cruz Daily Surf*, 5/31/1889.
Aptos Directories
Collins, A., Rice's Hotel, *The Hostels of Aptos, Historical Sketches*, January 1990.
County of Santa Cruz, Deeds, B. F. Porter to Jennie M. Rice, 11/26/1879, Book 29:Page 232.
Death of D. M. Rice, *Santa Cruz Daily Surf*, 7/10/1916.
Hihn Collection Map, #31, HBE, undated [c1925].
Pioneer Mother Passes at Indio, The Evening News, 4/25/1923.
[Rice buys Aptos Store], *Santa Cruz Daily Surf*, 2/6/1890.
Rowland, L., *Santa Cruz, the Early Years*, 1980.
The Aptos Fire, *Santa Cruz Daily Surf*, 5/12/1896.

B13. Remarks: None
*B14. Evaluator: Franklin Maggi
*Date of Evaluation: March 2001




NORTH

(This space reserved for official comments)

*Required information

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

# HISTORIC RESOURCES INVENTORY

Ser. No. — 73 —
HABS ___ HAER ___ Loc ___ SHL No. ___ NR Status 5
UTM: A 10/597545.4092608 C ___
B ___ D ___

## IDENTIFICATION

1. Common name: ___
2. Historic name: Judge Rice House
3. Street or rural address: 7992 Aptos Wharf Road
   City Aptos Zip 95003 County Santa Cruz
4. Parcel number: 03923203
5. Present Owner: UMBERGER ROBERT & LOU Address: P.O. BOX 252
   City APTOS CA Zip 95001 Ownership is: Public ___ Private X
6. Present Use: Office Original use: Residence

## DESCRIPTION

7a. Architectural style: Neo-Classic

7b. Briefly describe the present *physical appearance* of the site or structure and describe any major alterations from its original condition:

This is a single story rectangular form structure. The front facade is divided between a recessed porch and a gable covered bay. The porch is supported by two square posts and has a railing of turned balestra capped by lower boxes. The bay has a three part slanted projecting window with a small roof, some window sash appears to be original. The structure is sheathed in horizontal board. The composition shingle roof is new.

8. Construction date: Estimated 1890 Factual ___
9. Architect Unknown
10. Builder Unknown
11. Approx. property size (in feet) Frontage 166 Depth 117 or approx. acreage 19,400 ±
12. Date(s) of enclosed photograph(s) May 1986

D

13. Condition: Excellent ___ Good X Fair ___ Deteriorated ___ No longer in existence ___

14. Alterations: rehabilitated c1985, porch railing, minor modifications

15. Surroundings: (Check more than one if necessary) Open land ___ Scattered buildings X Densely built-up ___
Residential X Industrial ___ Commercial X Other: ___

16. Threats to site: None known ___ Private development ___ X Zoning ___ Vandalism ___
Public Works project ___ Other: ___

17. Is the structure: On its original site? ___ Moved? ___ Unknown? X

18. Related features: ___

SIGNIFICANCE

19. Briefly state historical and/or architectural importance (include dates, events, and persons associated with the site.)

This Neo-Classic style house, built in the 1890s, is significant as the home of Judge David Rice. In the 1840s, Rice built one of the first hotels in Aptos, a structure with twelve rooms for visitors. David Rice was the son-in-law of Isaac Graham, pioneer lumberman, shipbuilder and associate of John C. Fremont in the California rebellion. Rice's wife, Matilda Graham Rice, inherited Isaac Graham's considerable property in Aptos.

This building is significant in local history as the home of an important business man - politician and his wife, the surviving daughter of a local pioneer, Isaac Graham. Recently, rehabilitated for commercial office use the architectural integrity remains intact.

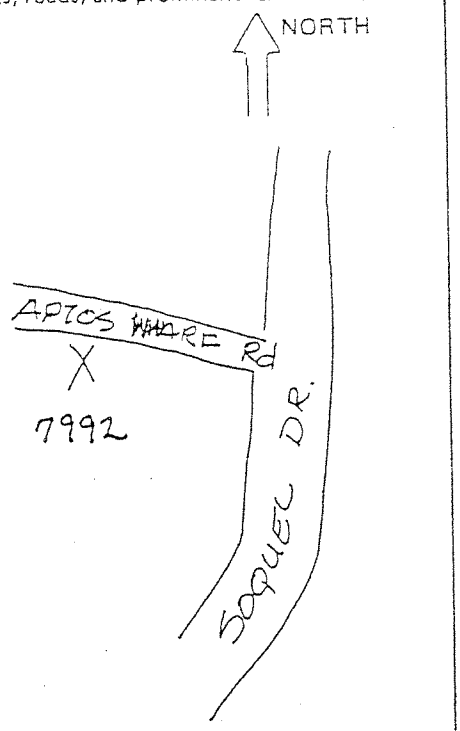
20. Main theme of the historic resource: (If more than one is checked, number in order of importance.)
Architecture 2 Arts & Leisure ___
Economic/Industrial ___ Exploration/Settlement 1
Government ___ Military ___
Religion ___ Social/Education ___

21. Sources (List books, documents, surveys, personal interviews and their dates).

Sanborn Maps 1888, 1906
Parade of the Past, Margaret Koch
American Architecture Since 1760, Whiffen
Octagon Files
Register-Pajaronian 2/5/73

22. Date form prepared ~~April 1986~~
By (name) ~~The Firm of~~
Organization ~~BONNIE L. BAMBURG~~
Address ~~247 N. Third Street~~
City ~~San Jose, CA~~ ~~95112~~ Zip ___
Phone: ~~(408) 971-1421~~

Locational sketch map (draw and label site and surrounding streets, roads, and prominent landmarks):



Judge Rice House (7992 Aptos Wharf Rd.)

## ADDENDUM—1994

PHYSICAL INSPECTION

Date: February 2, 1994

Result of Inspection: Structure appears to be unchanged.

CONSULTANT'S PRELIMINARY RECOMMENDATIONS:

No Change

(Change of rating pending public hearing before the Historical Resources Commission with final approval by the Board of Supervisors).

**Context:** 1 (tourism), 2 (architecture)

**Property type:** house

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**State of California**
**Department of Fish and Wildlife**

# M e m o r a n d u m

**Date:** June 1, 2023

**To:** Ms. Lara Bertaina
California Department of Transportation
District 5; Senior Environmental Scientist
50 Higuera Street
San Luis Obispo, CA 93401
Lara.Bertaina@dot.ca.gov

**From:** DocuSigned by: Erin Chappell B7E9A6211EF486... Ms. Erin Chappell, Regional Manager
**California Department of Fish and Wildlife-Bay Delta Region, 2825 Cordelia Road, Suite 100, Fairfield, CA 94534**

**Subject:** State Route 1 Auxiliary Lanes Bus-on-Shoulder Improvements-Freedom Blvd. to State Park Dr.-and Coastal Rail Trail Segment 12 Project, Draft Environmental Impact Report, SCH No. 2020090347, Santa Cruz County

The California Department of Fish and Wildlife (CDFW) has reviewed the Draft Environmental Impact Report (DEIR) for the State Route 1 Auxiliary Lanes Bus-on-Shoulder Improvements-Freedom Blvd. to State Park Dr.-and Coastal Rail Trail Segment 12 (Project) located in the Santa Cruz County, pursuant the California Environmental Quality Act (CEQA) and CEQA Guidelines.[1] CDFW is submitting comments on the **DEIR** as a means to inform the California Department of Transportation (Caltrans) as the CEQA Lead Agency, of potentially significant impacts to sensitive resources associated with the proposed Project.

CDFW is California's **Trustee Agency** for fish and wildlife resources and holds those resources in trust by statute for all the people of the State. (Fish & G. Code, §§ 711.7, subd. (a) & 1802; Pub. Resources Code, § 21070; CEQA Guidelines, § 15386, subd. (a)). CDFW, in its trustee capacity, has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants, and habitat necessary for biologically sustainable populations of those species. (*Id.*, § 1802). Similarly, for purposes of CEQA, CDFW is charged by law to provide, as available, biological expertise during public agency environmental review efforts, focusing specifically on projects and related activities that have the potential to adversely affect fish and wildlife resources.

CDFW is also submitting these comments as a **Responsible Agency** under CEQA. (Pub. Resources Code, § 21069; CEQA Guidelines, § 15381). CDFW expects that it may need to exercise regulatory authority over the Project pursuant to the Fish and Game Code. As proposed, for example, the Project may be subject to CDFW's Lake and Streambed Alteration (LSA) regulatory authority. (Fish & G. Code, § 1600 et seq.).

[1] CEQA is codified in the California Public Resources Code in section 21000 et seq. The "CEQA Guidelines" are found in Title 14 of the California Code of Regulations, commencing with section 15000.

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Likewise, to the extent the Project may result in "take," as defined by State law, of any species protected under the California Endangered Species Act (CESA) (Fish & G. Code, § 2050 et seq.), related authorization as provided by the Fish and Game Code will be required.

**Project Location and Description**

The Project is located in Santa Cruz County on State Route (SR) 1 from Post Mile (PM) 8.1, south of Freedom Boulevard, to PM 10.7, north of State Park Drive. The Project also includes 1.14 miles of trail along the Santa Cruz County Regional Transportation Commission-owned Santa Cruz Branch Rail Line between State Park Drive and Rio Del Mar Boulevard. The total length of the Project on SR-1 is 2.6 miles, and on the Santa Cruz Branch Rail Line is 1.14 miles. The Project will construct auxiliary lanes, structures along SR 1, retaining walls along SR-1, sound walls along SR-1, bus-on-shoulder features, signage, and construction along the Coastal Rail Trail.

**Auxiliary Lanes**

The Project includes the construction of auxiliary lanes on the northbound and southbound sides of SR-1 between the Freedom Boulevard to Rio Del Mar Boulevard interchanges and between the interchanges of Rio Del Mar Boulevard to State Park Drive. The auxiliary lanes will improve merging operations and reduce conflicts between traffic entering and exiting SR-1 by connecting the on-ramp of one interchange to the off-ramp of the next. The total roadway widening is 2.6 miles in length. Southbound, the auxiliary lanes will begin at the existing State Park Drive loop on-ramp and end at the existing off-ramp to Freedom Boulevard. Northbound, the auxiliary lanes will begin at the existing Freedom Boulevard on-ramp and end at the existing diagonal off-ramp to State Park Drive. The new auxiliary lanes will be 12 feet wide. From Freedom Boulevard to Rio Del Mar Boulevard, the width needed for the new lane will be added in the median. The existing median barrier will be reconstructed in its current location. From Rio Del Mar Boulevard to State Park Drive, the width needed for the new lane will be added outside the existing shoulders; the outside shoulders will be standard 10 feet wide. Moosehead Drive to the south of SR-1, south of Aptos Creek, will be realigned where it runs parallel to SR-1 due to the outside widening of SR-1.

**Structures, State Route 1**

The Project will include the replacement of the two Santa Cruz Branch Rail Line railroad bridges over SR-1 and widening of the SR-1 bridge over Aptos Creek and Spreckels Drive to accommodate the proposed auxiliary lanes. The existing two-span Santa Cruz Branch Rail Line railroad bridges (underpass structures) will be replaced with longer spans. In addition to the railroad bridges, new trail overcrossings will be constructed adjacent to the new railroad bridges for the ultimate trail configuration of the Coastal Rail Trail Segment 12 for the SR-1 improvements. The widening of the SR-1 bridge over Aptos Creek and Spreckels Drive will occur on the south side of SR-1 only and require

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abutment walls along the existing embankments along the south side of Aptos Creek and the embankment on the north side of Spreckels Drive. The widened bridge will accommodate six lanes, each 12 feet wide (four through-lanes plus an auxiliary lane in each direction), 10-foot-wide outside shoulders, and a 9-foot-wide median with a 2-foot-wide inside shoulder in the northbound direction and 5-foot-wide inside shoulder in the southbound direction.

**Retaining Walls, State Route 1**

The Project will include 10 retaining walls along SR-1 where existing hillsides need to be set back to allow for freeway widening and where fill will be brought into embankments. The total length of all the retaining walls combined will be 3,786 feet or 0.72 miles long. The retaining walls range from 8 feet high to 27 feet high, averaging 19.2 feet.

**Sound Walls, State Route 1**

Two sound walls will be installed during the Project. A 606-foot-long ,16-foot-high sound wall will be installed on northbound SR-1 along PM 9.7 to PM 9.8. Another sound wall that is 885 feet long, 14 feet high will be installed along the southbound SR-1 near PM 9.95 to PM 10.1.

**Bus-on-Shoulder Features**

The Project will include construction of transit-only shoulder lanes within interchanges (off-ramp to on-ramp). The shoulder improvements would allow buses to drive on the new auxiliary lanes between interchanges and the outside shoulder through the interchanges. At the Freedom Boulevard, Rio Del Mar Boulevard, and State Park Drive interchanges, the Project will widen and improve SR-1 shoulders.

**Other Features, State route 1 Bus-on-Shoulder**

New signs will be installed to advise motorists that only buses are allowed to use the highway shoulders through interchanges during peak traffic hours. Along northbound SR-1, a sign would be provided south of each of the three interchanges in the Project area. Along southbound SR-1, a sign will be installed north of each interchange.

**Coastal Rail Trail Segment 12**

The ultimate trail configuration includes construction of a paved bicycle and pedestrian shared-use trail alongside the existing railroad track alignment. New trail bridge crossings of SR-1 at two locations and adjacent to the existing railroad bridges at Aptos Creek/Soquel Drive, and Valencia Creek/Soquel Drive will be constructed. New at-grade trail crossings will be constructed at Aptos Creek Drive, Parade Street, and Trout Gulch Road.

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### Structures

At the two locations where the existing railroad bridges cross over SR-1, the Rail Trail will be placed adjacent to the reconstructed rail underpasses on separate independent structures. Where the Rail Trail crosses over Aptos Creek, Valencia Creek, and Soquel Drive, the existing structures have been evaluated for their loadbearing capacities, and it has been determined there is not enough data to cantilever the Rail Trail. Therefore, the Project will include construction of new Rail Trail bridges adjacent to the existing railroad structures on separate independent structures.

### Fencing

Fencing will be used to separate trail users and the railroad for the ultimate trail improvements. In accordance with the Federal Railroad Administration guidelines, there will be a 10-foot offset from the centerline of the railroad to the edge of the trail, although an 8-foot, 6-inch offset from the centerline of the railroad may be allowed in some circumstances. The fencing type is undetermined at this time but will be constructed using concrete posts (4 feet, 6 inches in height) etched to resemble wood, and multiple smooth wire strands. Fence post construction will require 3-foot-deep excavation. The new trail bridges over Aptos Creek, Valencia Creek, and Soquel Drive will include a railing.

## REGULATORY REQUIREMENTS

### Lake and Streambed Alteration Agreement

CDFW requires an LSA Notification, pursuant to Fish and Game Code section 1600 et seq., for Project activities affecting lakes or streams and associated riparian habitat. Notification is required for any activity that may substantially divert or obstruct the natural flow; change or use material from the bed, channel, or bank (including associated riparian or wetland resources); or deposit or dispose of material where it may pass into a river, lake, or stream. Work within ephemeral streams, drainage ditches, washes, watercourses with a subsurface flow, and floodplains is generally subject to notification requirements. In addition, infrastructure installed beneath such aquatic features, such as through hydraulic directional drilling, is also generally subject to notification requirements. Therefore, any impact to the mainstems, tributaries, or floodplains or associated riparian habitat caused by the proposed Project will likely require an LSA Notification. CDFW may not execute a final LSA Agreement until it has considered the final Negative Declaration (ND) and complied with its responsibilities as a Responsible Agency under CEQA.

### Fish and Game Code 5901

Except as otherwise provided in this code, it is unlawful to construct or maintain in any stream in Districts 1, $1^{3}/_{8}$, $1^{1}/_{2}$, $1^{7}/_{8}$, 2, $2^{1}/_{4}$, $2^{1}/_{2}$, $2^{3}/_{4}$, 3, $3^{1}/_{2}$, 4, $4^{1}/_{8}$, $4^{1}/_{2}$, $4^{3}/_{4}$, 11, 12, 13, 23, and 25, any device or contrivance that prevents, impedes, or tends to prevent or

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impede, the passing of fish up and down stream. Fish are defined as a wild fish, mollusk, crustacean, invertebrate, amphibian, or part, spawn, or ovum of any of those animals (Fish and Game Code section 45).

**Fully Protected Species**

Fully protected species may not be taken or possessed at any time and no licenses or permits may be issued for their take, except for collecting these species for necessary scientific research and relocation of a fully protected bird species for the protection of livestock. Take of any fully protected species is prohibited, and CDFW cannot authorize their take in association with a general project except under the provisions of a Natural Communities Conservation Plan (NCCP), 2081.7 or a Memorandum of Understanding for scientific research purposes. “Scientific Research” does not include an action taken as part of specified mitigation for a project, as defined in Section 21065 of the Public Resources Code.

**Migratory Birds and Raptors**

CDFW has authority over actions that may result in the disturbance or destruction of active bird nest sites or the unauthorized take of birds. Fish and Game Code sections protecting birds, their eggs, and nests include section 3503 (regarding unlawful take, possession, or needless destruction of the nests or eggs of any bird), section 3503.5 (regarding the take, possession, or destruction of any birds-of-prey or their nests or eggs), and section 3513 (regarding unlawful take of any migratory nongame bird). Migratory birds are also protected under the federal Migratory Bird Treaty Act.

**COMMENTS AND RECOMMENDATIONS**

CDFW offers the following comments and recommendations to assist Caltrans in adequately identifying and/or mitigating the Project’s significant, or potentially significant, direct, and indirect impacts on biological resources.

**COMMENT 1: Mitigation Measure BIO-73 Valencia Creek Fish Passage**

**Issue:** CDFW appreciates Caltrans’ continued efforts and mutual agreement to remediate a known fish passage barrier at PM 9.97 on SR-1 and improve anadromous fish passage. As stated on page 445 of the DEIR, the current Project shall move forward with an improvement to the PM 9.97 fish passage barrier and Project 05-1N900 shall incorporate long-term remediation to the fish passage barrier at PM 9.97 and PM 9.88. CDFW supports and encourages Caltrans to engage in continued coordination before design commences on a potential passage remediation structure and has the following comments and recommendations for changes to the currently proposed engineering design.

**Recommendations:** CDFW Conservation Engineering and Habitat Conservation Staff issued a technical fish passage memorandum to Caltrans on January 12, 2023. This

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evaluation referenced specific Caltrans documents and field site visits with Caltrans staff that include: 1) Field reconnaissance with CDFW and Caltrans staff on November 17, 2022; 2) ICF's Technical Memorandum – Technical Memorandum Summarizing Fish Passage Conditions at the Project, dated August 11, 2022; 3) ICF's Draft Valencia Channel Concept Design submitted to CDFW via email on November 17, 2022; and 4) Caltrans Aptos Creek Bridge General Plan and Foundation Plan prepared and presented by Mark Thomas structural engineer Marshall Moore on November 17, 2022. The technical fish passage memorandum included the following:

**Recommended Avoidance and Minimization Measure 1: Fish Passage Design Coordination:** CDFW recommends Caltrans engage with CDFW in early and continued coordination before design commences on a potential passage remediation structure. See the CDFW Fish Passage Design Manual for guidance on barrier remediation (CDFW, 2009).

**Recommended Avoidance and Minimization Measure 2: Fish Passage Design Technical Memo:** CDFW recommends Caltrans update the following:

1. Re-analyze the placement of the pile at Bent No. 2 along riverbank right outside of the Valencia Creek culvert and placement of the Bent No. 1 piles that straddle the existing culvert;

2. Relocate the Bent No.1 piles further away from Valencia Creek and develop a long-term fish passage barrier remediation design for the Valencia Creek culvert. The proposed placement of Bent No.2 in the draft channel design along Valencia Creek riverbank right has a high potential to constrain Valencia Creek and create future channel constraints to fish passage;

3. Clarify the grading design on Aptos Creek riverbank left and Valencia Creek riverbank right. The current structure plan, provided on November 17, 2022, indicates a significant modification to the channel within Valencia and Aptos Creeks near Bent Nos.1 and 2. This location should be analyzed using a hydraulic model that includes the existing and proposed topography along Aptos Creek riverbank left and downstream of the Valencia Creek culvert structure to the confluence with Aptos Creek;

4. Provide a watershed level assessment of the Aptos Creek watershed including Valencia Creek, develop a sediment analysis and habitat analysis for Valencia Creek, disclose historical records of Valencia Creek, in regard to the historical placement and historical relocation of the Valencia Creek channel. Finally, provide any available information on the historical alignment of Valencia creek;

5. The proposed long-term fish passage barrier remediation design verbally provided by Caltrans Hydraulic Engineering staff on-site November 17, 2022, was limited to minor modification of the existing culvert and did not include increasing the capacity of the existing culvert to meet fish passage design

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criteria. The proposed design included modification to the concrete bottom of the culvert structure, without a structural engineering evaluation. The Valencia Creek culvert was constructed in 1948 and information should be provided about the expected service-life of the Valencia Creek culvert and the feasibility of the proposed design to provide adequate fish passage while maintaining the structural integrity of the modified culvert;

6. Replacement of the wooden baffles with the steel baffles could be an interim solution. The use of full span steel baffles within the Valencia Creek culvert could increase fish migration through the culvert during a wider range of fish passage design flows. Caltrans should coordinate the development of the design with CDFW Conservation Engineering staff to improve fish passage within the culvert and downstream to the confluence with Aptos Creek;

7. The concreted Rock Slope Protection (RSP) within the channel of Valencia and Aptos Creeks should be removed. The concrete within the downstream area of Valencia Creek culvert to Aptos Creek limits habitat for fish and wildlife resources and restricts the natural movement of sediment. The hardscape creates turbulent conditions at the downstream end of the Valencia Creek culvert's concrete apron; and

8. CDFW supports the concept of the use of redwoods along riverbank right downstream of the Valencia Creek culvert upstream of the confluence at Aptos Creek.

**Recommended Avoidance and Minimization Measure 3: Fish Passage Design Comment Response Matrix:** CDFW recommends Caltrans utilize a response matrix to identify and respond to the individual CDFW recommendations provided for Recommended Avoidance and Minimization Measure 2: Fish Passage Design Technical Memo. The response matrix should include design details during the 30 percent, 60 percent, and 90 percent design phases of the Project. Please contact CDFW staff for response matrix template examples.

## CONCLUSION

Thank you for the opportunity to provide comments and recommendations regarding those activities involved in the Project that may affect CDFW resources. Likewise, we appreciate the opportunity to provide comments regarding those aspects of the Project that CDFW, by law, may be required to carry out or approve through the exercise of its own regulatory authority under the Fish and Game Code.

Questions regarding this letter or further coordination should be directed to Mr. Will Kanz, Environmental Scientist, at (707) 337-1187 or Will.Kanz@wildlife.ca.gov; or Mr. Wes Stokes, Senior Environmental Scientist (Supervisory), at Wes.Stokes@wildlife.ca.gov.

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cc: Office of Planning and Research, State Clearinghouse (SCH No. 2020090347)

## REFERENCES

California Department of Fish and Wildlife. July, 2009. CDFW Fish Passage Design Manual for guidance on barrier remediation https://www.bing.com/search?q=cdfw+fish+passage+design+manual+2009&qs=n&form=QBRE&sp=-1&lq=0&pq=cdfw+fish+passage+design+manual+2009&sc=10-36&sk=&cvid=DD6D8F7BFED24996AAB6C93859B4B988&ghsh=0&ghacc=0&ghpl=

**From:** Matt Farrell <mattfarrell922@gmail.com>
**Sent:** Monday, May 29, 2023 3:32 PM
**To:** Bertaina, Lara E@DOT
**Subject:** Comments on Draft Environmental Impact Report/Environmental Assessment (DEIR/EA) for the proposed Highway 1 Auxiliary Lane/Bus-on-Shoulder (State Park Drive to Freedom Boulevard) and Coastal Rail Trail Segment 12 Project.

**EXTERNAL EMAIL.** Links/attachments may not be safe.

Ms. Bertaina,

Please accept the attached letter from Santa Cruz County Friends of the Rail and Trail (FORT) on this Draft EIR. We appreciate the opportunity to comment on the document and participate in the process.

Sincerely,

Matt Farrell
Board Chair
Santa Cruz County Friends of the Rail and Trail (FORT)

Final FORT Segment 12 DEIR Comments 05292023

May 29, 2023

Lara Bertaina, Senior Environmental Scientist
California Department of Transportation
District 5, 50 Higuera Street
San Luis Obispo, California, 93401

**SUBJECT: Comments on State Route 1 Auxiliary Lanes and Bus-on-Shoulder Improvements – Freedom Blvd to State Park Dr. – and Coastal Rail Trail Segment 12 Project DEIR**

Dear Ms. Bertaina,

The Santa Cruz County Friends of the Rail and Trail is happy to see continued progress on the Rail and Trail project and would like to offer the following comments on the Highway 1 Auxiliary Lanes and Bus on Shoulder from State Park Drive to Freedom Boulevard and Coastal Rail Trail Segment 12 Draft Environmental Impact Report.

**Interim trail is improperly treated as a distinct alternative**: It is our understanding that the Optional First Phase Interim Trail is simply one portion of the entire plan for the Rail and Trail project and that impacts assigned to the Interim Trail should reflect the cumulative impact of all phases of the project. Therefore, any impact from the Ultimate Trail configuration should be common to the Interim Trial. However, there are a several places in the summary of impacts in which impacts are attributed to the Ultimate Trail but not to the Interim Trail:

1. Relocations and Property Acquisition: The Ultimate Trail shows the acquisition of temporary and permanent easements that are not attributed to the Interim Trail.
2. Utilities and Emergency Services: The Interim Trail impact is “Same as Build Alternative” but the Ultimate Trail shows “Temporary impacts to utilities,” which is the same as the build alternative. Is this impact distinct from the build alternative? If so, it should be common to the Interim Trail. If not, it should state “Similar to Build Alternative.”

**Regulatory Requirements not noted in DEIR**: Section S.7 lists all of the regulatory approvals required to begin construction. This section appears to be for only the Ultimate Trail without the Optional First Phase Interim Trail. The Interim Trail requires approval of abandonment by the Surface Transportation Board and a negotiated agreement with the freight carrier of record before a Certificate of Interim Trail Use can be issued. Additional approval by the California Public Utilities Commission is also likely to be required. These approvals and agreements should be noted as an additional requirement unique to the Optional First Phase Interim Trail.

**The DEIR conclusions show parallels between Auxiliary Lane and Rail project**: While reviewing the DEIR and related documentation provided by the Santa Cruz County RTC, we noted the following conclusions:

1. The Auxiliary Lane project has substantial environmental impacts, some with no chance of mitigation, including the removal of over 1000 trees over a 2.6 mile stretch of highway and permanent impacts to grasslands, live oak woodland, and coastal riparian zones.
2. The traffic operations report shows that the morning commute on Highway 1 will be made slightly worse by this project, and that, while the evening southbound commute will be improved in the near term. By 2045 the southbound commute will be just as bad as it is now.
3. The total cost of the highway widening project, including this project and related projects, is already known to be hundreds of millions of dollars, and may approach a billion dollars in total once construction is complete.

FORT raises these points to highlight that the common criticisms of rail transit in Santa Cruz County are really just general criticisms of infrastructure development and are in no way unique to the Zero-Emission Rail Transit and Trail project. However, it seems that sometimes the commission holds different projects to different standards.

We hope that our requested changes are reflected in the Final Environmental Impact Report and that members of the Regional Transportation Commission approach approval of future projects, whether for cars, bikes, or trains, with calm consistency.

Sincerely,

Matt Farrell
Board Chair
Santa Cruz County Friends of the Rail and Trail

Cc: Executive Director Guy Preston, Santa Cruz County Regional Transportation Commission

**From:** Barry Scott <barry@coastalrail.org>
**Sent:** Thursday, June 1, 2023 3:36 PM
**To:** Bertaina, Lara E@DOT
**Subject:** RE: Comments on DEIR/EA for Highway 1 Auxiliary Lan/Bus-on-Shoulder and Coastal Rail Trail Segment 12 Project
**Attachments:** Santa Cruz HIghway One DEIR comments.pdf

**EXTERNAL EMAIL.** Links/attachments may not be safe.

Dear Ms. Bertaina,

Please accept my comments attached as a pdf document and included below, and include them among other comments relating to the Santa Cruz County multimodal project under review.

Dear Ms. Bertaina,

Coastal Rail Santa Cruz is an organization created by community stakeholders in 2015 upon the release of the Regional Transportation Commission's Passenger Rail Feasibility Study. Our organization is delighted to express enthusiastic support for the Highway 1 Auxiliary Lane/Bus-on-Shoulder (State Park Drive to Freedom Boulevard) and Coastal Rail Trail Segment 12 Project.

**However, we feel that the DEIR documents contain the following deficiencies:**

**Comment #1, "Optional First Phase":**
Chapter 1, Proposed Project, mentions an alternative approach to Coastal Rail Trail Segment 12 referred to as the "Optional First Phase", in which the currently active and permitted rail line would be decommissioned, railbanked, and removed, and a trail built in its place. From page 11: "The Optional First Phase includes three parts: implementation of the interim trail, demolition of the interim trail and rebuilding the rail line, and construction of the ultimate trail configuration." https://sccrtc.org/wp-content/uploads/2023/04/01Chapter%201%20-%20Proposed%20Project.pdf#page=11

Page S-6 of the DEIR "Cover, Summary, and Table of Contents" document compares the impacts of the "Optional First Phase" to the "Ultimate Rail Configuration" in an incomplete and misleading fashion: The Optional First Phase is not an alternative, it's just one of three phases and any comparison of impacts must include the totality of the work including demolition of the trail, rebuilding the rail, and building the trail in the ultimate configuration. https://sccrtc.org/wp-content/uploads/2023/04/00Cover_Summary_TOC.pdf#page=12

**Comment #2, S.7 Necessary Permits and Approvals:**
Page S-12 of the DEIR "Cover, Summary, and Table of Contents" document lists agencies from which permits, licenses, agreements, and certifications might be required. The list fails to include the Federal Surface Transportation Board and the California Public Utilities Commission, both of which would need to permit the removal of the rail line and related features of the Santa Cruz Branch Line. If the "Optional First Phase" approach to the construction of Segment 12 of the Coastal Rail Trail Segment is to be considered, then these two agencies must be listed. https://sccrtc.org/wp-content/uploads/2023/04/00Cover_Summary_TOC.pdf#page=18

Sincerely,

Barry

Barry Scott
Director, Coastal Rail Santa Cruz
barry@coastalrail.org
Barry Scott

**Coastal Rail Santa Cruz**
**260 Rio Del Mar Blvd. #23,**
**Aptos CA 95003**
**EIN# 81-1153832**

RIDE
COASTALRAIL.ORG

**Lara Bertaina**
**Department of Transportation**
**50 Higuera Street, San Luis Obispo, CA**
**lara.bertaina@dot.ca.gov**

**June 1, 2023**

**RE: Comments on DEIR/EA for Highway 1 Auxiliary Lan/Bus-on-Shoulder and Coastal Rail Trail Segment 12 Project**

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Sincerely,

Barry Scott

Barry Scott
Director, Coastal Rail Santa Cruz
barry@coastalrail.org

# **Appendix J** Public Comments

**Coastal Rail Santa Cruz**
260 Rio Del Mar Blvd. #23,
Aptos CA 95003
EIN# 81-1153832

COASTALRAIL.ORG

Lara Bertaina
Department of Transportation
50 Higuera Street, San Luis Obispo, CA
lara.bertaina@dot.ca.gov

June 1, 2023

**RE: Comments on DEIR/EA for Highway 1 Auxiliary Lan/Bus-on-Shoulder and Coastal Rail Trail Segment 12 Project**

Dear Ms. Bertaina,

Coastal Rail Santa Cruz is an organization created by community stakeholders in 2015 upon the release of the Regional Transportation Commission's Passenger Rail Feasibility Study. Our organization is delighted to express enthusiastic support for the Highway 1 Auxiliary Lane/Bus-on-Shoulder (State Park Drive to Freedom Boulevard) and Coastal Rail Trail Segment 12 Project.

**However, we feel that the DEIR documents contain the following deficiencies:**

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Sincerely,

Barry Scott
Director, Coastal Rail Santa Cruz
barry@coastalrail.org

Campaign for Sustainable Transportation
Rick Longinotti, Chair CampaignforSustainableTransportation.org

June 2, 2023

Dear Ms. Bertaina,

Thank you for accepting these comments on the DRAFT EIR for Highway 1 State Park Dr to Freedom Blvd Aux Lanes, Bus-on-Shoulder & Coastal Rail Trail Segment 12 Project.

This highway expansion project, conceived in the 20th Century, perpetuates the misguided transportation policy of the past. It would move us farther from meeting our state's climate goals and increase auto-dependency.

This cost to our environment is not justified by the negligible benefits of this project. The DRAFT EIR estimates that congestion relief will be non-existent in the morning peak direction and short-lived in the afternoon peak direction. This insignificant benefit will come at a cost of:

- a 38%-42% increase in vehicles per hour with attendant increase in greenhouse gas emissions (although no estimated increase in throughput due to bottlenecks)
- the opportunity cost of failing to implement a genuine bus-on-shoulder system, in which buses operate in dedicated lanes instead of congested auxiliary lanes.

Our comments include pointing out the following significant deficiencies in the DRAFT:

1. The DRAFT EIR is not valid since it is tiered from a Tier I EIR that was invalidated in court.
2. The DRAFT falsely claims the Project is exempt from VMT analysis mandated by SB 743.
3. The DRAFT fails to substantiate claims of safety benefits of the auxiliary lanes.
4. The DRAFT's "partial" analysis of vehicle miles traveled is not compliant with SB 743.
5. The DRAFT fails to present a reasonable range of alternatives.
6. The DRAFT unjustifiably eliminates Bus-on-Shoulder Only from further study.
7. The Project Objectives are inadequately drawn.
8. The Project does not substantially meet the Project Objectives.
9. The DRAFT's conclusion that the Project would result in countywide reduction in VMT is invalid.
10. The Climate Change analysis is flawed and inadequate
11. The Project conflicts with state climate legislation
12. The DRAFT contains insufficient analysis of impacts on fish habitat in affected creeks.

1. **The DRAFT EIR is not valid since it is tiered from a Tier I EIR that was invalidated in court.**

CEQA regulations define tiering:
**(a)** "Tiering" refers to using the analysis of general matters contained in a broader EIR (such as one prepared for a general plan or policy statement) with later EIRs and negative declarations on narrower projects; incorporating by reference the general discussions from the broader EIR; and concentrating the later EIR or negative declaration solely on the issues specific to the later project. (Cal. Code Regs. tit. 14 § 15152)

In 2019, Caltrans certified the final EIR for the Tier I Corridor Analysis of High Occupancy Vehicle (HOV) Lanes and Transportation System Management (TSM) Alternatives. The central feature of the TSM Alternative is a series of auxiliary lanes along the 8.9 mile segment of Hwy 1, including the lanes analyzed by the current DRAFT EIR.

The Sacramento Superior Court ordered Caltrans to set aside its approval of the Tier I project in a decision filed on August 12, 2022. The DRAFT EIR cannot be valid if it is tiered from an EIR that is invalid.

The Tier I EIR is clear that it is a master plan EIR for the series of auxiliary lane projects on Highway 1:
*The [Project Development] team decided to study the HOV Lane and TSM Alternatives in a Tier I or Master Plan environmental document.* [The principle features of the TSM Alternative are a series of auxiliary lanes and ramp metering over the 8.9 mile segment of Hwy 1]

Several technical studies of this EIR acknowledge their reliance on the Tier I EIR:
A. The Traffic Operations Analysis Report (TOAR) names the Project a Tier II project:
*The Santa Cruz County Regional Transportation Commission (SCCRTC), in a joint effort with Caltrans District 5, is developing the Tier II Highway 1 (State Park Drive to Freedom Boulevard) Auxiliary Lanes Project (also referred to as the "Project").*
The same document describes how the analysis in the DRAFT is tiered from the Tier I EIR:
*Induced traffic volumes due to the addition of auxiliary lanes due to this Project and the background Tier II projects were estimated by scaling the induced traffic volume impacts of auxiliary lanes identified under the Tier I EIR/EA TSM Alternative on the basis of auxiliary lane-miles added.*
B. The Community Impact Analysis is based on the Tier I EIR:

*This CIA is based on…technical documents prepared for the Santa Cruz Route 1 Tier I & Tier II Environmental Impact Report.*

C. The Cumulative Impact Analysis is based on the Tier I EIR:

*This CIA is based on…technical documents prepared for the Santa Cruz Route 1 Tier I & Tier II Environmental Impact Report….Analysis of impacts and resource area health was based primarily on information presented in the Cumulative Impact Analysis for the Tier I/Tier II Project (Caltrans 2018)*

D. The Energy Analysis Report states:

*The project is the second phase of the improvements described in the Tier I EIR/EA.*

E. The Preliminary Geotechnical Design Report states:

*The proposed project is the third phase of the improvements described in the Tier I EIR/FONSI.*

The following statement of this Report shows that the Project intends to expand the width of the highway to accommodate the Tier I project, in spite of the fact that the Tier I project EIR is invalid.

*Construction of the proposed project would allow for future outside highway widening to accommodate the future Tier I HOV lanes.*

**2. The DRAFT falsely claims the Project is exempt from VMT analysis mandated by SB 743**

The DRAFT argues that the Project should be exempt from performing the VMT analysis required by CEQA:

*The supplemental traffic analysis prepared for the project states that in terms of vehicle miles traveled, the Senate Bill 743 (Transportation Impact) guidelines have listed auxiliary lanes as a project type that is not likely to lead to measurable or substantial increase in vehicle travel.*

This statement is not accurate. Public Resources Code section 21099 directed the Office of Planning and Research (OPR) to propose criteria for determining the significance of transportation impacts. The OPR published the *Technical Advisory on Evaluating Transportation Impacts in CEQA*. It includes auxiliary lanes as likely to lead to increases in vehicle travel:

*If a project would likely lead to a measurable and substantial increase in vehicle travel, the lead agency should conduct an analysis assessing the amount of vehicle travel the project will induce. Project types that would likely lead to a measurable and substantial increase in vehicle travel generally include:*

- *Addition of through lanes on existing or new highways, including general purpose lanes, HOV lanes, peak period lanes, **auxiliary lanes**, or lanes through grade-separated interchanges. [emphasis added]*

The DRAFT's argument for exempting this project hinges on a misinterpretation of the OPR's Advisory. The OPR lists projects "not likely" to substantially increase vehicle travel, "Addition of an auxiliary lane of less than one mile in length designed to improve roadway safety." The DRAFT concludes:
*The project would add auxiliary lane segments that are each less than one mile in length, which means that it is exempt from a vehicle miles traveled analysis under the Caltrans Traffic Analysis Framework and Traffic Analysis under CEQA guidelines.*

The DRAFT's argument is specious. The auxiliary lanes northbound and southbound from State Park Drive to Rio Del Mar are listed in the *Additional Traffic Analysis Memorandum (2023)* as .99 miles and .98 miles. A measurement on Google Earth indicates that these auxiliary lanes are 1.1 miles long. However, the precise measurement is beside the point. The OPR Advisory is clear that projects that increase vehicle capacity need to be evaluated:
*An accurate estimate of induced travel is needed to accurately weigh costs and benefits of a highway capacity expansion project….*
*Building new roadways, adding roadway capacity in congested areas, or adding roadway capacity to areas where congestion is expected in the future, typically induces additional vehicle travel.*

The auxiliary lanes in this project will increase highway capacity, according to the DRAFT's Traffic Operations Analysis Report:
*The Project will add mainline segment capacity within the Project Limits on the SR 1 mainline segments increasing from a range of 3,950-4,400 vehicles/hour to a range of 5,600-6,100 vehicles/hour due to the added auxiliary lanes.* [an increase of 39%-42%]

The only presumption of an exemption from VMT analysis allowed by CEQA is as follows:
*Transportation projects that reduce, or have no impact on, vehicle miles traveled should be presumed to cause a less than significant transportation impact.* Section 15064.3 (b)(2)

If VMT is not properly analyzed, there is no possibility of meeting the mandate of California's 2017 Climate Change Scoping Plan which states, "VMT reductions are necessary to achieve the 2030 target and must be part of any strategy evaluated in this Plan." A lack of VMT analysis prevents the DRAFT from meeting the mandate of SB 743 to mitigate increases in VMT. Meaningful public participation involving an adequate analysis of a project's impacts, mitigation measures, and alternatives is impossible without a VMT analysis.

**3. The DRAFT fails to substantiate claims of safety benefits of the auxiliary lanes**

*Safety should not be used as a proxy for road capacity.*
- Office of Planning & Research, *Technical Advisory on Evaluating Transportation Impacts in CEQA*

The Tier I Draft EIR for the HOV Lane Project and the TSM Alternative that the technical studies erroneously rely on for the DRAFT's conclusions analyzed the safety benefit of the TSM Alternative, which it defined as adding a series of auxiliary lanes and ramp metering over the 8.9 mile segment of Highway 1. The conclusion:
*The total accident rates overall and by segment in 2035 under the Tier I Corridor TSM Alternative would be the same as the accident rates for the No Build Alternative.* -page 2.1.5-17. The DRAFT conveniently relies on the decertified EIR when it suits it and ignores it when it does not. While the decertified EIR should not be relied on, it is clear the DRAFT takes liberties with the facts.

.

The DRAFT's claim of reduced injury collisions is suspect, since the increased speeds predicted by the DRAFT would tend to increase the severity of the collisions. The Traffic Operations Analysis Report states:
*Speeding is the primary reason for collisions (over 50 percent on average) on SR 1 mainline segments.*
*Auxiliary lanes would result in a significant increase in travel speed in the southbound State Route 1 during PM peak period from 32 miles per hour in the Existing Year (2019) to 58 miles per hour in the Opening Year (2025).*

**4. The DRAFT's partial analysis of vehicle miles traveled is not compliant with SB 743.**

Although the DRAFT claims that it is exempt from analyzing vehicle miles traveled increases due to the project, the *Traffic Operations Analysis Report* (2021) presents a quantitative analysis of VMT. The DRAFT acknowledges that its analysis is not compliant with SB 743:
*The project's senate bill 743 regulation-related CEQA determination (Section 3.2.17) cannot be completed using the vehicle miles traveled estimates included in the Traffic Operations Analysis Report, they are for informational use only.*

The *Additional Traffic Analysis Memorandum* (2023) states that it added "qualitative" analysis of VMT for the auxiliary lanes. However, it did not add to a quantitative analysis of VMT.

The DRAFT's analysis of VMT is inadequate because it relied on methodology for calculating VMT that is outdated. As quoted in **#1** above, the Traffic Operations Analysis Report used the Tier I EIR to estimate traffic volume impacts of the auxiliary lanes. The Tier I EIR was based on the Traffic Operations Report (2012) and Traffic Analysis Update Technical Memorandum (2017). The methodology in these analyses pre-dates the methodology that is mandated by SB 743 and described in the Caltrans document, *Transportation Analysis Under CEQA* (2020). Moreover, the decertified EIR cannot be relied on for this Project.

One glaring deficiency in the Traffic Operations Analysis is that it measures only one component of induced travel. It states, "Induced demand in this study represents a VMT shift from local roads to SR 1 due to improved travel conditions on the freeway." The OPR's Advisory lists four additional contributors to induced travel. The initial lowering of congestion on an expanded highway leads to *Longer trips; Changes in mode choice; Newly generated trips; and Land use changes.*

Without examining induced travel according to state guidelines, the congestion benefit of the project is overstated. The DRAFT makes the claim that there are minor changes in VMT from building the project:

*State Route 1 daily vehicle miles traveled under 2045 Build* [are estimated] *to be 2.7 percent higher than 2045 No-Build Alternative*

How does this statement square with the claim that:

*The Build Alternative would reduce delay within the project limits on the State Route 1 mainline segments with the addition of auxiliary lanes from a range of 3,950–4,400 vehicles per hour to a range of 5,600–6,100 vehicles per hour*

Any reduction in delay results in induced travel, according to the studies cited by the OPR.

**5. The DRAFT fails to present a reasonable range of alternatives.**

*The alternatives are the Build Alternative and the No-Build (No-Action) Alternative. The project development team, which includes Caltrans and other relevant stakeholders, has identified the Build Alternative as the preferred alternative, subject to public review.*

15126.6 of Title 14 of the California Code of Regulations requires an EIR to "describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives," not simply compare a project to a no project alternative. The DRAFT does not consider an alternative to the auxiliary lanes project.

**6. The DRAFT unjustifiably eliminates Bus-on-Shoulder Only from further study**

Unfortunately, the DRAFT eliminates a transit alternative that would offer many travelers an alternative to being stuck in traffic: genuine bus-on-shoulder, defined as express buses operating in bus-only lanes on the shoulder of the highway, such as exists in Minneapolis-St. Paul; Cleveland; Atlanta; Chicago and Miami. In genuine bus-on-shoulder operations, buses can travel faster than the congested traffic on the highway. This advantage attracts bus riders.

In 2013 legislation passed in California authorizing Monterey and Santa Cruz Counties to build bus-only lanes on the shoulder of the highway. Instead of moving forward with bus-only lanes (instead of auxiliary lanes), the Project proposes to operate buses primarily in the auxiliary lanes. The sole bus-only lane portions of the Project are the short segments of highway at the two interchanges. The rest of the time buses would operate in the auxiliary lanes, mixed with other vehicles. We know from experience that the auxiliary lane from Morrissey to Soquel Ave, completed in 2011, is congested with traffic at the peak afternoon period.

The DRAFT states:

*A Bus-on-Shoulder only alternative was considered, in which only Bus-on- Shoulder improvements would be implemented and auxiliary lanes would not be added…*
*This alternative was reviewed and rejected because the construction cost is comparable to the construction cost of auxiliary lanes, but the improvement does not attain most of the basic objectives of the project because the improvement does not substantially reduce delay along the corridor.*

The DRAFT perpetuates a deficiency of previous environmental studies in its failure to evaluate a genuine bus-on-shoulder option. There is no mention of bus-on-shoulder in the entire Tier I EIR. There is no mention of bus-on-shoulder in the Tier II EIR for the auxiliary lane from Soquel Dr. to 41st Ave. The EIR for the auxiliary lanes from Bay/Porter to State Park Dr. fails to analyze genuine bus-on-shoulder.

The rationale for eliminating genuine bus-on-shoulder from further analysis is that it does not substantially reduce delay along the corridor. This argument fails, because the DRAFT did not compare delay experienced by vehicles on the corridor, to delay experienced by bus riders in a genuine bus-on-shoulder alternative. The DRAFT should measure delay per traveler, rather than delay per vehicle. See the next section.

Genuine bus-on-shoulder would be superior to the Project in satisfying the project objectives of “improving transit operations” and “promote the use of alternative transportation modes… as well as to reduce vehicle miles of travel and vehicular emissions.”

Given the poor performance of the Build Alternative in achieving the project objective of reducing congestion (no improvement of congestion in the northbound

morning peak direction and no improvement in the afternoon peak southbound direction in 2045) the Project should examine an alternative that affords travelers an alternative to the congested highway and to driving up greenhouse gas emissions. The California Court of Appeals in Cleveland National Forest Foundation v. San Diego Association of Governments, et al. (2017) referenced the failure of highway expansion to provide lasting congestion relief:
*Given the acknowledged long-term drawbacks of congestion relief alternatives, there is not substantial evidence to support the EIR's exclusion of an alternative focused primarily on significantly reducing vehicle trips.*

The failure to analyze dedicated bus lanes in lieu of auxiliary lanes severely impacts the "development of multimodal transportation networks" and this impact should be evaluated by the EIR (Pub. Resources Code 21099).

**7. The Project Objectives are inadequately drawn.**

The objectives are stated as the Project Purpose:

1. *Reduce delay and improve system reliability and safety along State Route 1.*

Objective 1 assumes that delay is vehicle delay. The Traffic Operations Analysis estimates only delay per vehicle. It does not measure delay per traveler that includes bus riders in a genuine bus-on-shoulder project. It is quite possible that delay per traveler in a genuine bus-on-shoulder project would compare favorably to delay per traveler in the auxiliary lanes Project. Nor does this objective allow for increased capacity on routes parallel to Highway 1. An objective that is more in alignment with state policy would be: *Reduce delay per traveler along the corridor between Santa Cruz and Watsonville.*

**8. The Project does not substantially meet the Project Objectives.**

The DRAFT estimates that Project auxiliary lanes do not substantially reduce delay. Table 2-19 estimates no difference in delay in the northbound morning peak period between the Build and No Build alternatives. According to Table 2-22, the Project would reduce delay in the peak afternoon period. However, this improvement is estimated to erode over time:
*Compared to the No-Build Alternative, the level of service for the Build Alternative improves for the southbound PM peak direction in the year 2025 but no improvements were seen in the year 2045*

The DRAFT's prediction for a reduction in delay in the afternoon period is suspect because it is inconsistent with earlier environmental studies. The Tier II EIR for

the Soquel Dr. to 41st Ave auxiliary lanes predicts "the auxiliary lane alternative would slightly worsen traffic operations in the southbound peak commute hour". The Tier I EIR estimates that building the TSM Alternative "would result in a very slight improvement in traffic congestion when compared to the No Build Alternative".

The DRAFT's estimate for a small reduction in delay resulting from auxiliary lanes is likely overstated, since the DRAFT did not calculate induced travel according to the OPR Advisory (See above). The OPR Advisory calls attention to "the most recent major study (Duranton and Turner, 2011), estimates an elasticity of 1.0, meaning that every percent change in lane miles results in a one percent increase in VMT." What this means is that adding a lane in each direction to a two-lane highway (a 50% increase in lane miles) would result in a 50% increase in VMT. The takeaway from this study is that net congestion relief benefit from adding capacity to a highway is zero.

The DRAFT's claim that the Project would improve local circulation, as drivers using area streets opt to drive on the highway, conflicts with the conclusions of the Tier I EIR:

*The Tier I Corridor TSM Alternative would not achieve sufficient congestion relief to attract any substantial number of vehicles that had diverted to the local street system back to the freeway. Local access to, and circulation around, community facilities near these intersections would not improve relative to no-build conditions.*

In summary, the DRAFT's analysis that the Project achieves the objective to "reduce delay" and "improve local circulation" is invalid due to failure to measure VMT .

The DRAFT found that the auxiliary lanes in the northbound direction utterly fail to meet the project objectives for reducing delay:

*Implementation of the Build Alternative is expected to increase daily Vehicle Hours Traveled and vehicle hours of delay in northbound direction and decrease daily Vehicle Hours Traveled and vehicle hours of delay in the southbound direction, compared to the No Build Alternative.*

Wouldn't it be logical to evaluate eliminating the northbound auxiliary lanes from the Project?

**9. The DRAFT's conclusion that the Project would result in countywide reduction in VMT is invalid.**

As stated above, the DRAFT estimates that the auxiliary lanes portion of the project will increase VMT by 2.7% by 2045. The DRAFT calculates that the so-called "bus on shoulder" project and trail project will reduce VMT, offsetting the increase in VMT resulting from the auxiliary lanes. The net change in countywide VMT is estimated to be "zero or a small negative value".

By the DRAFT's admission (see above) its VMT analysis does not comply with with state guidelines for measuring VMT. Therefore its VMT analysis cannot be used to justify claiming that "the Build Alternative would not have impacts related to vehicle miles traveled and no mitigation measures are necessary."

Moreover, it is not valid to combine the VMT reduction benefits of the trail project, an independent project which has been planned and funded for many years, with the highway expansion project for purposes of reporting changes in VMT.

Likewise, the DRAFT's proposed redesign of the 91X bus line, involving eliminating bus stops and more frequent service, is a project that is independent of whether the auxiliary lanes are built. The VMT reduction benefits of this project can be achieved independently of the auxiliary lanes project and should not be combined with the auxiliary lanes project in reporting VMT changes.

**10. The Climate Change analysis is flawed and inadequate**

Since the VMT reductions claimed by the DRAFT are invalid (see #9), the greenhouse gas estimates are also invalid.

Further, the discussion of Climate Change makes the assumptions that "the project will not increase the vehicle capacity of the roadway," and "Because the project would not increase the number of travel lanes on State Route 1, no increase in vehicle miles traveled would occur." These assumptions cannot be supported. To our knowledge there is no research that supports the notion that building auxiliary lanes in between interchanges does not increase roadway capacity or vehicle miles traveled.

**11. The Project conflicts with state climate legislation**

In Section 2, we point out that the DRAFT's failure to analyze VMT is inconsistent with the mandate of SB 743. It is also inconsistent with the Court of Appeals ruling in *Covina Residents for Responsible Development v. City of Covina* (2018) which stated that pursuant to Section 21099, the criteria for determining the significance of transportation impacts must "promote the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses."

Senate Bill 32 (Pavley, 2016) requires California to reduce greenhouse gas emissions 40 percent below 1990 levels by 2030, and Executive Order B-16-12 provides a target of 80 percent below 1990 emissions levels for the transportation sector by 2050. The California Air Resources Board (CARB) determined that it will not be possible to achieve the State's 2030 and post-2030 emissions goals without reducing VMT growth.

**12. The DRAFT contains insufficient analysis of impacts on fish habitat in affected creeks.**

The Draft's conclusion that impacts on fish habitat will not be significant is not substantiated. The Draft appears to contradict itself. In Chapter 2 it reads: "the project may affect, and is likely to adversely affect, Central California coast steelhead critical habitat." However, Chapter 3 reads: "no effects to steelhead critical habitat are anticipated. Therefore, the project may affect, but is not likely to adversely affect, Central California coast steelhead critical habitat."

This confusion aside, the Draft makes no mention of the times of the year that steelhead spawn and smolt or how the timing of construction may impact steelhead or construction would affect the steelhead life cycle. The Draft acknowledges that the project will de-water Aptos Creek and Valencia Creek and increase sedimentation of the creeks, without analyzing how that will impact spawning habitat. Construction of the project could result in extirpation of steelhead in the creeks, but this is not analyzed.

**From:** info@seacliffimprovement.org
**Sent:** Friday, June 2, 2023 2:20 PM
**To:** Bertaina, Lara E@DOT
**Subject:** Comments on Draft EIR/EA for proposed Highway 1 Auxiliary Lane/Bus-on-Shoulder (State Park Drive to Freedom Boulevard) and Coastal Rail Trail Segment 12 Project.
**Attachments:** EIR Comments-f.pdf

**EXTERNAL EMAIL.** Links/attachments may not be safe.

Dear Lara Bertaina,

The Seacliff Improvement Association (SIA) is writing to acknowledge the drainage issues provided in the attached document from the Seacliff Business Partners (SBP). The SBP questions raised wish to ensure the projects being contemplated do not exacerbate but rather address quality of life and safety concerns in Seacliff presented in the document**.** To those conducting the EIR, please consider both an analysis and a solution for the issues SBP captured as part of the scope of these SCCRTC projects.

Sincerely,

Emily Chorba
Seacliff Improvement Association President

T0: Lara Bertaina, Senior Environmental Planner
Department of Transportation
50 Higuera Street
San Luis Obispo, CA 93401
**BY Email: lara.bertaina@dot.ca.gov**

Cc: Cal Trans, Santa Cruz RTC, Santa Cruz County Public Works, et al.

From: Seacliff Business Partners

Re: Comments on Environmental Impact Report Draft for- Highway 1 Auxiliary Lanes and Bus-on-Shoulder Improvements —Freedom Boulevard to State Park Drive— and Coastal Rail Trail Segment 12 Project, submitted. June 2, 2023

Personae:

Seacliff Business partners is a 501c6 community group comprised of the merchants of Seacliff CA. We are excited about the upcoming improvements to our community contemplated in the project known as:

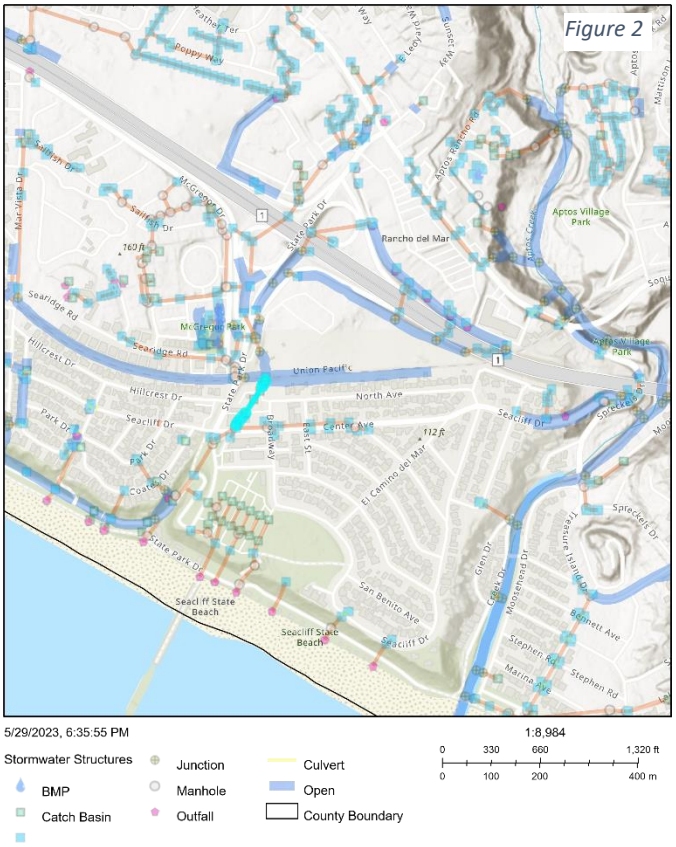
State Route 1 Auxiliary Lanes and Bus-on-Shoulder Improvements—Freedom Blvd. to State Park Dr.—and Coastal Rail Trail Segment 12 Project SANTA CRUZ COUNTY, CALIFORNIA DISTRICT 5 – SCR – (8.1/10.7) EA 05-0C73

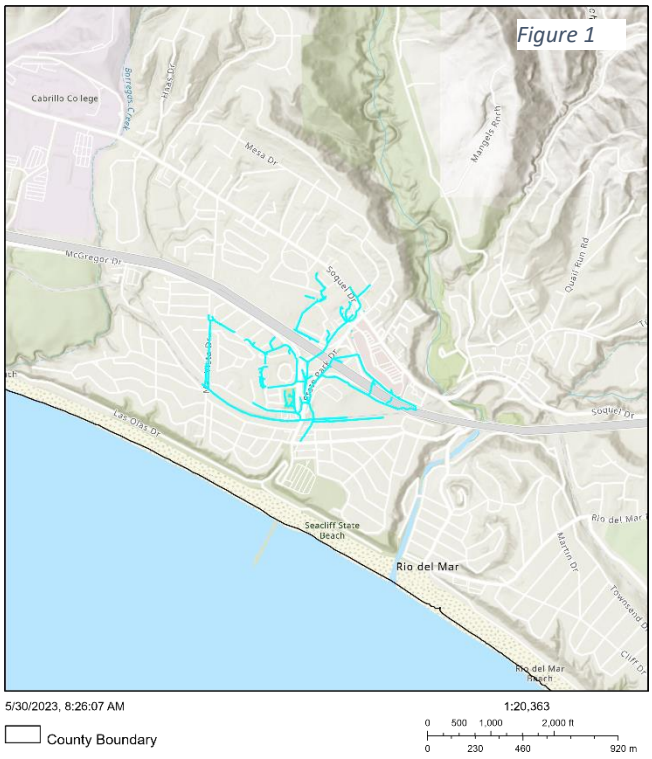
While we are pleased to see these important projects getting underway, we are particularly concerned about a certain aspect that directly effects our membership and the community we serve.

There is an inadequate drainage facility running through our town which is significantly fed by the areas where this project work will be done. This facility routinely floods and generates a severe current and sump which erodes and poses a risk to life if a person should fall or be swept into the channel. The channel crosses private lands through a county easement that has long since overflowed its bounds. In addition to the direct effects of the work both while underway and more importantly after completion, the additional rail trail facility exposes our members and our community to a terrible risk from an open stormwater channel. We need only reflect on the terrible loss of 5-year-old Kyle Doan near Paso Robles last winter to recognize that this problem must not be ignored. A responsible assessment of impacts of the project work should include addressing and/or undergrounding the stormwater channel in Seacliff between the railroad and Center Ave parallel to State Park Drive. We ask that the impact report consider and address this problem in its findings and recommendations.

Below please find specific comments and analysis of the EIR and related project documentation to bolster this request and provide more specific opportunity for action.

EIR analysis: The EIR does not adequately address the consequences of this project alone or with related or concurrent projects and problematic conditions associated with an apparently unconsidered aspect of the stormwater facilities affected by the project(s). We are expressing grave concern about the adequacy of the structures (or lack thereof) that occur between the rail line and Center Ave in Seacliff (highlighted in Figure 1 in light blue below). The drainage lines highlighted in Figure 2 show the areas draining through the highlighted flow in Figure 1.




The following projects are currently in the works that will increase flow through a combination of more larger and cleaner pipes and an increase of impervious surfaces:

- Santa Cruz 1 Roadside Safety and Drainage System Improvements- On State Route 1 in Santa Cruz County 05-SCR-1-PM 8.2/26.0 Project EA 05-1J960, Project ID 0518000093 State Clearinghouse Number 2022070450
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- State Route 1 in Santa Cruz County and the City of Capitola between State Park Drive and Bay Avenue/Porter Street 05-SCR-1-10.54-13.44 EA 05-0C733/Project ID 0518000116 SCH Number 2019100143

Between the projects contemplated in the EIR draft and the additional projects for auxiliary lanes and drainage improvements on Rte. 1 up to Bay & Porter as well as section 11 of the Rail Trail, Bus on Shoulder, et.al., we are expressing concern that the cumulative effects on the peak volume of

stormwater flow through the drainage section in Figure 1 have not been responsibly calculated and considered.

The Notice of Preparation (Sep. 22) for this EIR states on page 6,

(1) "The project is anticipated to result in an increase of impervious surfaces, which has the potential for long-term water quality impacts during project operations."; … and
(2) "Land Use and Coastal Zone - Portions of the project area are located in the Coastal Zone, and the project may potentially affect resources protected by the federal Coastal Zone Management Act (CZMA), California Coastal Act, and the Santa Cruz County Local Coastal Plan. A Coastal Development Permit pursuant to the California Coastal Act is anticipated to be required. The draft EIR/EA will provide information on potential impacts and identify appropriate avoidance, minimization, and mitigation measures to reduce impacts on sensitive resources in the Coastal Zone, such as biological resources, water quality, parks and recreational resources."

On Page 49 in the Table 2-1. Local Coastal Program Consistency Analysis, County of Santa Cruz 1994 General Plan and Local Coastal Program the EIR states: "Policy 5.4.3: Water pollution from urban runoff. Review proposed development projects for their potential to contribute to water pollution via increased storm water runoff. Utilize erosion control measures, on-site detention and other appropriate storm water Best Management Practices to reduce pollution from urban runoff; and Policy 5.7.1. Impacts from new development on water quality. Prohibit new development adjacent to marshes, streams and bodies of water if such development would cause adverse impacts on water quality which cannot be fully mitigated."

Unfortunately, the breaking of the projects listed above into their individual scopes of work as well as geographic sections with border at State Park Drive allows for a cursory review to suggest that the stormwater effects might be minimal, for this reason a cumulative approach to this concern is required for a dutiful and responsible analysis.

**Based on the comments in P 109-112, The EIR should contain a discussion of increased flows, particularly when considered cumulatively with the projects above should be detailed, with a factual basis for conclusions. This analysis should consider and incorporate the risk of liability from a death or injury from peak stormwater flow in the area of concern given its contiguous proximity to the Rail Trail and community serving resources. Tis discussion should include a recommendation that the effects on the downstream area noted above must be managed with Caltrans and/or Santa Cruz County Design Criteria and BMPs for permanent facility.**

Santa Cruz County Design Standards and CalTrans Design Standards both dictate that a project of this scope must address increased flow through mitigation, which in this case would be well addressed by designing a higher capacity enclosed pipe to handle this storm water.

The study in the EIR,

PRELIMINARY GEOTECHNICAL DESIGN REPORT SCCRTC- STATE ROUTE 1 AUX LANES AND BUS ON SHOULDER (FREEDOM BOULEVARD TO STATE PARK DRIVE) COUNTY OF SANTA CRUZ, CALIFORNIA 05-SCR-1-PM R8.1/10.7 EA: 05-0C734

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We make these comments and requests in reflection of our significant concerns for the safety and welfare of our community and the recognition that the scope of this problem is beyond the ability of individual property owners to address, given the myriad sources of the water and the breadth of new activity directly and indirectly enabled by these projects.

Respectfully submitted,

Kelly Dillon

Chair

Seacliff Business Partners

**From:** Kelly Dillon <kd@mariannesicecream.com>
**Sent:** Friday, June 2, 2023 1:53 PM
**To:** Bertaina, Lara E@DOT
**Cc:** Charlie Wilcox
**Subject:** Comments on IRE for: Highway 1 Auxiliary Lanes and Bus-on-Shoulder Improvements —Freedom Boulevard to State Park Drive— and Coastal Rail Trail Segment 12 Project
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We look forward to a positive outcome from your response. Please feel free to contact myself or my colleague, Charlie Wilcox (831 854 7482) with any questions.

Appreciatively,
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T0: Lara Bertaina, Senior Environmental Planner
Department of Transportation
50 Higuera Street
San Luis Obispo, CA 93401
**BY Email: lara.bertaina@dot.ca.gov**

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There is an inadequate drainage facility running through our town which is significantly fed by the areas where this project work will be done. This facility routinely floods and generates a severe current and sump which erodes and poses a risk to life if a person should fall or be swept into the channel. The channel crosses private lands through a county easement that has long since overflowed its bounds. In addition to the direct effects of the work both while underway and more importantly after completion, the additional rail trail facility exposes our members and our community to a terrible risk from an open stormwater channel. We need only reflect on the terrible loss of 5-year-old Kyle Doan near Paso Robles last winter to recognize that this problem must not be ignored. A responsible assessment of impacts of the project work should include addressing and/or undergrounding the stormwater channel in Seacliff between the railroad and Center Ave parallel to State Park Drive. We ask that the impact report consider and address this problem in its findings and recommendations.

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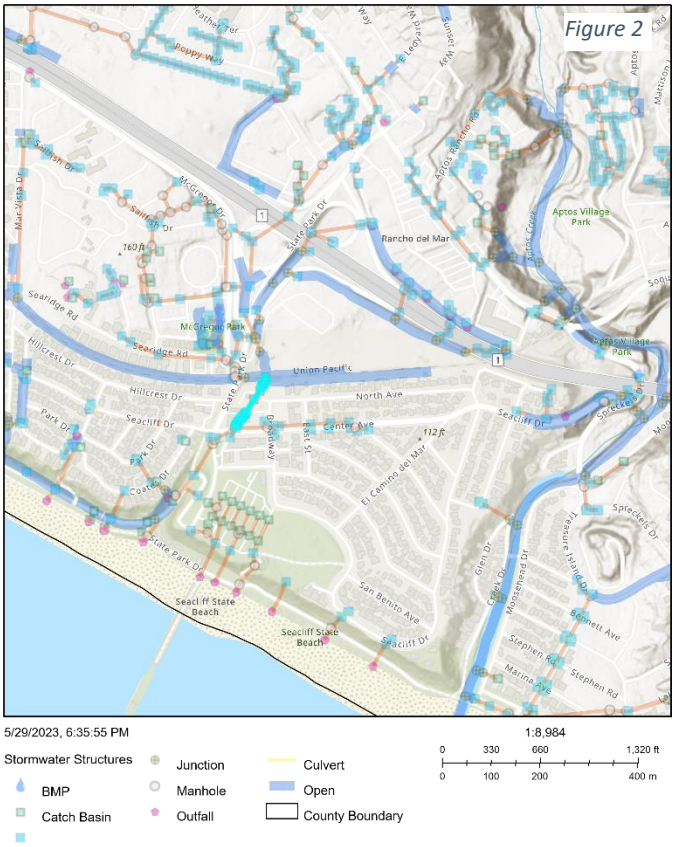


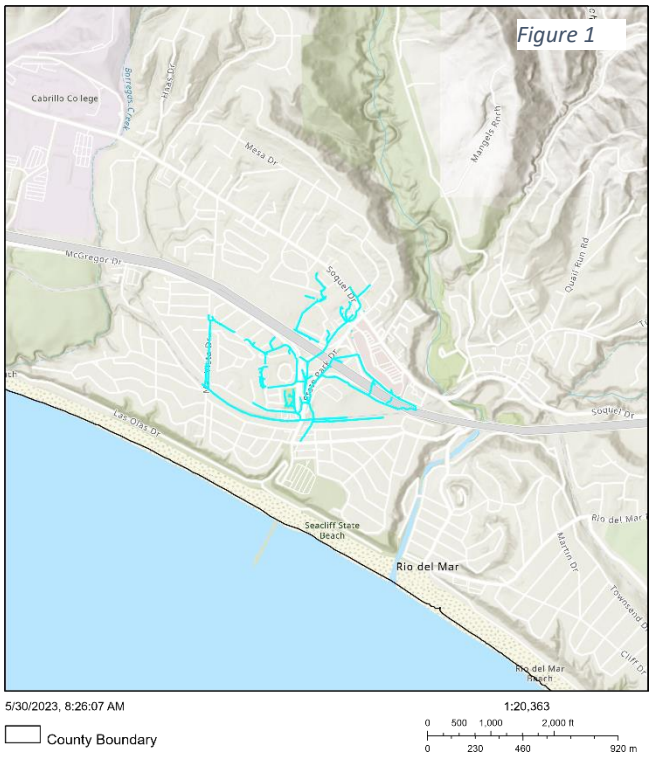


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Respectfully submitted,

Kelly Dillon

Chair

Seacliff Business Partners

Appendix: Documents and comments related to Seacliff Business Partners EIR comments June 2, 2023:

| |
|---|
| Document: Draft EIR/EA SR 1 Auxiliary Lanes Freedom Blvd. to State Park Dr and Coastal Rail Trail Segment 12 Project p.16 |
| Quote: Stormwater Drainage and Treatment Facilities The Build Alternative would include drainage system improvements and permanent stormwater treatment facilities for the State Route 1 and Coastal Rail Trail Segment 12 improvements. Hydromodification measures would be included, if needed. During construction, the contractor would be required to develop and implement a Stormwater Pollution Prevention Plan in compliance with the statewide Construction General Permit and consistent with the guidelines and procedures in Caltrans' Statewide Stormwater Management Plan. The Stormwater Pollution Prevention Plan will provide detailed, sitespecific information regarding Best Management Practices to avoid and minimize water quality impacts. The project would be constructed to minimize erosion by disturbing slopes only when necessary, minimizing cut and fill areas to reduce slope lengths, providing cut and fill slopes flat enough to allow revegetation to limit erosion rates, and providing concentrated flow conveyance systems such as storm drains, ditches, and gutters. |
| Comment: The conclusion that the impacts for Stormwater are less than significant are not supported by any data. Specifically, the volumes of peak water from added impervious areas that directly impact the area of concern are not discussed. The analysis is inadequate to conclude that there is no significant impact on community or property holder interests, public safety, and erosion outflows at Seacliff State Beach. |

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| Document: Draft EIR/EA SR 1 Auxiliary Lanes Freedom Blvd. to State Park Dr and Coastal Rail Trail Segment 12 Project p.20 |
| Quote: Standard Measure WQ-5: Implement permanent stormwater treatment measures and design pollution prevention Best Management Practices. |
| Comment: Caltrans Standard Measure WQ-5 in conjunction with Caltrans Policy suggest that Caltrans and local agencies must work in conjunction to mitigate **PERMANENT** detrimental effects of Stormwater flows. Ref:Caltrans Highway Design Manual- Ch890 Stormwater Management. The EIR does not provide adequate analysis of peak flows in the channel area of concern to ascertain what mitigations are necessary.<br>The Notice of Preparation regarding this EIR specifically states that this area of concern must be evaluated (Highway 1 Auxiliary Lanes and BOS Improvements Notice of Preparation —Freedom Boulevard to State Park Drive— September 2020 and Coastal Rail Trail Segment 12 Project. P.6)<br>"Hydromodification, Water Quality, and Stormwater Runoff<br>"Land Use and Coastal Zone - Portions of the project area are located in the Coastal Zone, and the project may potentially affect resources protected by the federal Coastal Zone Management Act (CZMA), California Coastal Act, and the Santa Cruz County Local Coastal Plan. A Coastal Development Permit pursuant to the California Coastal Act is anticipated to be required. The draft EIR/EA will provide information on potential impacts and identify appropriate avoidance, minimization, and mitigation measures to reduce impacts on sensitive resources in the Coastal Zone, such as biological resources, water quality, parks and recreational resources."<br>New erosive effects from additional peak flows must be addressed. The Stormwater study Appendix E long form Storm Water Data Report did not complete the items that would address these issues pp.42-49. |

**From:** Charlie Wilcox <cw@mariannesicecream.com>
**Sent:** Friday, June 2, 2023 1:57 PM
**To:** Bertaina, Lara E@DOT
**Cc:** Kelly Dillon
**Subject:** RE: Comments on EIR for: Highway 1 Auxiliary Lanes and Bus-on-Shoulder Improvements —Freedom Boulevard to State Park Drive— and Coastal Rail Trail Segment 12 Project
**Attachments:** EIR Comments-f.pdf; appendix EIR comments SBP.pdf

**EXTERNAL EMAIL.** Links/attachments may not be safe.

Hi Lara-
In addition to the comments sent by Kelly (see Below), please find the appendix to those EIR comments attached herein on our behalf.
Thanks
-Charlie

Charlie Wilcox
cw@mariannesicecream.com
831 854 7482

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**Sent:** Friday, June 2, 2023 1:53 PM
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**Cc:** Charlie Wilcox <cw@mariannesicecream.com>
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| |
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| Document: Draft EIR/EA SR 1 Auxiliary Lanes Freedom Blvd. to State Park Dr and Coastal Rail Trail Segment 12 Project p.367 |
| Quote: The following resources have less-than-significant impacts, are currently in good/stable health and when combined with the anticipated impacts of other past, present, and future projects in the area, they would not result in a significant impact. Therefore, these resources are not discussed in this cumulative impact analysis. |
| Comment: This statement is factually incorrect and no data or justification for the conclusion is referenced. The area of concern discussed in the comments are clearly not in Good/Stable Health. The Notice of Preparation regarding this EIR specifically states that this area of concern must be evaluated (Highway 1 Auxiliary Lanes and BOS Improvements Notice of Preparation —Freedom Boulevard to State Park Drive— September 2020 and Coastal Rail Trail Segment 12 Project. P.6) "Hydromodification, Water Quality, and Stormwater Runoff -….**The project is anticipated to result in an increase of impervious surfaces, which has the potential for long-term water quality impacts during project operations."**<br>Caltrans Highway Design Manual- Ch890 Stormwater Management ch.892.3 states:<br>892.3 Design Considerations The items presented below describe some of the issues to be considered prior to, and during, the design of any storm water management facility. General issues common to most storm water management strategies that need to be evaluated are:…<br>The effects of the proposed facility on channel capacities and existing floodways require evaluation. Care must be taken to evaluate the effects related to the delayed release from detention facilities since an increase in downstream peak discharges may result (see Figure 892.3).<br>The effects of releasing sediment free "hungry" water into channels and the potential for increased erosion rates downstream must be determined.<br>891.2 Philosophy When runoff impacts result from a Department project, then the cost of mitigating these impacts is a legitimate part of the project cost. |

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|---|
| Document: "On State Route 1 in Santa Cruz County and the City of Capitola between State Park Drive and Bay Avenue/Porter Street 05-SCR-1-10.54-13.44 EA 05-0C733/Project ID 0518000116 SCH Number 2019100143" p.103 |
| Quote: Change in Impervious Surface Area The project would result in a net increase of the impervious surface area of 9.3 acres (0.015 square mile). Based on the overall size of the Soquel Creek and Nobel Creek watersheds, 41 square miles, and 1.2 square miles, respectively, and the overall increase of 0.015 square mile of net impervious surface area that would result from the project, substantial impacts on the base floodplains are not expected. Additionally, the goal of the project is to maintain the existing drainage pattern. |
| Comment: These statements must be considered as part of a cumulative effect analysis.<br>This document also states on pages 109-112:<br>… Caltrans' stormwater discharges must meet water quality standards through implementation of permanent and temporary (construction) Best Management Practices, to the maximum extent practicable, and other measures as the State Water Resources Control Board determines to be necessary to meet the water quality standards.<br>… The Central Coast Regional Water Quality Control Board has issued Post-Construction Stormwater Requirements, which give additional project size-based requirements for site design, water quality treatment, runoff retention, and peak management. Additionally, the County of Santa Cruz has developed design criteria containing standards for the construction of streets, storm drains, sanitary sewers, water systems, and driveways within the unincorporated portion of the County of Santa Cruz (2019). |

… In some cases, the Regional Water Quality Control Board may have specific concerns with discharges associated with a project. As a result, the Regional Water Quality Control Board may issue a set of requirements known as Waste Discharge Requirements under the State Water Code (Porter-Cologne Act) that define activities, such as the inclusion of specific features, effluent limitations, monitoring, and plan submittals that are to be implemented for protecting or benefiting water quality. Waste Discharge Requirements can be issued to address both permanent and temporary discharges of a project.
The EIR should state that these criteria must be implemented in the area of concern.

wittwer / parkin

June 2, 2023

**VIA EMAIL**

Lara Bertaina
Senior Environmental Scientist
California Department of Transportation
District 5
50 Higuera Street
San Luis Obispo, CA 93401
Lara.Bertaina@dot.ca.gov

Re: Comments on DEIR
Highway 1 State Park Dr to Freedom Blvd Aux Lanes, Bus-on-Shoulder & Coastal Rail Trail Segment 12 Project

Dear Ms. Bertaina:

This law firm submits the following comments on the above referenced Draft Environmental Impact Report (DEIR) on behalf of the Campaign for Sustainable Transportation (CFST), one of the prevailing parties in *Campaign for Sustainable Transportation v. California Department of Transportation* (Sacramento Superior Court Case No. 34-2019-80003073). This letter is to remind the California Department of Transportation (Caltrans) that it does not currently have the authority certify a Draft Environmental Import Report (DEIR) that relies on the decertified Environmental Impact Report for the widening of Route 1 in Santa Cruz County (Decertified EIR).

## I. Caltrans Cannot Certify an EIR that Relies on the Decertified EIR

Caltrans cannot certify the DEIR for the Highway 1 State Park Dr to Freedom Blvd Aux Lanes, Bus-on-Shoulder & Coastal Rail Trail Segment 12 Project (Project) because it relies on the Decertified EIR.

One of the basic purposes of the California Environmental Quality Act (CEQA) is to "[i]nform governmental decision makers and the public about the potential, significant environmental effects of proposed activities." (14 Cal. Code Regs. § 15002 (a)(1).) "The courts have repeatedly stated that informed decision making and public participation are fundamental purposes of the CEQA process." (Kostka & Zischke, Practice Under the California Environmental Quality Act (Cont. Ed. Bar 2020) § 1.18, citing *Citizens of Goleta Valley v. Board of Supervisors* (1990) 52 Cal.3d 553, *Laurel Heights Improvement Ass'n v. Regents of Univ. of California* (*"Laurel Heights"*) (1988) 47 Cal.3d 376, and *No Oil, Inc. v. City of Los*

*Angeles* (1974) 13 Cal.3d 68.) Without an adequate EIR, this fundamental purpose is not fulfilled.

In 2019, CFST filed a petition for writ of mandate challenging the actions of Caltrans in approving the Tier I – Corridor Analysis of High-Occupancy Vehicle (HOV) Lanes and Transportation System Management Alternatives and Tier II – Build Project Analysis of 41st Avenue to Soquel Avenue/Drive Auxiliary Lanes and Chanticleer Avenue Pedestrian-Bicycle Overcrossing Project (Tier I/Tier II Project) and certifying the Environmental Impact Report for the Tier I/Tier II Project. The Sacramento Superior Court found that Caltrans had violated CEQA because, *inter alia,* the Decertified EIR failed to include a proper baseline, project description, and an adequate analysis of toxic air contaminants. As such, the court ordered that "Caltrans' approval of the Tier I Project and the EIR shall be set aside, and that Caltrans shall recirculate a revised DEIR for public review and comment." (*Caltrans v. CFST*, Ruling, p. 15.) Caltrans decertified the EIR as ordered by the Court.

According to the CEQA Guidelines, "Where a prior environmental impact report has been prepared and ***certified*** for a program, plan, policy, or ordinance, the lead agency for a later project that meets the requirements of this section shall examine significant effects of the later project upon the environment by using a tiered environmental impact report…" (Cal. Pub. Resources Code, tit. 14, §21094.) The DEIR here is built on a house of cards. It relies on studies that are tiered off the Decertified EIR.

First, the Caltrans Energy Analysis Report relied upon by the DEIR states:

> Improvements in the project area were addressed previously in a combined Tier I/Tier II Environmental Impact Report/Environmental Assessment (EIR/EA), which was adopted in December 2018. The Tier I component, referred to as the corridor improvement project, proposed approximately 8.9 miles of new high-occupancy vehicle (HOV) lanes, HOV on-ramp bypass lanes, auxiliary lanes, pedestrian and bicycle overcrossings, and reconstructed interchanges. It was recognized that the Tier I project would likely be implemented in phases. The Tier II component therefore analyzed the first phase of the corridor improvement project, which included auxiliary lanes between 41st Avenue and Soquel Avenue/Drive among other improvements within the Tier II project limits.
>
> **The project is the second phase of the improvements described in the Tier I EIR/EA.** The SCCRTC developed an implementation plan for building out the Tier I corridor improvement project based on traffic operation criteria to ensure that each phase identified as a future construction-level project would have independent utility because it would individually provide a benefit to traffic operations on SR 1. The project has independent utility and logical termini because it would resolve a congestion problem on SR 1 between Freedom Boulevard and State Park Drive.

(Caltrans Energy Analysis Report, p. 1.) As such, it is clear that the Project is connected to the project described in the Decertified EIR and as a result, the DEIR relies on information in the Decertified EIR.

The DEIR also improperly relies on the Traffic Operations Analysis Report (CDM Smith 2021)(TOAR) to argue the need for the Project. (DEIR, p. 2.) The TOAR clearly states the connection between the Project and the Tier I/Tier II Project : "The Santa Cruz County Regional Transportation Commission (SCCRTC), in a joint effort with Caltrans District 5, is developing the Tier II Highway 11 (State Park Drive to Freedom Boulevard) Auxiliary Lanes Project (also referred to as the "Project")." (TOAR, p. 2-1.) The purpose of the TOAR " is to describe the methodology and results for traffic analysis performed for this Project." (TOAR, p. 2-1.) However, the TOAR admits that it relies on the Decertified EIR: The TOAR's Traffic Operations Analysis Methodology also indicates this portion of the report also relied on the Decertified EIR: "Induced traffic volumes due to the addition of auxiliary lanes due to this Project **and the background Tier II projects were estimated by scaling the induced traffic volume impacts of auxiliary lanes identified under the Tier I EIR/EA TSM Alternative** on the basis of auxiliary lane-miles added." (TOAR, p, 4-1, emphasis added.)

In addition, the DEIR's reliance on the Community Impact Assessment (CIA) is also improper, blatantly admitting "This CIA is based … technical documents prepared for the Santa Cruz Route 1 Tier I & Tier II Environmental Impact Report / Environmental Assessment (EIR/ EA)." (CIA, p. 2.) The Community Impact Analysis also states "Where applicable, this report includes information from the 2018 Cumulative Impact Analysis for the Santa Cruz Route 1 Tier I High Occupancy Vehicle (HOV) and Tier II Auxiliary Lanes from 41st Avenue to Soquel Avenue project (Caltrans 2018a)" and that "Analysis of impacts and resource area health was based primarily on information presented in the Cumulative Impact Analysis for the Tier I/Tier II Project" and (Community Impact Analysis, p. 1, 21.) The analysis concerning the current health of the surrounding resources also "utilized [resource study areas] established for the Cumulative Impact Analysis for the Tier I/Tier II Project. Figures showing these [resource study areas] are located in Appendix 1." (Community Impact Analysis, p. 23.) In the Preliminary Geotechnical Design Report, it states, "Improvements in the project area were addressed previously in a combined Tier I/ Tier II EIR with a Finding of No Significant Impact (FONSI), which was adopted in December 2018." (Preliminary Geotechnical Design Report, p. 2.) The Preliminary Geotechnical Design Report then goes on to describe the project of the Decertified EIR, stating "The Tier I component, referred to as the corridor improvement project, proposed approximately 8.9 miles of new high-occupancy vehicle (HOV) lanes, HOV on-ramp bypass lanes, auxiliary lanes, pedestrian and bicycle overcrossings, and reconstructed interchanges. It was recognized that the Tier I project would likely be implemented in phases. The proposed project is the third phase of the improvements described in the Tier I EIR/FONSI." (Preliminary Geotechnical Design Report, p. 2.)

Therefore, there are several instances in which it is clear that the DEIR relies on the Decertified EIR, which is a violation of CEQA. Therefore, the analysis must be expanded and

completed to independently analyze the impacts of this Project without reliance on the Decertified EIR. Thus, this DEIR must be recirculated for public review and comment. Any reliance on the Decertified EIR would be a violation of the Sacramento Superior Court's order, judgment and writ of mandate issued in *CFST v. Caltrans*.

## II. The Project is Not Exempt From Providing a Vehicle Miles Traveled Analysis Pursuant to SB 743

In enacting SB 743, the Legislature intended to meet two distinct goals:

(1) Ensure that the environmental impacts of traffic, such as noise, air pollution, and safety concerns, continue to be properly addressed and mitigated through the CEQA

(2) More appropriately balance the needs of congestion management with statewide goals related to infill development, promotion of public health through active transportation, and reduction of greenhouse gas emissions.

In analyzing whether the Project would impact any circulation systems, the DEIR states:

No Impact—The project is included in the Santa Cruz County Regional Transportation Commission's 2040 Metropolitan Transportation Plan/Sustainable Communities Strategy and the Santa Cruz County Regional Transportation Plan. In addition, the supplemental traffic analysis prepared for the project states that in terms of vehicle miles traveled, the Senate Bill 743 (Transportation Impact) guidelines have listed auxiliary lanes as a project type that is not likely to lead to measurable or substantial increase in vehicle travel, and transit projects such as the Bus-on-Shoulder element of the project are exempt from Senate Bill 743 analysis.

(DEIR, p. 412.) This conclusion is an incorrect application and oversimplification of the SB 743 Guidelines.

According to the Technical Advisory on Evaluating Transportation Impacts in CEQA (Technical Advisory) published by the Governor's Office of Planning and Research (OPR), auxiliary lanes maintain the ability to contribute to an increased in vehicle travel:

If a project would likely lead to a measurable and substantial increase in vehicle travel, the lead agency should conduct an analysis assessing the amount of vehicle travel the project will induce. Project types that would likely lead to a measurable and substantial increase in vehicle travel generally include:

> - Addition of through lanes on existing or new highways, including general purpose lanes, HOV lanes, peak period lanes, **auxiliary lanes**, or lanes through grade-separated interchanges.

(Technical Advisory, p. 20, emphasis added.) The Technical Advisory goes on to state

> Projects that would not likely lead to a substantial or measurable increase in vehicle travel, and therefore generally should not require an induced travel analysis, include:
>
> …
>
> - Addition of an auxiliary lane of less than one mile in length designed to improve roadway safety

The DEIR admits that "The total length of the project on State Route 1 is 2.6 miles, and on the Santa Cruz Branch Rail Line is 1.14 miles." (DEIR, p. 1.) Neither the Technical Advisory nor the DEIR include any other exceptions for analyzing the VMT of auxiliary lanes. Therefore, it is clear that the Project does not fall under any exemptions from analyzing the vehicle miles traveled (VMT) of the Project.

Moreover, the DEIR actually provides evidence that shows the Project will increase VMTs. According to the TOAR:

> **Project Added Capacity:** The Project will add mainline segment capacity14 within the Project Limits on the SR 1 mainline segments increasing from a range of 3,950-4,400 vehicles/hour to a range of 5,600-6,100 vehicles/hour due to the added auxiliary lanes. This results in a vehicle throughput increase between interchanges but within the Project Limits but not through the interchanges. The added mainline segment capacity would also benefit congested upstream mainline segments operationally by providing additional storage space for the queued upstream vehicles.

(TOAR, p. 1-6.) Despite this information, the DEIR baselessly concludes

> As stated in Section 2.1.7, the project would not increase vehicle miles traveled. Rather, the Build Alternative would reduce vehicle delay, increase average speed, and improve level of service, thereby reducing operational mobile source air toxic emissions associated with vehicle idling. As discussed in Section 2.2.6, Air Quality, the Bus-on-Shoulder component of the Build Alternative would move buses slightly closer to freeway-adjacent land uses. However, Santa Cruz Metro is continuously upgrading its transit fleet to include new hybrid buses and zero-emission electric buses. California Air Resources Board has also set a deadline of 2040 for all transit operators to transition to zero-emission electric fleets. Lastly, the project includes construction of Segment 12 of the Coastal Rail Trail, which would increase connectivity and safety for bicyclists and

> pedestrians, and increases use of alternative transportation modes. Therefore, impacts would be less than significant.

(DEIR, p. 392.) Nevertheless, the DEIR never adequately analyzed vehicle miles because the DEIR claims the project is exempt.

## III. The DEIR Fails to Adequately Analyze Greenhouse Gas Impacts

The DEIR fails to provide a greenhouse gas (GHG) analysis that complies with CEQA requirements.

> The Legislature has "emphatically established as state policy the achievement of a substantial reduction in the emission of gases contributing to global warming." (*Center for Biological Diversity v. Department of Fish & Wildlife* (2015) 62 Cal.4th 204, 215, 195 Cal.Rptr.3d 247, 361 P.3d 342 (*Center for Biological Diversity*.) This policy is implemented in CEQA.
>
> CEQA requires a lead agency to "make a good-faith effort, based to the extent possible on scientific and factual data, to describe, calculate or estimate the amount of [GHG] emissions resulting from a project." (Cal. Code Regs., tit. 14, § 15064.4, subd. (a).)4 In determining the significance of a project's GHG emissions, CEQA directs the lead agency to consider, among other things, the "extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of [GHG] emissions." (Guidelines, § 15064.4, subd. (b)(3).)

(*Golden Door Properties, LLC v. County of San Diego* ("Golden Door") (2020) 50 Cal.App.5th 467, 485.) The DEIR's analysis of the Project's GHG are unsupported and cursory. According to the DEIR,

> This project would result in shifts from auto to transit modes, improve freeway level of service and average speed, improve freeway operation conditions in the southbound PM peak direction, and improve pedestrian and bicycle connectivity with the two new trail crossings. The project would generate a less than significant amount of pollutants during construction and would result in emission reductions under long-term operation. The project is included in the Santa Cruz County Regional Transportation Commission's Regional Transportation Plan and Regional Transportation Improvement Program, both of which were found to be conforming (see Section 2.2.6, Air Quality). Therefore, the project would not conflict with the Air Quality Management Plan. Impacts would be less than significant.

(DEIR, p. 391.) In addition, the DEIR states

> For the Build Alternative, the amount of mobile source air toxins emitted would be proportional to vehicle miles traveled. As discussed above, the Build Alternative would reduce county-wide Vehicle Miles Traveled from the No-Build Alternative. In addition, the Build Alternative would reduce vehicle delay, increase average speed, and improve level of service, reducing mobile source air toxic emissions associated with vehicle idling. Furthermore, emissions will likely be lower than present levels in the design year as a result of the U.S. Environmental Protection Agency's national control programs that are projected to reduce annual mobile source air toxic emissions by over 90% between 2010 and 2050 (FHWA 2016). Local conditions may differ from these national projections in terms of fleet mix and turnover, vehicle miles traveled growth rates, and local control measures. However, the magnitude of the U.S. Environmental Protection Agency-projected reductions is so great (even after accounting for vehicle miles traveled growth) that mobile source air toxic emissions in the study area are likely to be lower in the future in nearly all cases.

(DEIR, p. 424.) The DEIR lacks any "good-faith effort, based to the extent possible on scientific and factual data, to describe, calculate or estimate the amount of [GHG] emissions" resulting from the Project. (Cal. Code Regs., tit. 14, § 15064.4, subd. (a).) While somewhat relevant, simply relying on other GHG reduction measures to conclude that the Project's GHG impacts will be less than significant does not comply with CEQA requirements. Again, there was no true effort to provide a compliance vehicle miles traveled analysis because the DEIR claims it is exempt from such analysis.

## IV. The DEIR Fails to Provide a Reasonable Range of Alternatives

> "The 'core of an EIR is the mitigation and alternatives sections.' (*Citizens of Goleta Valley*, *supra*, 52 Cal.3d at p. 564.) An agency may not approve a project that will have significant environmental impacts if there are feasible alternatives that would substantially lessen those effects. (Pub. Resources Code, § 21002; Guidelines, §§ 15002, subd. (a)(3), 15021, subd. (a)(2).)"

(*Golden Door*, 50 Cal.App.5th at 546.) The Legislature has declared "it is the policy of the state that public agencies should not approve projects as proposed if there are feasible alternatives or feasible mitigation measures available which would substantially lessen the significant environmental effects of such projects…" (Pub. Resources Code, § 21002.) "The purpose of an environmental impact report is to provide public agencies and the public in general with detailed information about the effect which a proposed project is likely to have on the environment; to list ways in which the significant effects of such a project might be minimized; and to indicate alternatives to such a project." (Pub. Resources Code, § 21061, emphasis added.) Here, the DEIR failed to provide an adequate alternatives analysis. The DEIR improperly conflates the project

*description with the project alternatives and, as a result, does not provide any project alternatives other than a No Project Alternative that fails to satisfy CEQA requirements.*

***A. The Proposed Project Cannot be an Alternative***

*The Build Alternative cannot be an alternative to the proposed project because it is the proposed project. "An EIR shall discuss a range of reasonable alternatives* ***to the project, or the location of the project****...." (Guidelines, § 15126.6(a), emphasis added.) Strangely, the project alternatives analysis is included in the Project Description section. The DEIR states, "This section describes the proposed project that meets the purpose and need while avoiding or minimizing environmental impacts. The alternatives are the Build Alternative and the No-Build (No-Action) Alternative." (DEIR, p. 6.)*

*The range of alternatives included in an EIR must be "potentially feasible alternatives that will foster informed decisionmaking and public participation." (Guidelines, § 15364.) "An EIR shall describe a range of reasonable alternatives to the project… which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives." (CEQA Guidelines, 15126.6 (a), emphasis added; Preservation Action Council v. City of San Jose (2006) 141 Cal.App.4th 1336, 1350.)*

*The California Supreme Court has made clear the importance of identifying alternatives to the project:*

> *... "The purpose of an environmental impact report is to identify the significant effects of a project on the environment, to identify alternatives to the project, and to indicate the manner in which those significant effects can be mitigated or avoided." (Italics added.) Perhaps most important, the Legislature has expressly declared that "... it is the policy of this state to: ... [r]equire governmental agencies at all levels ... to consider alternatives to proposed actions affecting the environment." (§ 21001, subd. (g), italics added.)....*
>
> *The foregoing CEQA provisions and Guidelines make clear that "One of its [an EIR's] major functions ... is to ensure that all reasonable alternatives to proposed projects are thoroughly assessed by the responsible official." (Wildlife Alive v. Chickering (1976) 18 Cal.3d 190, 197, 132..., italics added.)*

*(Laurel Heights Improvement Assn. v. Regents of University of California (1988) 47 Cal.3d 376, 400, italics in original.)*

*The Proposed Project cannot be an alternative to itself. As stated above, CEQA requires "An EIR shall discuss a range of reasonable alternatives* ***to the project, or to the location of the project****...." (Guidelines, § 15126.6(a), emphasis added.) Not only does the Build Alternative's analysis describe the proposed project, the DEIR also calls the Build Alternative the "proposed*

project." For example, when describing the Bus-on-Shoulder Features of the Build Alternative, the DEIR states, "the proposed project would include construction of transit-only shoulder lanes within interchanges (off-ramp to on-ramp). The shoulder improvements would allow buses to drive on the new auxiliary lanes between interchanges and the outside shoulder through the interchanges…" (DEIR, p. 8, emphasis added.) Moreover, under the Standard Measures section for the Build Alternative, the DEIR also states "This project contains a number of standardized project measures that are used on most, if not all, Caltrans projects and were not developed in response to any specific environmental impact resulting from ***the proposed project.*** These measures are addressed in more detail in the Environmental Consequences sections in Chapter 2." (DEIR, p. 20.) Throughout the Chapter 3 CEQA Evaluation, the DEIR vacillates between calling the Project the "proposed project" and the Build Alternative.

Moreover, by conflating the Build Alternative description with the Project description, the DEIR fails to adhere to CEQA's requirement to provide an adequate project description. The CEQA Guidelines require an EIR to set forth a project description that is sufficient to allow an adequate evaluation and review of the environmental impact. (Guidelines, § 15124.) An accurate, stable and finite project description is the *sine qua non* of an informative and legally sufficient EIR. (*County of Inyo v. City of Los Angeles* (1977) 71 Cal.App.3d 185, 193.) Only an accurate, stable and finite project description fulfills CEQA's objective to allow affected outsiders and public decision-makers to "balance the proposal's benefits against its environmental cost, consider mitigation measures, assess the advantage of terminating the proposal and weigh other alternatives in the balance." (*Id* at 193.) A project description that gives conflicting signals to decision makers and the public about the nature and scope of the project is fundamentally inadequate and misleading. (*Washoe Meadows Community v. Department of Parks and Recreation,* (2017) 17 Cal.App.5th 277, 287.) Given that the Project was described as both the Proposed Project and an alternative, this not only resulted in an inadequate alternatives analysis, but also culminated in a fundamentally inadequate and misleading project description.

### B. The No Build Alternative Does not Satisfy the Requirement to Provide a Reasonable Range of Alternatives

Since the Project itself cannot be considered an alternative, the No Build Alternative is the only true remaining alternative.

> CEQA requires the analysis of a No Project Alternative. The specific alternative of 'no project' shall ***also*** be evaluated along with its impact. The purpose of describing and analyzing a no project alternative is to allow decisionmakers to compare the impacts of approving the proposed project with the impacts of not approving the proposed project.

(Guidelines, § 15126.6.(e)(1), emphasis added.) Thus, the CEQA Guidelines require Caltrans to analyze a No Project Alternative in addition to the alternatives that accomplish the objectives of the Project.

The DEIR states that "Under the No-Build Alternative, there would be no construction of auxiliary lanes or Bus-on-Shoulder features on State Route 1 within the project area, and Coastal Rail Trail Segment 12 would not be constructed… The No-Build Alternative assumes the construction of other planned and programmed projects in the region, including other auxiliary lanes projects on State Route 1 and other segments of the Coastal Rail Trail. Routine maintenance activities would continue." (DEIR, p. 22.) Thus, the No Project Alternative for this DEIR is the No-Build Alternative.

The No Build Alternative alone does not satisfy the requirement that the DEIR must analyze a reasonable range of alternatives. "CEQA procedures 'are intended to assist public agencies in systematically identifying both the significant effects of proposed project and the feasible alternatives or feasible mitigation measures which will avoid or substantially lessen such significant effects." (*Banning Ranch Conservancy v. City of Newport Beach* (2017) 2 Cal.5th 918, 937.) A comparison between the Project and the No Project Alternative cannot fulfill such a purpose.

The DEIR lacks sufficient data and analysis to be adequate. The document contains bare conclusory statements regarding significant impacts and mitigations. In many instances, the DEIR does not meet the substantive mandates of CEQA. For this reason, the DEIR must be substantially revised and recirculated for public comment.

Pursuant to Public Resources Code § 21167(f), we are requesting that the Caltrans forward a Notice of Determination to this office if and when the Project is finally approved. That section provides:

> If a person has made a written request to the public agency for a copy of the notice specified in Section 21108 or 21152 prior to the date on which the agency approves or determines to carry out the project, then not later than five days from the date of the agency's action, the public agency shall deposit a written copy of the notice addressed to that person in the United States mail, first class postage prepaid.

Thank you for your consideration of these comments. We look forward to Caltrans' written response to these comments.

Very truly yours,
WITTWER PARKIN

Antoinette Ranit

cc: Client

**Subject:** RE: Comments on SR 1 Segment 12

---

**From:** David Schonbrunn <David@Schonbrunn.org>
**Sent:** Friday, July 21, 2023 2:13 PM
**To:** Bertaina, Lara E@DOT <lara.bertaina@dot.ca.gov>
**Subject:** Comments on SR 1 Segment 12

**EXTERNAL EMAIL.** Links/attachments may not be safe.

Please see attached comment letter on Segment 12 of the SR 1 project.

An email indicating receipt would be much appreciated.

Thank you.

--David

David Schonbrunn, President
Train Riders Association of California (TRAC)
P.O. Box 151439
San Rafael, CA 94915-1439

415-370-7250 cell & office
President@calrailnews.org
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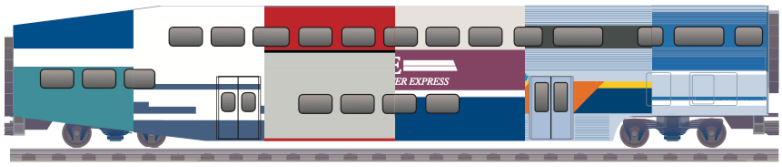
**TRAC**
Train Riders Association of California



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July 21, 2023

Lara Bertaina
Department of Transportation
50 Higuera Street
San Luis Obispo, CA 93401
via email: lara.bertaina@dot.ca.gov

Re: SR 1 Auxiliary Lanes Freedom Blvd. to State Park Dr and Coastal Rail Trail Segment 12 Project DEIR/EA

Dear Ms. Bertaina:

The Train Riders Association of California (TRAC) is a statewide rail advocacy organization that has been involved with rail issues in Santa Cruz County. After providing the SCCRTC with our study *Four Rail Passenger Service Types for Santa Cruz County* a year ago, we believe we should have been placed on a mailing list for rail issues. That would have gotten us a timely copy of the Notice of Availability for the above-referenced DEIR. That did not happen, unfortunately, so we are providing you with brief comments now. Page references are to the DEIR/EA.

**Impacts on future rail development**

The 2018 Santa Cruz Route 1 Tier I Corridor Analysis of HOV Lanes Program FEIR project description included the restoration of the two Aptos rail bridges as part of the proposed project: "The Tier I Corridor Alternatives would include reconstruction of the two Santa Cruz Branch Rail Line bridges over Route 1 and the State Park Drive, Capitola Avenue, 41st Avenue, and Soquel Avenue overcrossings." (p. 1-24.)

Had we commented on the Tier I DEIR, we would have commented that a single-mode EIR/EA is incompatible with environmental requirements. The project's goal should have been to increase capacity in the SR 1 Corridor, not on SR 1 itself. What was entirely skipped from study was a rail transit alternative, which would have been potentially able to reduce congestion more than the proposed project. Our sister organization, Transdef.org, filed litigation in 2009 with Caltrans on the need for a multimodal analysis of the Highway 101 Marin Sonoma Narrows Project, where an unfunded rail project sat parallel to the highway. In that instance, which was so similar to SR 1 now, the cost of 72 miles of railroad would have been less than the cost of 16 miles of new HOV lanes.

The DEIR/EA carries the Tier I description into the Tier II project description: "The existing two-span Santa Cruz Branch Rail Line railroad bridges (underpass structures) are proposed to be replaced with longer spans." (p. 7.)

The DEIR/EA is confusing as to what is proposed: "… a prefabricated pedestrian and bicycle bridge would be constructed in place of the existing southern Aptos rail bridge shown in the existing view. A new rail bridge would be constructed immediately behind

the pedestrian and bicycle bridge, and the abutments of both bridges would be set back to allow the future Bus-on-Shoulder lane configuration." (p. 145.)

This language shows no awareness of the exacting geometric requirements for a rail line, including maximum vertical and horizontal curves. Rail lines cannot be relocated in the way trails can be. We request fine-grained drawings in the FEIR and confirmation that what is proposed will meet rail design standards, similar to how the trail meets design standards. (p. 14.)

We strongly object to what is described as the "Optional First Phase." (p. 17.) Caltrans has failed to properly evaluate its environmental impacts. (p. S-6, Transportation and Traffic.) The voters overwhelmingly rejected Measure D's proposal to eliminate the rail line. As a result, railbanking is no longer a reasonable policy option. It is politically infeasible.

Rail transit is the only Alternative Transportation Mode (p. 4) that is capable of carrying a significant percentage of SR 1 commute traffic, yet it was not studied in the Tier I FEIR. This mode has the competitive advantage of not being subject to the vagaries of traffic, especially those of the noxious stop-and-go variety. The "Optional First Phase" would have the environmental impact of impeding the delivery of relief from traffic congestion on SR 1. The DEIR/EA failed to evaluate this impact.

In addition, this option would improperly shift the cost of replacement rail bridges from an expense of the Caltrans HOV Lane project to the RTC and its rail capital budget. That would burden the future development of a rail project and thereby also impede the delivery of relief from traffic congestion on SR 1.

We note that Tables 2-19 through 2-22 show an insignificant increase in the 2045 travel speeds for the PM NB and AM SB Peak Build scenarios, and an inexplicable **reduction** in the AM NB Peak Build scenario. The PM SB Build scenario was the only one to show an actual project benefit. Given the mediocre outcomes of adding HOV lanes (which are contraindicated by the induced demand literature), TRAC finds the HOV lane project dubious from a cost-benefit standpoint, and sees it as merely an expensive way to appear to be "doing something" about congestion.

Delaying the RTC's eventual rail project would be a significant unavoidable transportation impact of the "Optional First Phase." Please also evaluate the impediments identified here as cumulative impacts of the "Optional First Phase."

Thank you for this opportunity to comment on this project.

Sincerely yours,

/s/ DAVID SCHONBRUNN

President, TRAC

CC: Guy Preston, SCCRTC

Attachment: *Four Rail Passenger Service Types for Santa Cruz County*

# Four Rail Passenger Service Types for Santa Cruz County

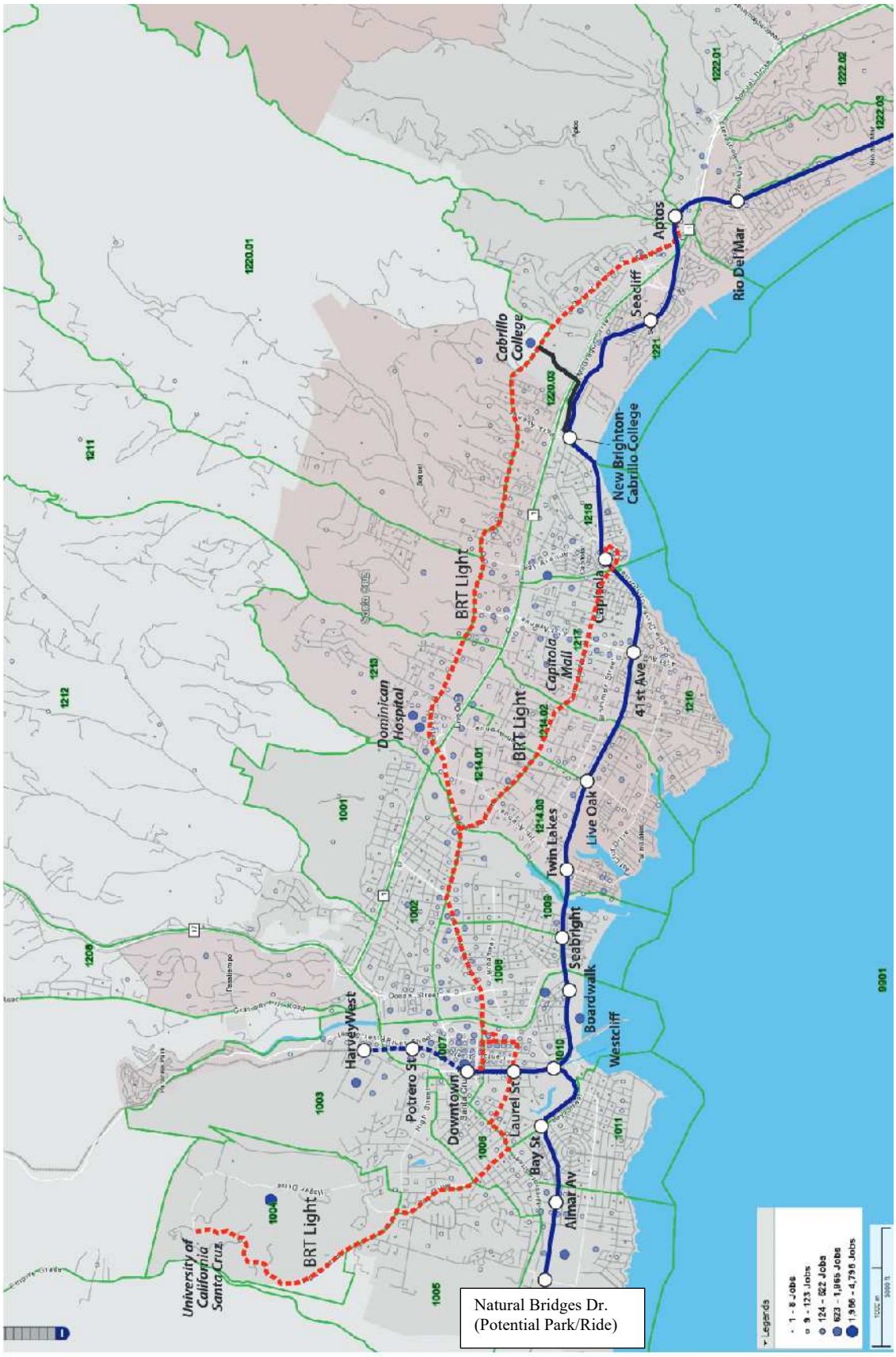
**A Train Riders Association of California (TRAC)**

**WHITE PAPER**

**By Michael D. Setty, MUP**

**July 2022**

**Central Santa Cruz County area map** from *Optimized Rail Passenger Service for Santa Cruz County*, April 2018.



# TABLE OF CONTENTS

**Introduction** ..... **5**
**1. Battery-Electric Rail Transit Service** ..... **6**
**1a. Introduction** ..... **6**
**2. Seasonal Beach Shuttles** ..... **12**
**2a. Introduction** ..... **12**
**2b. Estimated Visits to Santa Cruz County Beaches** ..... **13**
**2c. Visitor Ridership Rules of Thumb** ..... **14**
**2d. Matching Rolling Stock to the Market: Key to Visitor Rail Success?** ..... **17**
**2e. Seasonal Beach Shuttle Demand Analysis** ..... **19**
**3. Excursion, Lunch/Dinner Trains, and Special Trains** ..... **21**
**3a. Introduction** ..... **21**
**3b. Analysis** ..... **23**
**4. Arriving in Santa Cruz by Train** ..... **24**
**4a. San Francisco Bay Area –Santa Cruz/Monterey Ridership Potential—Past Studies** ..... **25**
**4b. TRAC's Own Ridership Analysis** ..... **26**
**4c. Proposed Operations** ..... **27**
**4d. Estimated Operating Costs and Revenues** ..... **30**
**4e. Discussion and Analysis** ..... **31**
**5. Conclusion** ..... **32**
**APPENDIX A. Details of TRAC's Own Ridership Analysis** ..... **33**
**A.1. Monterey Bay Area Ridership Study** ..... **33**
**A.2. Potential Monterey Bay Area Rail Ridership by Locals** ..... **33**
**A.3. Calculations Using the Reat Younger Rules of Thumb** ..... **34**
**A.4. Estimated Ridership and Revenues by Rail Line Segment** ..... **35**
**A.5. Potential Local Rail Ridership: Santa Cruz, Watsonville, and Monterey** ..... **37**
**A.6. Potential Local Rail Ridership: Monterey -- Castroville -- Salinas** ..... **37**

**Front cover:** Electric light rail in Valenciennes, France. This type of car is adaptable to battery propulsion. *Tramway de Valenciennes* system length is 33.8 miles with about 14,000 daily passengers in 2018. About 190,000 served (https://en.wikipedia.org/wiki/Valenciennes_tramway)

# LIST OF FIGURES

**Figure 1. Santa Cruz County Rail Patronage Estimate, 2018 Analysis……...9**
**Figure 2a. Summary Estimates for Rail Transit & Beach Shuttles…… 10**
**Figure 2b. Summary Estimates for Rail Transit & Beach Shuttles……..11**
**Figure 3. Attendance, Santa Cruz Co. Shoreline Attractions, State Parks & Beaches Near Rail..14**
**Figure 4. Reat Younger's Empirical Rules of Thumb for Tourist Railroads……...15**
**Figure 5. TIG/m "ViaTran" Vehicle…….17**
**Figure 6. New Jersey River LINE GTW 2/6 Trains…….18**
**Figure 7. Summary of Beach Shuttle Scenario Results……20**
**Figure 8. Summary Estimates for Wilder Ranch State Park–La Selva (Manressa State Beach)...21**
**Figure 9. Santa Cruz-Davenport Lunch, Dinner, and Excursion Train Scenarios……...24**
**Figure 10. Comparative Statistics, Santa Barbara Area and Coastal San Diego County……27**
**Figure 11. Example of 2-car "WINK" BEMU trainset by Stadler Rail of Switzerland……...28**
**Figure 12. 2050 "Vision" Plan for Monterey Bay Area Rail Passenger Service……...30**
**Figure 13. Bay Area-Monterey Bay Area Train-Miles, Operating Expense, Operating Revenue..31**

**Watsonville/Freedom area map** from *Optimized Rail Passenger Service for Santa Cruz County*, April 2018.

# Four Rail Passenger Service Types for Santa Cruz County

Train Riders Association of California (TRAC)

By Michael D. Setty, MUP[1]

## Introduction

Santa Cruz County voters delivered a decisive "NO" vote of 73%[2] against County Measure D in the June 7th, 2022 California primary election.[3] In the wake of the overwhelming defeat of the Greenway Initiative, the big question is "What's next?" Strong public support for preserving rail options in Santa Cruz County suggests the time is now for innovative proposals to initiate a passenger rail program.[4]

In 2019, the SCCRTC received an unsolicited proposal from tram manufacturer TIG/m, which offered to restore the Santa Cruz Rail Branch Line (SCRBL) to service, providing for-profit rail service to the beaches of Santa Cruz County. In this paper, the Train Riders Association of California (TRAC) evaluates the economic feasibility of full-scale rail transit service, a public-private partnership inspired by the TIG/m proposal.

TRAC finds that excursion services and beach shuttles for visitors could help pay for the ongoing operation and maintenance of transit service on the SCRBL. Unlike traditional excursion trains, proposed beach shuttles bear a resemblance to transit service, with multiple schedules designed to carry passengers to and from the many beaches along the route, as well as other destinations such as the Beach Boardwalk, Capitola Village, Aptos Village or the Seascape Resort. Based on this, the author believes that beach shuttles initially designed for visitors could evolve into regular, daily all-year rail transit.

Unlike almost all public transit operations in the U.S., combining ridership by visitors with that by Santa Cruz County residents could help minimize operating deficits by providing larger average revenues per passenger compared to the low fares paid by residents. Such a system would require a well-thought out, very cost-conscious strategy and creation of a suitable and fair public-private partnership. SCCRTC, as owner of the railroad, would have the essential role of ensuring that the public interest is served (i.e., provision of affordable, frequent public transit) while meeting the investment goals of its partner.

This paper will distinguish between the various types of potential rail services and provide their likely parameters, e.g., potential ridership, potential revenues, and operating cost estimates. The four tiers of potential rail passenger service examined in this paper include:

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[1] Master of Urban Planning, San Jose State University 1981

[2] https://sccounty01.co.santa-cruz.ca.us/ElectionSites/ElectionResults/Results

[3] Measure D, the Greenway Initiative, was an anti-rail measure placed on the ballot with 16,000 signatures collected by Santa Cruz Greenway. https://www.facebook.com/SCCGreenway It would have stripped all language supportive of passenger and freight rail from the County's General Plan. Besides its legal impacts, Measure D functioned as an advisory measure. Passage would have destroyed political support for rail, influencing Santa Cruz County elected officials forever. Measure D was opposed by most elected officials, virtually every community organization, and by No Way Greenway. https://www.nowaygreenway.com/

[4] TRAC assumes that the Santa Cruz County Regional Transportation Commission (SCCRTC) will use dedicated funds for rail from the 2016 Measure D to provide local match for state and federal grants to reopen the Santa Cruz Rail Branch Line (SCRBL) over its 32-mile length to the minimal standards specified in its 2018 contract agreement with Progressive Rail, Inc. That is, trackage would be brought up to Federal Railroad Administration (FRA) Class 1 standards (maximum 10 mph for freight, 15 mph for passenger trains), and reopening and/or rehabilitation of all structures and bridges to allow unrestricted train movements (up to 268,000 lbs. per freight car and allowing all classes of passenger trains).

1. Battery-Electric Light Rail public transit services between West Santa Cruz, Santa Cruz, Capitola, Aptos, and Watsonville (e.g., services examined in the SCCRTC "Rail Transit Study"[5] and 2019-2021 "Transit Corridor Alternatives Analysis"[6]).
2. Seasonal Beach Shuttles between Davenport, Wilder Ranch State Park, Santa Cruz, Capitola, Aptos, Rio Del Mar, Seascape and La Selva (Manressa State Beach).
3. Excursion, Lunch/Dinner Trains, and Special Trains between Santa Cruz and Davenport (at times, limited special trains east of Santa Cruz to Capitola and Aptos, and Watsonville).
4. Revival of "*Suntan Special*" and Intercity Trains to Santa Cruz, integrated with potential intercity passenger services between the San Francisco Bay Area and Santa Cruz, Monterey and Salinas.

TRAC recommends that the RTC announce it is interested in proposals to operate any of the services described in this study. Of the four rail services discussed here, any of the three profit-making services could go forward as soon as the Santa Cruz Rail Branch Line is restored to operations (except for the transit service, which requires a subsidy). Because excursion and dinner service could begin with minimal to zero capital expenditures, it would be the most obvious place to start. It could be in operation, generating revenue for the RTC, while staff applies for grants to bring the rest of the Branch line back to full operation. Unlike past studies by RTC's consultants, TRAC is not proposing a complete rebuild of the line, or of its bridges. A small capital request for tie replacement and bridge repairs should be very competitive for State and federal funding.

Along with related services such as to/from the Monterey Peninsula and Salinas, our proposed low-cost "Santa Cruz Model" could be a template for many other areas in the United States. Private sector participation, in which business-like decisions are made as to the capital expenditures needed to restore service on unused lines, is a feasible alternative to the "gold-plated" approach of typical consultant-led transit bureaucracies. Taking a page from NASA's "Faster, better cheaper" strategy, more new rail systems could be created nationwide with this low-cost approach, providing larger overall benefits in mobility as well as greenhouse gas reductions than the typical agency "takes forever" approach. TRAC thinks this "Deliver it ASAP" approach is the way to develop rail passenger service in the United States.

Traditional excursion trains most often function as "rides to nowhere" that patrons ride for the enjoyment of the train ride itself, a delicious meal and/or scenery along the route. For example, the Big Trees & Roaring Camp Railroad provides the experience of riding behind steam locomotives through a thick redwood forest, with no destination in mind other than returning to the origin station. The Beach Train currently operating from the Roaring Camp facility in Felton offers passengers the options of a round trip ride to the Beach Boardwalk without alighting, or a 3-hour layover, since two daily trains are offered.

# 1. Battery-Electric Rail Transit Service

## 1a. Introduction

The growth of the Interstate Highway system destroyed the economics of passenger rail, forcing the consolidation of passenger services into Amtrak, and requiring the Congressional appropriation of annual subsidies. Congested highways have changed all that. Some rail services in metropolitan areas

[5] https://sccrtc.org/wp-content/uploads/2016/02/RailTransitStudy_FullDoc.pdf
[6] https://sccrtc.org/projects/multi-modal/transitcorridoraa/

now have profit potential and thus could be attractive to the private sector. Because Santa Cruz County suffers from serious highway congestion, a parallel congestion-free transit system would be attractive as an alternative to driving. Coupled with the profits from tourist operations, and possible sponsorships by local businesses, transit could be feasible with a low to zero subsidy.

To estimate the operating costs of combining a beach shuttle and regular rail passenger service, the following assumptions have been made (Note—capital costs are all assumed to be grant-funded):

- The levels of regular rail passenger service estimated in the author's April 2018 paper *Optimizing Rail Passenger Service for Santa Cruz County*[7] has been assumed, e.g., every 30 minutes all day between West Santa Cruz, downtown Santa Cruz, and Watsonville.
- Hybrid, battery-electric or fuel-cell electric powered, accessible low-floor vehicles that meet the FRA Alternative Compliance Standard. The author estimates that a total of 12 100-seat vehicles would be needed, with up to 10 in service (five 2-car trains) plus 2 spare vehicles.
- To keep costs down, the existing railbed and tracks would be reused where possible. Besides restoring the bridges, upgrading track to FRA Class 3 (up to 59 mph allowed for passenger trains) or better. Track upgrades including new passing sidings at appropriate locations between Seascape and the San Lorenzo River, and double-tracking of the existing in-street track in front of the Boardwalk and Beach, and on Chestnut Street north to the Downtown/City Hall station.
- Construction of new station platforms at various locations. Upgrading platforms constructed earlier for the Beach Shuttles.
- Expanded maintenance facilities for the rail car fleet.
- Multimodal connections, including the development of bus stops adjacent to rail platforms, providing timed feeder bus connections where appropriate.
- A new active transportation and automated minibus/pedestrian/bicycle bridge over Highway 1 to access Cabrillo College.
- Installation of the latest technology rail signaling and control systems that meet requirements to provide Positive Train Control (PTC).
- Additional tracks and other minor capital improvements to minimize conflicts between passenger trains and freight trains, such as additional sidings and a passenger bypass track in the Watsonville switching area.
- Other capital improvements as required.

Figure 1 on the next page shows estimated demand from each potential rail station, based on a "direct demand" model developed for studies in the San Francisco Bay Area. The methods used to estimate ridership are outlined in the April 2018 paper, *Optimized Rail Passenger Service for Santa Cruz County: Maximizing Ridership and Benefits of Rail Passenger Service.*[8]

Daily ridership was estimated at about 14,000 daily boardings in the 2018 analysis, which is substantially higher than estimates from SCCRTC's *Rail Transit Study* completed in 2016. Additional ridership was obtained by 1). extending the proposed rail service to two additional downtown Santa

[7] Available at http://www.calrailnews.org/wp-content/uploads/2018/04/TRAC-White-Paper-2018-01-Optimized-Rail-Passenger-Service-for-Santa-Cruz-County-April-2018-Final.pdf
[8] *Ibid.*

Cruz stations, 2). adding a direct connection to Cabrillo College at the New Brighton station, and 3). 15-minute peak service between Santa Cruz and Aptos (this added service not included in this proposal).

**As a sensitivity test in light of the reduced transit ridership following the Covid-19 pandemic, the modified 2018 analysis (11,200 riders) is reduced by 25%, yielding 8,400 daily riders.**

Estimated ridership, fare revenues and operating expenses are based on the total level of anticipated service, which incorporates visitor-oriented beach shuttle services into the schedule. The estimate also includes a higher level of maintenance to meet FRA Class 3 standards, as well as a higher level of maintenance and security at upgraded and new stations. Higher costs for insurance, management and promotion are included, and for enhanced connecting bus service.

In this feasibility study, TRAC tested a low local fare. Projected local rail transit fares average $2.20 per boarding. That compares to an estimated $2.11 in operating revenues per boarding, including fares, for Santa Cruz Metro bus service[9] in Fiscal Year 2016-17. This calculation does not include establishment of zone fares for longer distances such as Watsonville, though zone fares should be considered for potentially faster service via rail compared to existing bus services. Slightly higher rail transit fares ($2.89 and $3.89 for the reduced-ridership scenario) would eliminate the need for a subsidy altogether.

Basic "walk-up" cash fares for Santa Cruz Branch line rail transit services would be geared towards visitors, that is, higher than typical transit fare levels. Local riders would be able to obtain much lower average fares per boarding through pre-purchased season passes such as those available to UCSC and Cabrillo College students, as well as available to middle and high school attendees. Multi-ride tickets and passes would also be offered, such as heavily discounted 20-ride tickets, weekly passes, two-week passes, and monthly passes, e.g., fare media not likely to be used by visitors. For discounts to seniors, persons with disabilities and low-income riders, user-side subsidies would be explored. In this analysis, it has also been assumed that residents using Beach Shuttles would pay transit fares rather than shuttle fares, greatly reducing fares paid with a commensurate reduction in Shuttle revenues.

[9] Santa Cruz Metropolitan Transit District *FY18 &FY FY19 Final Budget.* June 17, 2017. Ridership figure on page 10, Table on page 28. Available online at http://www.scmtd.com/en/agency-info/administration/financial-reports

**Figure 1. Santa Cruz County Rail Patronage Estimate, 2018 Analysis**

| | | | A.M. Peak Period Ons & Offs | | Equivalent All-Day Ons & Offs, All Stations | |
|---|---|---|---|---|---|---|
| | | | Proposed Service Frequencies | | | |
| | Census Tract | Population + Employment within 0.5 mile | 30 min. peak periods 30-min. all day | 15-min. peak periods 30 min. all day | 30-min. peaks, 30-min. all day | 15-min. peaks, 30-min. all day |
| Davenport Coast | = | 2,500 | 156 | 156 | 468 | 468 |
| Natural Bridges | 1012 | 6,000 | 332 | 332 | 996 | 996 |
| Boardwalk West | 1011 | 6,636 | 340 | 340 | 1,020 | 1,020 |
| | | | | | | |
| **Downtown – Chestnut & Laurel, Chestnut & Locust** | **1007** | **8,388** | **593** | **786** | **1,779** | **2,358** |
| Boardwalk | 1010 | 12,609 | 392 | 518 | 1,176 | 1,554 |
| River East | 1008 | 7,500 | 293 | 388 | 879 | 1,164 |
| Harbor North | 1009 | 4,000 | 254 | 336 | 762 | 1,008 |
| Twin Lakes | 1215 | 6,467 | 411 | 544 | 1,233 | 1,632 |
| Twin Lakes East | 1216-part | 8,091 | 354 | 468 | 1,062 | 1,404 |
| Twin Lake North | 1214.03-part | 4,518 | 261 | 346 | 783 | 1,038 |
| Twin Lakes Northeast | 1214.02-part | 3,300 | 153 | 203 | 459 | 609 |
| Capitola Mall | 1217-part | 8,000 | 420 | 556 | 1,260 | 1,668 |
| Capitola-Downtown/Beach | 1218 | 7,543 | 356 | 471 | 1,068 | 1,413 |
| **New Brighton-Cabrillo College#** | **1218** | **9,000** | **588** | **778** | **1,764** | **2,334** |
| Seacliff | 1221 | 4,524 | 165 | 226 | 495 | 678 |
| Aptos Village | 1220.03-part | 3,500 | 294 | 475 | 882 | 882 |
| Rio Del Mar 1 | 1222.03-part | 4,395 | 264 | 350 | 792 | 1,050 |
| Rio Del Mar 2 | 1222.01-part | 4,000 | 259 | 342 | 777 | 1,026 |
| La Selva Beach | 1223-part | 3,600 | 186 | 186 | 549 | 549 |
| Watsonville West | 1104 | 8,000 | 427 | 427 | 1,281 | 1,281 |
| Watsonville-Downtown | 1103 | 9,958 | 564 | 564 | 1,692 | 1,692 |
| **Pajaro** | **Pajaro CCD** | **4,189** | **377** | **377** | **1,131** | **1,131** |
| Total, Population + Employment | | 136,718 | | | | |
| Employment | | 39,218 | | | | |
| Population | | 97,500 | | | | |
| | | A.M. ons+offs | 7,439 | 9,171 | | |
| | | Daily ons+offs | | | 22,317 | 27,513 |
| | | **Daily Riders** | | | **11,156** | **13,757** |
| # Based on average student attendance per weekday, e.g., (14,000 x 3 days/wk)/5=8,500 | | | | | | |

Figures 2a and 2b show two ridership scenarios, with Figure 2b assuming a 25% reduction in estimated transit patronage in the wake of the Covid-19 pandemic. The exciting finding: a 1/8% sales tax ($6 million per year) would generate more than enough subsidy to float either of these transit scenarios.

| | A | | B | C | D |
|---|---|---|---|---|---|
| 1 | **Figure 2a. Summary Estimates for Rail Transit & Beach Shuttles** | | | | |
| 2 | 2018 Projections (without Covid-19 adjustments) | | | | |
| 3 | Category | | Beach Shuttles | Rail Transit (increment) | Total |
| 4 | **OPERATING CREWS** | | | | |
| 5 | Rate per train-hour (2 crew X $60.00 + $25%) | | $150.00 | $150.00 | $150.00 |
| 6 | Revenue Train-Hours | | 11,000 | 15,000 | 26,000 |
| 7 | Total Expense - Operating Crews | | **$1,650,000** | **$2,250,000** | **$3,900,000** |
| 8 | Full Time Equivalent (FTE) Positions (2,080 hrs/yr) | | 10.6 | 14.4 | 25.0 |
| 9 | **TRAIN FUEL/POWER** | | | | |
| 10 | Rate per car-mile (electricity) | | 8 kwh | 8 kwh | 8 kwh |
| 11 | Price per kilowatt-hour | | $0.25 | $0.25 | $0.25 |
| 12 | Power cost per car-mile | | $2.00 | $2.00 | $2.00 |
| 13 | Estimated annual train-miles | | 200,000 | 260,000 | 460,000 |
| 14 | Estimated annual car-miles | | 250,000 | 325,000 | 575,000 |
| 15 | Total Train Fuel/Power | | **$500,000** | **$650,000** | **$1,150,000** |
| 16 | **TRAIN MAINTENANCE** | | | | |
| 17 | Estimated rate per car-mile | | $4.00 | $4.00 | $4.00 |
| 18 | Estimated annual car-miles | | 250,000 | 325,000 | 575,000 |
| 19 | Total Expense - Train Maintenance | | $1,000,000 | $1,300,000 | $2,300,000 |
| 20 | **Subtotal, "Above The Rail" Expenses** | | **$3,150,000** | **$4,200,000** | **$7,350,000** |
| 21 | Insurance, Management, Promotion | | $2,000,000 | $1,000,000 | $3,000,000 |
| 22 | Infrastructure, Maintenance, Stations | | $2,000,000 | $1,000,000 | $3,000,000 |
| 23 | **Subtotal, Operating Expenses before Markup** | | **$7,150,000** | **$6,200,000** | **$13,350,000** |
| 24 | Allowance for Vehicle Lease/Capital Costs | | $1,000,000 | $0 | $1,000,000 |
| 25 | **Subtotal, Including Vehicle Leases/Purchase** | | **$8,150,000** | **$6,200,000** | **$14,350,000** |
| 26 | Markup/Profit for Private Service Contractor | | 10.0% | 10.0% | 10.0% |
| 27 | Total Markup/Profit | | $815,000 | $620,000 | $1,435,000 |
| 28 | **GRAND TOTAL, INCLUDING MARKUP/PROFIT** | | **$8,965,000** | **$6,820,000** | **$15,785,000** |
| 29 | Allowance for Added Connecting Bus Service | | $0 | $3,000,000 | $3,000,000 |
| 30 | **GRAND TOTAL, INCLUDING CONNECTING BUSES** | | **$8,965,000** | **$9,820,000** | **$18,785,000** |
| 31 | Calculated Grand Total Cost Per Train-Hour, excluding buses | | $815.00 | $454.67 | $607.12 |
| 32 | Calculated Grand Total Cost Per Train-Mile, excluding buses | | $44.83 | $26.23 | $34.32 |
| 33 | | | | | |
| 34 | **REVENUES** | | | | |
| 35 | Beach Shuttle Farebox & Parking Revenues # | LOW | $9,424,000<br>-$2,000,000 | | $7,424,000 |
| 36 | | HIGH | $10,536,000<br>-$2,000,000 | | $8,536,000 |
| 37 | **SHUTTLE OPERATING MARGIN, LOW** | | **$459,000** | | |
| 38 | **SHUTTLE OPERATING MARGIN, HIGH** | | **$1,571,000** | | |
| 39 | Transit Fares, 3.4 million boarding rides @$2.20 | | $0 | $7,480,000 | |
| 40 | **TRANSIT OPERATING SUBSIDY** | | | (-$2,340,000) | |

| | | | | |
|---|---|---|---|---|
| 41 | Estimated Farebox Recovery Ratio, LOW | 105.1% | 76.2% | |
| 42 | Estimated Farebox Cost Recovery, HIGH | 117.5% | 76.2% | |
| 43 | Calculated Above the Rail Cost Per Train-Hour | $286.36 | $280.00 | $282.69 |
| 44 | Calculated Above the Rail Cost Per Train-Mile | $15.75 | $16.15 | $15.98 |
| 45 | Annual round trips, Beach Shuttle riders | 677,000 to 778,000 | | |
| 46 | Annual round trips, Transit riders | 1,700,000 | | |
| 47 | Total round trips (two boardings equals a round trip) | 2,277,000 to 2,378,000 | | |
| 48 | The same rail cars provide Beach Shuttle service and transit service. Shuttle service is distinguished by its higher fares and shorter operating hours. Local residents would pay the transit fare, which is much lower, whenever they ride during shuttle service hours. | | | |
| 49 | Net service levels and costs for transit increment shown in Column C. Column D summarizes shuttle services + transit increment. Revenue car-miles assumes 2-car trains operated 25% of the time. Annual boardings = 11,200 boardings/day X 300 days/year. | | | |
| 50 | Shuttle revenue train-hours: 240 annual days X 22 round trips (9:00am-8:00pm, every 30 minutes), Wilder Ranch-La Selva Beach 18 miles, allowance for special events. Revenue car-miles assumes 2-car trains operated 25% of the time. | | | |
| 51 | Transit revenue train-hours (includes Shuttle hours): 360 annual days X 32 2.5 hour round trips (5:30am-11:00pm), every 30 min. 5:30am-9:00pm, plus 60 minutes late at night. Watsonville to West Santa Cruz, 22 miles. Includes limited service to Wilder Ranch. | | | |
| 52 | Labor costs are based on escalated-TIG/m 2020 proposal costs of $57.00/crew person-hour, escalated to $60.00. Two-person crews assumed for larger vehicles, 25% markup for crew training, maintenance, testing, supervision and "deadhead." | | | |
| 53 | Average Beach Shuttle fare of $12.00 includes Boardwalk Shuttle from West Santa Cruz; all-day pass revenues for the entire line, ($18.00 to $20.00), and West Santa Cruz parking charges averaging $7.00-$8.00 per vehicle. | | | |
| 54 | # With Beach Shuttle integrated into total transit service, residents using Beach Shuttle are assumed to pay lower transit fares. Estimated Beach Shuttle fares are thus reduced by $2,000,000. | | | |

| | A | B | C | D |
|---|---|---|---|---|
| 1 | **Figure 2b. Summary Estimates for Rail Transit & Beach Shuttles** | | | |
| 2 | 2018 Projections (WITH Covid-19 adjustments) | | | |
| 3 | Category | Beach Shuttles | Rail Transit (increment) | Total |
| 4 | **OPERATING CREWS** | | | |
| 5 | Rate per train-hour (2 crew X $60.00 + $25%) | $150.00 | $150.00 | $150.00 |
| 6 | Revenue Train-Hours | 11,000 | 15,000 | 26,000 |
| 7 | Total Expense - Operating Crews | **$1,650,000** | **$2,250,000** | **$3,900,000** |
| 8 | Full Time Equivalent (FTE) Positions (2,080 hrs/yr) | 10.6 | 14.4 | 25.0 |
| 9 | **TRAIN FUEL/POWER** | | | |
| 10 | Rate per car-mile (electricity) | 8 kwh | 8 kwh | 8 kwh |
| 11 | Price per kilowatt-hour | $0.25 | $0.25 | $0.25 |
| 12 | Power cost per car-mile | $2.00 | $2.00 | $2.00 |
| 13 | Estimated annual train-miles | 200,000 | 260,000 | 460,000 |
| 14 | Estimated annual car-miles | 250,000 | 325,000 | 575,000 |
| 15 | Total Train Fuel/Power | **$500,000** | **$650,000** | **$1,150,000** |
| 16 | **TRAIN MAINTENANCE** | | | |
| 17 | Estimated rate per car-mile | $4.00 | $4.00 | $4.00 |
| 18 | Estimated annual car-miles | 250,000 | 325,000 | 575,000 |
| 19 | Total Expense - Train Maintenance | $1,000,000 | $1,300,000 | $2,300,000 |
| 20 | **Subtotal, "Above The Rail" Expenses** | **$3,150,000** | **$4,200,000** | **$7,350,000** |
| 21 | Insurance, Management, Promotion | $2,000,000 | $1,000,000 | $3,000,000 |
| 22 | Infrastructure, Maintenance, Stations | $2,000,000 | $1,000,000 | $3,000,000 |
| 23 | **Subtotal, Operating Expenses before Markup** | **$7,150,000** | **$6,200,000** | **$13,350,000** |
| 24 | Allowance for Vehicle Lease/Capital Costs | $1,000,000 | $0 | $1,000,000 |
| 25 | **Subtotal, Including Vehicle Leases/Purchase** | **$8,150,000** | **$6,200,000** | **$14,350,000** |
| 26 | Markup/Profit for Private Service Contractor | 10.0% | 10.0% | 10.0% |

| | | | | | |
|---|---|---|---|---|---|
| 27 | Total Markup/Profit | | $815,000 | $620,000 | $1,435,000 |
| 28 | **GRAND TOTAL, INCLUDING MARKUP/PROFIT** | | **$8,965,000** | **$6,820,000** | **$15,785,000** |
| 29 | Allowance for Added Connecting Bus Service | | $0 | $3,000,000 | $3,000,000 |
| 30 | **GRAND TOTAL, INCLUDING CONNECTING BUSES** | | **$8,965,000** | **$9,820,000** | **$18,785,000** |
| 31 | Calculated Grand Total Cost Per Train-Hour, excluding buses | | $815.00 | $454.67 | $607.12 |
| 32 | Calculated Grand Total Cost Per Train-Mile, excluding buses | | $44.83 | $26.23 | $34.32 |
| 33 | | | | | |
| 34 | **REVENUES** | | | | |
| 35 | Beach Shuttle Farebox & Parking Revenues # | LOW | $9,424,000<br>-$2,000,000 | | $7,424,000 |
| 36 | | HIGH | $10,536,000<br>-$2,000,000 | | $8,536,000 |
| 37 | **SHUTTLE OPERATING MARGIN, LOW** | | **$459,000** | | |
| 38 | **SHUTTLE OPERATING MARGIN, HIGH** | | **$1,571,000** | | |
| 39 | Transit Fares, 2.52 million boarding rides @$2.20 | | $0 | $5,544,000 | |
| 40 | **TRANSIT OPERATING SUBSIDY** | | | (-$4,276,000) | |
| 42 | Estimated Farebox Recovery Ratio, LOW | | 105.1% | 56.5% | |
| 43 | Estimated Farebox Cost Recovery, HIGH | | 117.5% | 56.5% | |
| 44 | Calculated Above the Rail Cost Per Train-Hour | | $286.36 | $280.00 | $282.69 |
| 45 | Calculated Above the Rail Cost Per Train-Mile | | $15.75 | $16.15 | $15.98 |
| 46 | Annual round trips, Beach Shuttle riders | | 677,000 to 778,000 | | |
| 47 | Annual round trips, Transit riders | | 1,275,000 | | |
| 48 | Total round trips (two boardings equals a round trip) | | 1,952,000 to 2,053,000 | | |
| 49 | The same rail cars provide Beach Shuttle service and transit service. Shuttle service is distinguished by its higher fares and shorter operating hours. Local residents would pay the transit fare, which is much lower, whenever they ride during shuttle service hours. | | | | |
| 50 | Net service levels and costs for transit increment shown in Column C. Column D summarizes shuttle services + transit increment. Revenue car-miles assumes 2-car trains operated 25% of the time. Annual boardings = 11,200 boardings/day X 300 days/year. | | | | |
| 51 | Shuttle revenue train-hours: 240 annual days X 22 round trips (9:00am-8:00pm, every 30 minutes), Wilder Ranch-La Selva Beach 18 miles, allowance for special events. Revenue car-miles assumes 2-car trains operated 25% of the time. | | | | |
| 52 | Transit revenue train-hours (includes Shuttle hours): 360 annual days X 32 2.5 hour round trips (5:30am-11:00pm), every 30 min. 5:30am-9:00pm, plus 60 minutes late at night. Watsonville to West Santa Cruz, 22 miles. Includes limited service to Wilder Ranch. | | | | |
| 53 | Labor costs are based on escalated-TIG/m 2020 proposal costs of $57.00/crew person-hour, escalated to $60.00. Two-person crews assumed for larger vehicles, 25% markup for crew training, maintenance, testing, supervision and “deadhead.” | | | | |
| 54 | Average Beach Shuttle fare of $12.00 includes Boardwalk Shuttle from West Santa Cruz; all-day pass revenues for the entire line ($18.00 to $20.00), and West Santa Cruz parking charges averaging $7.00-$8.00 per vehicle. | | | | |
| 55 | # With Beach Shuttle integrated into total transit service, residents using Beach Shuttle are assumed to pay lower transit fares. Estimated Beach Shuttle fares are thus reduced by $2,000,000. | | | | |

## 2. Seasonal Beach Shuttles[10]

### 2a. Introduction

Santa Cruz has a long history of rail access to its beaches and the Boardwalk. According to a short history on the Beach Boardwalk website:

> During the 1930s, tourists from the San Francisco Bay Area could take the Southern Pacific Railroad's [Suntan] Special right to the Boardwalk. Except for the years 1941 to 1947, trains ran from San Jose, Oakland, and San Francisco, and also connected Santa Cruz to Watsonville and Los Angeles. In 1932

[10] This section has been updated and adapted from the author’s 2018 study, *Potential for Excursion Rail Service–Santa Cruz County,* prepared for TRAC, August 2018 (Copies available on request).

> alone, the train delivered as many as thirty-five hundred people each Sunday to Santa Cruz, where train cars were greeted with a blast of brass from the Beach Band.[11]

In the late 1990's, experimental *Suntan Special* trains were operated, attracting hundreds of passengers per train from the Bay Area. In July 1998, the Santa Cruz County Regional Transportation Commission (SCCRTC), partnering with the Transportation Agency for Monterey County (TAMC), published the *Around the Bay Rail Study,* which included an analysis of reviving the *Suntan Special*. That study predicted weekend trains to the Santa Cruz Beach Boardwalk could very conservatively serve about 30,000 round trip passengers on 24 spring, summer, and early fall weekends, e.g., 48 days each with 600+ round trip passengers per day.[12]

Reviving the *Suntan Special* was also originally a key part of Progressive Rail's operating contract with SCCRTC, which was approved in 2018 to replace operations by Iowa Pacific Holdings.[13] This section is based in part on Progressive Rail's proposal. It examines how to provide parking for patrons, enabling them to take the train to many Santa Cruz County beaches and state parks. The last section of this paper describes how to provide service for potential visitors to arrive in Watsonville via a reestablished *Suntan Special*.

## 2b. Estimated Visits to Santa Cruz County Beaches

Based on state park statistics and author estimates, there are almost four million annual visits to the other beaches in Santa Cruz County--those besides the Main and Cowell Beaches adjacent to the Beach Boardwalk and Santa Cruz Municipal Pier. In a survey[14] conducted on a typical summer Saturday, Capitola Beach was found to attract 1,333 people over the course of the day. This is captured as "the Capitola Rule": approximately one person roundtrip per foot of beach on a typical summer Saturday.

In Capitola, approximately 20% of beachgoers arrived by means other than motor vehicles, such as walking, bicycling or transit, or on the same trip visiting destinations such as restaurants adjacent to the beach.[10] The author believes that shuttle trains serving the beaches can attract at least 10%-15% of beach visitors, depending on beach location, parking prices and supply, levels of congestion, and other factors.

Figure 3 (next page) summarizes annual estimated visits to state beaches, and other beaches in Santa Cruz County, plus Wilder Ranch State Park. Non-state beach attendance has been estimated by either reported figures (e.g., Santa Cruz Main and Cowell Beaches) or by using the "Capitola Rule" from above. For the undeveloped, relatively remote beaches located mostly between Davenport and Santa Cruz, this estimate was reduced 50% to be conservative.

Based on the author's estimates, on a typical summer Saturday, about 40,000 people visit Santa Cruz County beaches near the Santa Cruz Rail Branch Line. This is approximately 9.3 million Beach Boardwalk, Santa Cruz Municipal Pier, and beach visits per year. Of these, 21,000-22,000 are estimated to visit the Boardwalk, Santa Cruz Wharf and the Santa Cruz Main and Cowell Beaches on a typical

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[11] http://memories.beachboardwalk.com/southern-pacific-railroads-sun-tan-special-1932
[12] Linked at http://sccrtc.org/projects/rail/rail-service-studies/ under "Past Rail Studies."
[13] Since 2019 Progressive Rail has contracted with the Roaring Camp Railroads to provide limited freight service in Watsonville. Given the failure of SCCRTC to fix 2017 storm damage on the SCRBL, Progressive Rail has lost interest in the Santa Cruz County market–unlike Roaring Camp Railroads.
[14] *Parking Analysis for the Capitola Village Area.* Prepared for the City of Capitola, RBF Consulting, Monterey Bay. 2008. Linked at http://www.cityofcapitola.org/publicworks/page/parking-needs-analysis.

summer weekend day; this is about 3.8 million visits per year when duplications are eliminated, e.g., it is assumed most Boardwalk and Pier visitors also visit the Main and Cowell Beaches.

**Figure 3. Attendance, Santa Cruz Co. Shoreline Attractions, State Parks & Beaches Near Rail**

| Beach, North to South | Summer Saturday Daily Visits | Estimated Annual Visits* | Notes |
|---|---|---|---|
| Davenport Beach^ | ~600 | 120,000 | |
| Shark Fin Cove Beach^ | ~250 | 230,000 | |
| Bonny Doon Beach^ | ~500 | 90,000 | |
| Panther/Seven Mile Beaches^ | ~900 | 170,000 | |
| Laguna Creek Beach^ | ~1,300 | 230,000 | |
| Four Mile Beach^ | ~800 | 150,000 | |
| Other Beaches (poor access, private)^ | ~1,000 | 190,000 | |
| Wilder Ranch State Park | 1,300 | 474,949 | |
| Natural Bridges State Beach | 4,900 | 919,757 | About 0.5 mile south of rail line |
| Santa Cruz Main/Cowell Beach | 16,000 | 3,000,000 | Same visitation as Boardwalk |
| Santa Cruz Wharf | -- | 2,500,000 | Next to Boardwalk, Main Beach |
| Seabright/Twin Lakes State Beach | 2,900 | 540,086 | |
| Capitola Beach | 1,333 | 250,000 | |
| New Brighton State Beach | 1,400 | 267,700 | |
| Seacliff/Rio Del Mar State Beach | 1,700 | 322,181 | |
| Rio/Aptos Beaches | ~3,000 | 520,000 | Lack of access, parking |
| Manresa State Beach | 1,200 | 222,535 | |
| **Grand Total** | **36,100** | **9,280,000** | |
| Excluding Main Beach, Boardwalk, Wharf | 20,100 | 3,780,000 | |

^ Beach visitation estimated based on measured visible beach length from Google Maps aerial photos. For beaches north of Wilder Ranch, Capitola Rule figure is reduced 50% due to undeveloped nature of these beaches, and relatively long walking distances from parking on Highway 1.

* Assumes Saturdays are 33% of weekly beach visits during summer season, e.g., May-October. Summer visitation is 2/3 of annual beach attendance. Rounded to nearest 10,000 unless actual counts available.

## 2c. Visitor Ridership Rules of Thumb

While prognostication of potential excursion railroad ridership is more art than science, there are guideposts. Reat Younger (who unfortunately died in 1993), a tourist railroad consultant, was able to plan many financially successful tourist railroads in the 1980's and early 1990's. Based on Younger's empirical observations, about 10% to 11% of the local population within 50 miles of the attraction can be expected to take a ride on a suitable rail line every year.

Although visitor shuttles that provide local trips to beaches and other non-work destinations have similarities to public transit, their goal of fun has more in common with the "joy ride" or "just to ride a train" purposes that traditional tourist trains cater to. Shuttles are especially able to attract visitor usage under conditions of limited and high parking prices and serious traffic congestion, which can be much

worse on weekends. The scenic vistas and attractive destinations present along the Santa Cruz coastline are the elements that can turn mere shuttle trips into true excursions.

**Figure 4. Reat Younger's Empirical Rules of Thumb for Tourist Railroads**[15]

| **Daytrippers** | | |
|---|---|---|
| Local Residents | Within 0-25 miles | 33% will ride attractive excursion service within 3 years |
| | Within 25-50 miles | 29% will ride attractive excursion service within 3 years |
| | Within 50-100 miles | 10% will ride attractive excursion service within 3 years |
| | Within 100-150 miles | 4% will ride attractive excursion service within 3 years |
| **Overnight Visitors** | -- | 29%, exclusive of those who live within 100 miles but are staying overnight (e.g., 29% of visitors staying in immediate community only. *Total tourist market must be adjusted by length of operating season and number of visitors during that time.* |

Monterey-Salinas Transit (MST) operates the free "MST Trolley" shuttle, with buses disguised as early 20th century electric streetcars between large parking garages in Downtown Monterey, Cannery Row stops, and its terminal at the Monterey Bay Aquarium. Prior to the Covid-19 pandemic, the MST Trolley attracted 240,000 annual passengers in Fiscal Year 2016-17. Daily ridership averaged between 1,500-2,000 daily boardings in July and August 2017, or 750-1,000 daily round trips.[16,17]

While only about 1%-2% of annual Monterey Peninsula visitors to all Peninsula attractions including Carmel, Pacific Grove, Carmel Valley and Big Sur currently use the MST Trolley, this usage rate increases to about 3%-4% of all Monterey visitors during July and August. On peak ridership days in the late 1980's prior to the opening of the 1,000 space Cannery Row garage, MST shuttles serving Cannery Row and the Aquarium regularly served more than three times as many passengers as now.

Given the history of the MST Trolley, as well as shuttle buses in visitor areas such as national parks and major attractions, shuttle buses and trains can attract large numbers of visitors under the right circumstances. This is especially so if they make it convenient to carry beach-going supplies, as well as bicycles and surfboards.

Unlike faux trolley buses such as the MST Trolley, "real" trains and streetcars generally are more comfortable due to smoother rides on rails rather than rubber tires and pavements. Trains also are generally free from congestion, unlike buses. In Santa Cruz, the potential rail route would be much more direct than road-based shuttle bus routes, which also would tend to get stuck in beach traffic. The rail line also would have much more scenic views than possible with buses, at locations such as the Capitola trestle, San Lorenzo River Rail Bridge and numerous other locations inaccessible by road.

Roughly four million people live within 50 miles of Santa Cruz, including Santa Cruz, Monterey, and San Benito Counties; however, most reside in the very affluent Santa Clara, San Mateo and southern Alameda Counties. Applying Younger's rules of thumb to Santa Cruz County, those persons residing

[15] *Basic Thinking*, 1992. Reat Younger. Self-published. This document is a comprehensive guide to planning, designing, financing and operating tourist railroads. Copy available on request by qualified persons. Rules of thumb based on phone conversation between author and Mr. Younger in 1992, less than a year before he died.

[16] The MST Trolley was among MST's most productive services before Covid, carrying 50-60 passengers/revenue vehicle hour. Source: MST Board Meeting Reports, linked at http://mst.org/about-mst/board-of-directors/board-meetings/

[17] Daily parking rates in the downtown Monterey East Garages served by the MST Trolley are $7 daily, compared to $5-$20 daily at the Cannery Row garage, depending on demand and time of year. http://www.monterey.org/Services/Parking/Public-Garages-and-Lots

within 50 miles of Santa Cruz County would make about 400,000 annual round trips on potential excursion trains. Similarly, about 580,000 annual rides could be expected from the estimated 2 million overnight visitors to Santa Cruz County. These two estimated sources of ridership total 1,080,000 potential riders making round trips. The Santa Cruz Beach Train and Redwood Forest Steam Train currently serve only 18% of this theoretical potential, with 60,000 and an estimated 140,000 annual (round trip) passengers, respectively.[18] As a result, there is plenty of potential ridership for other rail destinations in the area.

Interestingly, the excursion trains from the Roaring Camp station in Felton to the Beach Boardwalk attract that level of trips despite a price point of about $42.00 per adult.

Younger's rules of thumb can underpredict ridership where great attractions exist. In San Francisco, prior to the Covid-19 pandemic, there were 10 million overnight visitors, and 15 million day-trippers who traveled from more than 50 miles away, exclusive of commuters.[19] Younger would predict the overnight visitors to make about 2.9 million trips. The six million Bay Area residents who live within 50 miles of San Francisco would likely make about 660,000 annual trips. The additional 5 million residents who live between 50 and 100 miles from San Francisco (including from the Monterey Bay Area, the Sacramento region, and San Joaquin and Stanislaus Counties) would have made roughly 200,000 round trips annually on services roughly analogous to tourist trains, e.g., cable cars, historic streetcars, and ferryboats. These different groupings of visitors total an expected 3.5 million annual trips.

According to National Transit Database ridership data for the San Francisco Municipal Railway, 5.8 million one-way trips were made on cable cars and 7.46 million trips were carried on Muni's historic streetcars.[20] In both cases, visitors comprised more than 50% of cable car and streetcar riders, that is, roughly 7 million annual riders. This shows that visitor-oriented services in large tourist destinations are likely to draw unexpectedly high numbers of visitors to transit services that are attractive.

Since attractions like the cable cars, historic streetcars, San Francisco Bay cruises, the ferry to Alcatraz and ferries from Marin, Solano, and Alameda Counties are readily available, an argument could be made that at least in the case of San Francisco, tourist usage of transportation analogous to tourist trains has been significantly exceeded--a good indicator of demand for services in Santa Cruz.

Returning to the case of Santa Cruz County, the Roaring Camp Railroads has two separate operations. First, the Santa Cruz, Big Trees and Pacific Railroad (FRA reporting mark SCBG) operates the standard-gauge *Santa Cruz Beach Train*, providing excursions from Felton to the Beach Boardwalk. Most passengers travel is during the May-October peak tourist season. These excursions typically travel one hour in each direction, lay over at least one hour at the Boardwalk, and return in the third hour. The Beach Train generally attracts approximately 2% of all Boardwalk/Main Beach visitors, based on estimated total Beach/Boardwalk attendance.

The Roaring Camp and Big Trees Narrow Gauge Railroad (RCBT) company also operates the *Redwood Forest Steam Train*, which operates on six miles of narrow-gauge tracks (e.g., a twelve-mile round trip) behind former logging industry steam locomotives. While data for this operation was not reported to the Federal Railroad Administration (FTA), there are an estimated 140,000 annual riders, totaling about

[18] From the Federal Railroad Administration (FRA): http://safetydata.fra.dot.gov/OfficeofSafety/Default.aspx . Also reports from local rail activists.
[19] From http://www.sftravel.com/san-francisco-statistics for 2017.
[20] Linked at http://www.transit.dot.gov/ntd/transit-agency-profiles.Agency ID 90015

200,000 annually for both railroads.[21] The SCBG and RCBT together constitutes the 5th largest tourist railroad operation in the U.S., not including museums that feature train rides.

## 2d. Matching Rolling Stock to the Market: Key to Visitor Rail Success?

Since the author's original 2018 study of the potential for Santa Cruz County excursion trains, numerous vehicle options have materialized, not available at that time. These include battery-electric trams available from TIG/m, used for the October 2021 rail demonstration on the SCBL in Watsonville and between Santa Cruz and Capitola.

**Figure 5. TIG/m "ViaTran" Vehicle (2x size of TIG/m tram used in October 2021 demonstration)**

In addition, newer DMUs operating in Europe from Stadler, Siemens and other manufacturers have also become available. This latter equipment is relevant because the rolling stock can be readily modified to meet alternative FRA standards. Some rolling stock designs are also modular. They could be retrofitted with fuel cells and batteries such as in TIG/m vehicles, replacing diesel engines. Used diesel multiple units (DMUs) from Germany such as Deutsch Bahn (DB) VT-628 units, evaluated in the 2018 study, remain available. The TIG/m tram used for the October 2021 service demonstration in Santa Cruz had 28 seats, with up to 50 standing comfortably (the manufacturer claims up to 100 seated and standing, but that is extreme crowding). Their ViaTran vehicle is estimated to seat 60-70 persons, with similar numbers standing comfortably.

The estimated price per vehicle is $4-$5 million, about twice the 28-seat version. Estimated top speed is 50 mph, the same as the 28-seat version (although the vehicle for the demonstration operated under the 15-mph speed limit of FRA Class 1 trackage).

This vehicle appears to have adequate capacity to meet projected demand for Beach Access Shuttles most of the time. TIG/m trams would have level boarding like most new light rail vehicles in the U.S. and Europe. However, single vehicles may lack sufficient capacity for peak weekend days in the summer (see demand analysis discussion below).

[21] According to data collected by the Heritage Rail Alliance, there were 200,000 annual riders at the "Roaring Camp & Big Trees." See http://www.atrrm.org/2018/03/heritage-rail-ridership-attendance/ for a database of ridership on U.S. tourist railroads that provided data.

If ViaTran vehicles ran in tandem with the 28-seat TIG/m vehicle, a two-car train would have about 100 seats plus a similar number of standees. Two ViaTran vehicles in two-car trains would have 120 to 140 seats, plus a similar standing capacity.

**Used European DMUs (for conversion to battery-electric**). Since the author's 2018 analysis that recommended older German VT-628 DMU trainsets, newer DMUs have become available on the used market in Germany, Italy and a few other European countries. These include several dozen Stadler GTW 2/8 trainsets (two axles powered out of eight) dating from the early 2000's. A regional rail operator serving Frankfurt au Main in the German state of Hesse has several dozen trainsets for sale, being replaced by hydrogen/electric Alstom Coradia LINT regional trains. Similarly, up to eleven newer Stadler GTW-2/8s[22] may be available from a Northern Italy operator by 2023 - 2024, since a decision to electrify the line served has been underway for several years.

Older Alstom Coradia LINT trainsets[23] may also be available from a Czech operator, but the condition of these vehicles is unknown. Many new LINTs are now powered by hydrogen/battery power, but many new purchases in Europe are also fully electrified.

Used European equipment would require refurbishment. However, the Stadler rolling stock has modular engine compartments with two diesel engines in the middle of each car, as shown in Figure 6.

For conversion to battery-electric, the engines could be removed, replaced by fuel cells and battery banks, and perhaps smaller diesel engines for emergency "limp home" ability.

The Alstom equipment has similar power trains, but under the train floors. Like the Stadler cars, it appears that there is sufficient room for engine replacement with fuel cells and battery banks under the vehicle floors, and perhaps a small "limp home" engine as well.

**Figure 6. New Jersey River LINE GTW 2/6 Trains, Similar to Trains Available in Frankfurt**

[22] https://en.wikipedia.org/wiki/Stadler_GTW

[23] https://en.wikipedia.org/wiki/Alstom_Coradia_LINT

## 2e. Seasonal Beach Shuttle Demand Analysis

This analysis evaluates the potential for beach shuttle services along the Santa Cruz coastline. Another section discusses their future potential integration with the proposed revival of the *Suntan Special* by SCCRTC's rail operator. The results of this analysis were evaluated to determine how local rail services aimed at visitors can support daily year-round rail passenger service in a cost-effective manner, serving both visitors and area residents.

The *Capitola and Aptos Recreational Rail Study* conducted for SCCRTC between 2003 and 2005 evaluated several beach shuttle scenarios, for which the project consultant predicted between 10,000 and 25,000 annual riders for each scenario, regardless of location. In the author's view, this study was problematic. The proposed service between Cliff Drive in Capitola and Aptos Village would have operated over 120 days per year (which the author assumes would have been all weekend days from May to October, weekdays Memorial Day through Labor Day, and on weekends during the "shoulder" periods in April, May, September, and October). The consultant assumed a total of 360 daily round trips annually, with trains operating between 11:00 a.m. and 5:00 p.m. This implies a total of three daily round trips when trains operate, or roughly a 180-minute (3 hour) headway.

As previously shown in Figure 3, an estimated total of 840,000 beach visits collectively occurs each year at Capitola Beach, New Brighton State Beach and Seabright/Aptos State Beach. Assuming 50% of beach visits occur when the beach shuttle trains were operating 3 round trips day, 420,000 visits would occur. With estimated shuttle ridership of between 10,000 and 25,000 annually, the *Recreational Rail Study* estimated a mode share of 2.4% to 6.0%, which seems very low.[24] It didn't help that about 120 days of annual operation would capture only about 50%-60% of total annual beach attendance between Capitola and Aptos Village.

One odd feature of the *Recreational Rail Study* is that it projected the same range of patronage for a potential Highway 1 intercept parking lot station to the Beach Boardwalk as it did for Capitola to Aptos Village. The projected annual ridership of 10,000 to 25,000 is very low compared to the existing *Santa Cruz Beach Train* service from Felton, which carried 60,000 annual riders in 2016 at fares averaging around $26-$31 round trip (e.g., child and adult fares, respectively at the time) **plus** $10 for parking.[31]

With the Boardwalk, Santa Cruz Main Beach and Santa Cruz Wharf serving 8.5 million individual visits–a net of 4 million visits estimated by the author when double-counting is eliminated–beach shuttle trains to the Boardwalk would be likely to serve an order of magnitude more riders than the *Santa Cruz Beach Train,* assuming frequent service, moderately-priced parking, and fares of about $10 for a round trip. Two vehicles could provide 20-minute frequencies from this location, though where nearby parking could be established is problematic[25].

A more logical location for a rail shuttle station and parking lot for beach rail shuttles would be in West Santa Cruz, perhaps at Natural Bridges Drive, where SCRTC owns a large amount of railroad property sufficient for 400-600 parking spaces, plus parking on the surrounding streets in this industrial area.[33] From this West Santa Cruz location, two DMUs could provide service every 15-20 minutes since the

[24] See pages 7-11 of the *Recreational Rail Study* for the study's logic behind the 10,000-25,000 annual estimates.

[25] The largest nearby parking lots are at the Santa Cruz Costco north of Highway 1, and Gateway Plaza shopping center south of Highway 1 on River Street.

distance is less than two miles each way. A passing track would need to be constructed at the midpoint of this potential shuttle route, roughly between Almar Avenue and the Bay Street crossing.

The author's 2018 excursion train study evaluated four Beach Shuttle scenarios. These were (1) West Santa Cruz–Beach Boardwalk Rail Shuttle; (2) West Santa Cruz–Beach Boardwalk Rail Shuttle & Davenport Beaches Shuttle; and (3) Beach Boardwalk, Davenport Beaches & East Beaches Rail Shuttle. Projected results for each scenario are summarized in Figure 7.

**Figure 7. Summary of Beach Shuttle Scenario Results, 2018 Analysis**

| | Projected Round Trips | Projected Revenues | Operating Expense, Capital Charges | Net Operating Margin |
|---|---|---|---|---|
| West Santa Cruz–Beach Boardwalk Shuttle | 350,000-400,000 | $3,000,000-$3,450,000 | $2,010,000 + $512,000 capital | $478,000 to $928,000 |
| Beach Boardwalk Shuttle & Davenport Beaches | 462,000-528,000 | $4,440,000-$4,794,000 | $2,873,000 + $922,000 capital | $645,000 to $993,000 |
| Full Davenport–Boardwalk–East Beaches Shuttle | 777,000-878,000 | $8,220,000-$8,994,000 | $6,110,000 + $1,485,000 capital | $625,000-$1,399,000 |

All figures in 2018 dollars.

In this 2022 analysis, a full 20-mile Beach Shuttle system between Wilder Ranch State Park, West Santa Cruz, Beach Boardwalk, Capitola, Aptos, Rio Del Mar, Seascape, and La Selva (Manresa State Beach) is evaluated. Figure 8 (next page) summarizes estimated operating expenses, projected revenues, and patronage for this proposed service. Limited service to Davenport is assumed, with most services terminating at Wilder Ranch State Park. Service is projected to operate every 30 minutes, 10-11 hours per day, for 200 days per year, e.g., during "beach season."

Full Beach Shuttle services between Wilder Ranch and La Selva is marginally less profitable than projected in the 2018 analysis. This is due to much higher fuel prices, higher estimates for train maintenance, and an increase in estimated track maintenance expenses.

| **Figure 8. Summary Estimates for Wilder Ranch State Park–La Selva (Manressa State Beach)** | | | |
|---|---|---|---|
| Category | Unit Cost | Factor | Total Cost, Category |
| Operating Crews* | $150.00 | 16,000 revenue hours | $2,400,000 |
| Train Fuel/Power** | $4.00 | 200,000 train miles | $800,000 |
| Train Maintenance | $5.00 | 200,000 train miles | $1,000,000 |
| **Subtotal, "Above the Rail" Expenses** | | | **$4,200,000** |
| Track Maintenance, Parking Lot & Stations, Security | Lump Sum | | $2,000,000 |
| Insurance, Management, Promotion | Lump Sum | | $2,000,000 |
| **Grand Total, Operating Expenses** | | | **$8,200,000** |
| Estimated Farebox & Parking Revenues*** | | | $9,424,000 to $10,536,000 |
| **Potential Operating Margin Before Capital Charges** | | | **$1,224,000 to $2,388,000** |
| Estimated Margin Before Capital Charges, Percent | | | 15% to 29% |
| Estimated Annual Carrying Cost - Capital | | | $1,500,000 |
| Projected net profit after capital charges | | | ($378,000) to $888,000 |
| Potential net margin (%) after capital charges | | | (3.9%) to 9.1% |
| Annual round trips, including Boardwalk Shuttle riders | | | 777,000 to 878,000 |

* Based on TIG/m 2020 proposal costs. Total includes crew training, maintenance testing, supervision and "deadhead."

** Assumes $6.00/gallon for diesel fuel and/or similar costs for electricity for battery-electric operation.

*** Averaged fare of $12.00 per person, including Boardwalk Shuttle from West Santa Cruz, all-day pass revenues for the entire line, ($18.00 to $20.00), and West Santa Cruz parking charges.

# 3. Excursion, Lunch/Dinner Trains, and Special Trains

## 3a. Introduction

While excursion, lunch, dinner, and special trains do not offer public benefits like congestion relief, they are likely to have strong financial performance, of interest to the private sector. As a result, such services could generate significant revenues to SCCRTC to offset the ongoing costs of maintaining and administering the Santa Cruz Rail Branch Line (SCRBL).

The 2011 rail business analysis[26] completed for SCCRTC projected up to 11,000 dinner and 19,000 excursion train passengers (30,000 total) between Santa Cruz and Davenport by the third year of operations. However, this analysis did not outline the basis on which the report authors relied for these estimates. These estimates appear to be "back of the envelope" calculations. These compare poorly to the 200,000+ Roaring Camp Railroads passengers in 2019 and earlier, and the 90,000 annual passengers[27] served by the wine tour, lunch and dinner trains operated by the Napa Valley Wine Train (NVWT) in 2019 and prior years.

Most directly comparable to Santa Cruz is the Napa Valley Wine Train (NVWT), which offers a wide variety of winery tour, lunch, dinner, and specialized experiences. Wine Train prices are quite high, varying from $175 to $225 per person for standard lunches and dinners, and up to $645 per person for The Legacy Tour, a six-hour all-day tour of three upscale wineries, a 4-course gourmet lunch and complimentary wine. *The Legacy Tour* is unusual: Its capacity is limited to 60-70 persons, riding in 2-3 cars pulled by a 44-ton locomotive.

[26] https://sccrtc.org/wp-content/uploads/2011/07/100300-EconAnal-BusinManagPlanAnal.pdf

[27] Data obtained from https://railroads.dot.gov/accident-and-incident-reporting/overview-reports/train-miles-and-passengers

NVWT pricing strategies match recent Napa Valley trends towards increasingly affluent, upscale visitors, which was evident even before the Covid-19 pandemic. Similarly, many accommodations charge well over $1,000 per night[28]; the average Napa Valley hotel bill is close to $250 per night and increasing[29]. While the Napa Valley was starved of overseas visitors during the Covid-19 pandemic, this trend towards more affluent, upscale visitors mostly from California has continued unabated.

Annual visitation to the Napa Valley is comparable to Santa Cruz County. According to Visit Napa Valley, in 2018 there were 3.85 million visitors who spent $2.23 billion, generating $85.1 million in transient occupancy, sales and other taxes for Napa County governments. Visitor spending grew 15.9% between 2016 and 2019 despite the 2017 wildfires, while total visitor volume increased 8.9%. The tourism industry is the second largest employer in Napa County after the wine industry, employing 15,872 persons with a $492 million payroll as of 2018.[30] The Napa Valley's main draw is from the San Francisco Bay Area and Greater Sacramento, with limited international visitors after Covid.

Santa Cruz County is clearly a more "downscale" destination than the Napa Valley, despite being only a 60/90-minute drive from very affluent Santa Clara and San Mateo Counties. Comparable data for Santa Cruz County for roughly the same number of visitors includes:[31]

- Tourism is a $1.1 billion industry in Santa Cruz County (based upon 2019 figures)
- Average hotel occupancy for 2019 was 68.5 percent.
- The average room rate for 2019 was $166.18.
- Average travel expenditures per person are $604.00 per trip or $151.00 per day. Per day spending per person averages $39.60 for lodging, $32.20 for meals, $17.40 for shopping, $10.20 for attractions/entertainment and $20.40 for other expenses.
- The average travel group consists of 5 people.
- The average length of stay in 2019 is 2.4 nights.
- Santa Cruz County's primary markets include the San Francisco Bay Area and the Central Valley.

Some stark differences appear when comparing NVWT with the previous rail business analysis for lunch, dinner and excursion trains between Santa Cruz and Davenport. Wine Train prices are clearly among the highest for lunch and dinner trains in North America, let alone their prices for excursion/wine tours. However, this also provides a baseline for evaluating what could be offered between Santa Cruz and Davenport, adjusted for the major differences between these tourist markets.

Overall, the average Napa Valley visitor spends twice as much per person per day as in Santa Cruz County. This reflects the larger share of beach visits, which is a much less costly activity than visiting wineries and wine tastings. Overnight visitor volumes in Santa Cruz County are comparable to the Napa Valley, but average accommodations prices are about 40% to 50% lower. Overall, this suggests that successful lunch, dinner and excursion trains between Santa Cruz and Davenport must offer relatively affordable prices.

[28] For example, a basic room at Meadowwood is $1,200 per night through Expedia. Several properties charge much more.
[29] Another example of high prices raising the average hotel price: https://napavalleyregister.com/news/local/napas-stanly-ranch-resort-welcomes-guests/article_c1357c80-e777-11ec-94cc-b71ab88203e5.html
[30] https://www.visitnapavalley.com/about-us/research/
[31] https://www.santacruz.org/press/facts-stats-faqs

Current excursion prices offered by the Roaring Camp Railroads[32] are a good starting point for pricing Santa Cruz-Davenport services. Currently, an adult *Redwood Forest Steam Train* ticket is $39.95 and $24.95 for children 2-12. Similarly, the *Santa Cruz Beach Train* is $41.95 for adults, and $27.95 for children 2-12.[33]

As previously noted, a 2011 analysis for the SCCRTC estimated a total of 11,000 potential dinner train patrons on the 12-mile Davenport line and 19,000 for excursion trains. That study estimated mostly weekend and summer operations, with 110 dinner trains departures operating annually and 190 excursion train departures. The study for SCCRTC also estimated average dinner prices of $75.00 per person (2010 dollars), and about $40.00 per person for excursions, resulting in about $1.5 million annual revenues. Again, the basis of these estimates was not specified in the study.

The author does not believe the prior study adequately weighed the significance of the two very large, very affluent markets[34] within a 60-to-90-minute drive: San Mateo County (2019 median household incomes of $160,000+) and Santa Clara County (2019 household median incomes of about $140,000). The nearly three million residents of these counties are the largest target markets for potential lunch, dinner, and excursion trains. Monterey Bay Area residents make up a secondary market that is likely more price-conscious.

## 3b. Analysis

If lunch and dinner trains attracted the same percentage of visitors (~2%) as NVWT does in the Napa Valley, Santa Cruz-Davenport service would attract about 80,000-100,000 annual passengers. Roaring Camp Railroads currently attracts about 4%-5% of Santa Cruz County visitors. Actual patronage would depend on many factors: (1) number of departures operated annually; (2) the fit between prices, quality and level of food services offered; (3) service ambience and atmosphere, including reliability of train service; (4) effectiveness of marketing to target markets, and perceived value of the offer relative to the actual quality of food and service offered; and (5) for potential excursion trains between Santa Cruz and Davenport along the coast, the overlap (if any) with the market for current Roaring Camp Railroads tourist trains.

The author notes that the Beach Train "through the redwood forest to the Beach Boardwalk" experience would be an entirely different experience than a ride along the Santa Cruz oceanfront to Davenport. Dinner trains could also be scheduled to operate at late afternoon or early evening hours during the year, to track sunsets along the coastline.

Given the very high fares charged by NVWT and the differences between the Napa Valley and Santa Cruz County visitor markets, it is apparent that more moderate pricing for Santa Cruz-Davenport service is required for reasonable scenarios. The 2010 analysis postulated an average dinner train fare of $75.00 in 2010 dollars, which seems low. By 2025, when lunch, dinner and excursion trains could be implemented, average lunch/dinner fares are postulated to be $100.00 or $150.00 per person. Excursion fares are proposed to average $30.00-$40.00 per person.

[32] https://www.roaringcamp.com/

[33] Roaring Camp also offers significant discounts by prior reservation for groups, for the Forest Train at $24.95 adults and $20.95 for children 2-12, minimum purchase of 25. Beach Train fares are discounted to $26.95 for adults, and $23.95 for children. Special trains can be operated for groups at these prices for a minimum of 40 tickets on the Forest Train, and 200 tickets for the Beach Train.

[34] https://www.census.gov/library/visualizations/2018/comm/acs-5yr-income-all-counties.html

Similarly, potential passenger volumes are estimated between 20,000 and 60,000 for the lunch/dinner trains, with a commensurate number of annual trains operated. For excursion trains, between 30,000 and 60,000 annual passengers are projected. Further, a total of three excursion round trips would be provided on days when trains are operating, assumed at 180-200 days per year. This would allow for layovers in Davenport and at selected beach stops between Santa Cruz and Davenport. Train cars comparable to the Roaring Camp Beach Train are assumed, e.g., a diesel locomotive with a mix of open and closed passenger cars.

Rail operating costs are estimated by working backwards from Roaring Camp Railroads' group pricing for operating a separate Beach Train for groups of 200 or more, at average prices about $25.00 per ticket, totaling $5,000 per dispatched train. For lunch and dinner trains, the $5,000 estimate has been used. For the assumed three round trip excursions trains on days operated between Santa Cruz and Davenport, a daily cost of $7,000 has been assumed, allowing for additional fuel, incremental maintenance, and added staffing costs for the proposed second and third roundtrips.

Potential scenarios for lunch, dinner and excursion trains are summarized in Figure 9 below. "Gross Margin" for lunch and dinner trains do not include additional costs for food, food service personnel and operations, nor do they include capital expenses which could be substantial. Capital costs would depend highly on the private sector's choices for the quality of the equipment; the NVWT has spent between $500,000 and $1,000,000 rehabilitating each of its passenger cars, plus constructing an expensive commissary. It is also assumed "Rail Operating" includes allowances for marketing and promotion, track maintenance and track rental charges. Excursion train capital charges are assumed to be paid out of the Gross Margin. Extra trains, such as Santa Claus trains, are a likely seasonal addition to the schedule.

**Figure 9. Santa Cruz-Davenport Lunch, Dinner, and Excursion Train Scenarios**

| Scenario | Annual Trains | Projected Patronage | Annual Revenues | | Rail Operating * | Gross Margin* | |
|---|---|---|---|---|---|---|---|
| | | | Low | High | | Low | High |
| Dinner Train | 110 | 20,000 | $2,000,000 | $3,000,000 | $550,000 | $1,450,000 | $2,450,000 |
| Lunch, Dinner | 220 | 40,000 | $4,000,000 | $6,000,000 | $1,100,000 | $2,900,000 | $4,900,000 |
| Lunch, Dinner | 350 | 60,000 | $6,000,000 | $9,000,000 | $1,750,000 | $4,250,000 | $7,250,000 |
| Excursion | 570** | 30,000 | $900,000 | $1,200,000 | $1,330,000 | ($430,000) | ($130,000) |
| Excursion | 570** | 45,000 | $1,350,000 | $1,800,000 | $1,330,000 | $20,000 | $470,000 |
| Excursion | 570** | 60,000 | $1,800,000 | $2,400,000 | $1,330,000 | $670,000 | $1,070,000 |

* **Plus** food, food personnel and operations expense. This depends on quality of the offer, target markets, etc.
** Assumes three round trips on days when operated. Variable is projected ridership.

## 4. Arriving in Santa Cruz by Train

Reviving intercity rail passenger service between the San Francisco Bay Area, Santa Cruz and the Monterey Peninsula has been almost continuously under study for half a century, ever since the April 1971 discontinuance of the Monterey-San Francisco *Del Monte Express*. Caltrans studied reinstating the *Del Monte Express* in the late 1970's; during the 1980's more than one study was completed of restarting intercity service from the Bay Area, including revival of the *Suntan Special*.

In the 1990's, SCCRTC sponsored demonstration runs of the *Suntan Special* using Amtrak and Caltrain equipment. During the 1990's and 2000's, the Transportation Agency of Monterey County (TAMC) conducted several studies of extending either Capitol Corridor or Caltrain service to Salinas via Pajaro

and Castroville. TAMC is currently developing rail infrastructure required to extend trains from San Jose to Salinas, including a rebuild of the existing Salinas station, a layover yard for overnight storage and maintenance of trains, as well as plans for new stations in Pajaro and Castroville. It is not clear when these various projects will be finished and ready for service, but certainly service can be expected within the next five years.

## 4a. San Francisco Bay Area –Santa Cruz/Monterey Ridership Potential—Past Studies

The 1998 *Around the [Monterey] Bay Rail Study* sponsored by SCCRTC and TAMC conservatively predicted 30,000+ round trip passengers on a revived *Suntan Special* operating on twenty-four spring, summer, and early fall weekends (e.g., 48 days per year) between San Jose and Santa Cruz via Gilroy and Watsonville. This was 625 passengers per trip. The *Around the Bay* study also predicted that similar weekend service to the Monterey Peninsula might attract more than 60,000 annual round trips with one round trip train per day on weekend days year-round. This is 576 projected passengers per train.

The *Caltrain Extension to Monterey County: Alternatives Analysis, Ridership Validation Report* from January 2009 predicted that daily shuttle trains operating every 45 minutes from Salinas to San Jose via Watsonville (Pajaro) and Gilroy might attract 7,500 daily boardings in the year 2035. If such a service was implemented, Bay Area residents accessing Santa Cruz County and Monterey Peninsula visitor destinations would likely constitute a large percentage of midday and weekend patronage.[35]

The 2009 study examined several options for extending Caltrain service between Gilroy, Pajaro, Castroville and Salinas. The "Shuttle Train Service to San Jose" alternative serves as the basis of the proposal for San Francisco Bay Area to Santa Cruz/Monterey Peninsula service outlined in this paper. As stated by the 2009 study:

> ***Shuttle Train Service to San Jose***
>
> Since publication of the Caltrain Extension to Monterey County Alternatives Analysis report in April 2007, the Metropolitan Transportation Commission, Peninsula Corridor Joint Powers Board, Santa Clara Valley Transportation Authority, and the Transportation Agency for Monterey County have been working to devise a long-range regional passenger rail service plan which would reflect the:
>
> - Peninsula Corridor Joint Powers Board's goal of electrifying passenger rail service between San Francisco and San Jose
> - Metropolitan Transportation Commission's goal of establishing high speed rail service between San Francisco and Los Angeles via San Jose and Gilroy
> - Santa Clara Valley Transportation Authority's goals of extending BART service to downtown San Jose, and maintaining and enhancing commuter rail service between San Jose and Gilroy
> - Transportation Agency for Monterey County's goals of providing convenient and attractive public transportation service between Monterey and the San Francisco Bay Area, to include a connection to high-speed rail.
>
> Ridership forecasts were prepared for these options using the Santa Clara Valley Transportation Authority model and Year 2035 demographic data set and highway/transit networks prepared by VTA, with no adjustment or revision to any aspect of the model, assuming 20-minute maximum wait times. Two scenarios were tested. A base case option would operate shuttle train service

[35] Caltrain Extension to Monterey County: Alternatives Analysis. Ridership Validation Report, January 2009. https://www.tamcmonterey.org/files/7c78f6464/Ridership_Validation_Final_Report.pdf

> between Gilroy and San Jose on 45-minute [weekday peak period] headways. This service would be bi-directional to recycle trainset equipment. A Caltrain Extension to Monterey County option would originate trainsets in Salinas, operating northbound in the morning and southbound in the evening, with trains laying over in Salinas during the evening, and in San Jose during the midday.
>
> Table 18 reports the ridership forecasts for these two options. The table indicates that the shuttle service to Salinas option would attract an additional 9,134 system-wide boardings per weekday, over and above the base option of shuttle service to Gilroy. Assuming the Year 2005 trip table correction factor of 0.80 applies to Year 2035 conditions, ridership potential for the Caltrain Extension to Monterey County would be approximately 7,300 to 7,500 riders per day, based on Parsons' application of the VTA Regional Travel Forecast Model.

The 2019 *Monterey Bay Area Network Integration Study* included a conceptual plan for extending Capitol Corridor or Caltrain trains from the San Jose Amtrak/Caltrain station, with an ultimate proposal of hourly all-day service between San Jose, Gilroy, Pajaro, Castroville, and Salinas (17 daily round-trip trains). This study missed the forest for the trees, projecting only about 2,000 daily passengers for such a service, including commuters to and from Santa Clara County. By not proposing direct rail service to Santa Cruz and Monterey, the study ignored the Monterey Bay Area's largest intercity and visitor markets.

According to the *Network Integration Study's* estimates, potential commuter and intercity traffic from the Watsonville and Salinas area would attract about 2%-3% of all trips between the Bay Area and the Monterey Bay Area. This potential patronage is insufficient to support a cost-effective passenger rail service, averaging a projection of only 55-60 passengers per train and a 15%-20% farebox recovery ratio, assuming favorable operating costs of around $35.00 per train-mile.

Requiring transfers to access major destinations such as Santa Cruz and Monterey reduces potential ridership by 25%-50%, depending on the details of the required transfers (direct "timed connections" perform much better than randomly timed train arrivals and departures). Likely bus ridership is even lower, estimated by the *Network Integration Study* at about 2/3 of potential ridership by train.

TRAC finds the 2009 *Caltrain Extension to Monterey County: Alternatives Analysis, Ridership Validation Report* ridership potential of 7500 riders on a Monterey Bay rail extension to be credible. However, the lower market shares projected in the 2019 *Network Integration Study* compared to the 2009 study suggest that direct intercity rail service to both Santa Cruz and Monterey is required for cost-effective service and acceptable farebox cost recovery ratios.

## 4b. TRAC's Own Ridership Analysis

A better starting point would be to examine the results from existing short-distance rail corridors in California that are roughly analogous in two ways: (1) they direct serve large coastal tourist destinations including beaches; and (2) they offer relatively frequent intercity rail passenger service. Figure 10 summarizes two markets chosen for examination in this analysis, the Santa Barbara and Carpinteria areas, and Coastal San Diego County along the I-5 corridor. Both areas are served by the Pacific Surfliners, with 5 daily round trips between Los Angeles and Santa Barbara (and one long-distance trip) and 12 between Los Angeles and San Diego. See Figure 10 (next page).

Both the Santa Barbara area and Coastal San Diego County are year-round destinations, as are Santa Cruz County, the Monterey Peninsula and Big Sur. Like many other coastal areas within California, both areas benefit from California's mild Mediterranean climate. Like Santa Cruz, in both areas there often are relatively warm days in late fall, winter and early spring that attract people to their numerous beaches, like Santa Cruz County and oftentimes in Monterey.

| Figure 10. Comparative Statistics, Santa Barbara Area and Coastal San Diego County | | | | | | |
|---|---|---|---|---|---|---|
| | Population | Estimated Visitors | Tourism Impact | Daily Trains | 2017 Amtrak Boardings & Alightings | Amtrak Riders as % of Annual Visitors |
| Santa Barbara South Coast* | 220,000 | 7,200,000 | $1.9 billion | 6 | 474,846 | 6.6% |
| Coastal San Diego County** | 3,351,000 | 35,000,000 | $11.6 billion | 12 | 1,860,284 | 5.3% |
| | | | | | | |
| Applying factors to: | | | | | Low Estimate (5.3%) | High Estimate (6.6%) |
| Santa Cruz County | 275,000 | 5,000,000 | $1.1 billion | | 265,000 | 330,000 |
| Monterey Peninsula/County | 434,000 | 8,000,000 | $3.2 billion | | 424,000 | 528,000 |
| Total | | | | | 689,000 | 858,000 |
| * Santa Barbara and Carpinteria areas. Source: https://santabarbaraca.com/press_releases/santa-barbara-south-coast-visitor-profile-study-shows-tourism-injects-1-9-billion-santa-barbara-economy/ For 2016-17 season. | | | | | | |
| ** Entire County population. Source: https://www.sandiego.org/-/media/files/pdfs/fast-facts.pdf?la=en | | | | | | |

While Amtrak boardings and alighting figures are not tightly related to visitor totals, the author believes passenger volumes are useful for this paper's "20,000-foot view." Applying the Santa Barbara and San Diego County percentages (under pre-Covid conditions) to Santa Cruz County and the Monterey Peninsula, results in 689,000 to 858,000 projected total annual boardings and alightings.[36]

## 4c. Proposed Operations

The April-September 2022 *California Rail News*[37], TRAC's newspaper, focused on Santa Cruz County Measure D. This issue included an article, *TRAC's Thoughts on S.F. Bay Area – Monterey Bay Rail Service*. We incorporate a portion of that article here as TRAC's proposal to move Bay Area- Monterey Bay Area rail service forward, along with additional supporting analysis.

> "According to the *Monterey Bay Area Network Integration Study,* the projected cost of operating Diesel Multiple Units (DMUs) and/or Battery Electric Multiple Units (BEMUs) between Monterey and Santa Cruz is $23.00 per train-mile. This is consistent with operating costs for the 100-seat New Jersey "River Line" DMU services between Trenton and Camden, and costs for eBART DMU service between Antioch and Baypoint/West Pittsburg."

An excellent example of a modern Battery-Electric Multiple Unit (BEMU) is the "WINK" train design by Stadler Rail[38] of Switzerland as shown in Figure 11. This particular design can operate under catenary electrification, on batteries, or even diesel power if necessary.

Revival of the *Suntan Special* on weekends all year and on weekdays from May to October may be financially feasible, particularly if BEMUs or Diesel Multiple Units (DMUs) are used during lighter ridership such as summer weekdays and on winter weekends. See Proposed Operations discussion below. Longer, locomotive-hauled trains may be needed on weekends May to October.

[36] Compared to these data, the 2019 *Network Integration Study* ridership estimates are low. This is not surprising, since the 2019 analysis assumed only intercity trips to the Bay Area from the Watsonville and Salinas areas–areas that produce relatively little intercity travel due to low incomes and limited visitor volumes, compared to Santa Cruz and the Monterey Peninsula.

[37] Available at: http://www.calrailnews.org/wp-content/uploads/2022/05/crn0422-p1-8.pdf.

[38] Product literature is available at: https://www.stadlerrail.com/en/products/detail-all/wink/198/

**Figure 11. Example of 2-car "WINK" BEMU trainset by Stadler Rail of Switzerland**

Estimated operating costs in the 2019 analysis for the SCBRL were about $70-$75 per train-mile for the electric light rail proposed by SCCRTC, for one- or two-unit regional rail trains. This was considerably higher than the $55-$60 per train-mile estimated for Caltrain commuter rail service extension from San Jose to Salinas using locomotive-hauled 6-8 car, 700-800 seat passenger trains.

Without diesel engines, the BEMUs will have lower fuel and maintenance costs. We assume a cost of $30/train-mile on the SCBRL. To cover higher costs of operating between San Jose and Monterey/Santa Cruz on the Coast Mainline than likely on the SCRBL, this article [and this paper] assumes $35.00 per train-mile for BEMUs.

To provide the most-cost effective services between the S.F. Bay Area, Monterey, and Santa Cruz, TRAC suggests major changes in proposed services. As noted in the 2022 article:

> "The valuable part of the *Monterey Bay Area Network Integration Study* is its proposal for an integrated service vision for regional rail service between Santa Cruz and Monterey, similar to Swiss and other European [rail operating practices.] The vision includes hourly timed connections in both directions at the Pajaro/Watsonville station, between Monterey Bay Area regional service and extended Caltrain or Capitol Corridor services. Cross-platform connections would be provided. Rail infrastructure improvements would be planned around the service concept, which is how rail network planning is done in Switzerland and Germany."

TRAC's alternative plan [outlined in the *Rail News* article] is as follows:

- Upgrade existing trackage on the Monterey and Santa Cruz branch lines to FRA Class III (up to 59 mph) for a small fraction of the cost of complete track replacement. This is achievable at about $5 million per mile, including Positive Train Control (PTC) that does not require wayside signals.

- The Coast Route between San Jose and Los Angeles should be purchased by the State, primarily to reduce costs and to enable implementation of through-service between San Francisco, San Jose and Los Angeles, and regional services between the S.F. Bay Area and Monterey Bay Area, and services out of Los Angeles.
- [In 1992, the Los Angeles County Transportation Commission was granted an option by Southern Pacific Lines (Railroad), prior to its purchase by Union Pacific, to purchase the entire Coast Line from Los Angeles into the San Francisco Bay Area. It is unclear whether this purchase option is still valid in 2022, or whether it could be passed on to the State of California.[39]]
- Instead of locomotive-hauled trains, operation south of San Jose would use BEMUs such as those available from Switzerland. BEMUs could operate under Caltrain electrification, where available, and on batteries elsewhere. BEMU trainsets south of San Jose could operate in pairs, with one trainset operating through to Santa Cruz, splitting at Pajaro from the Monterey-bound section. This would minimize [the number of] main-line "slots" needed, providing no-transfer service to Santa Cruz and downtown Monterey.
- For through service to San Francisco, the BEMUs could also be attached to Caltrain expresses between San Jose and San Francisco, if designed to be compatible with Caltrain's future electric fleet.

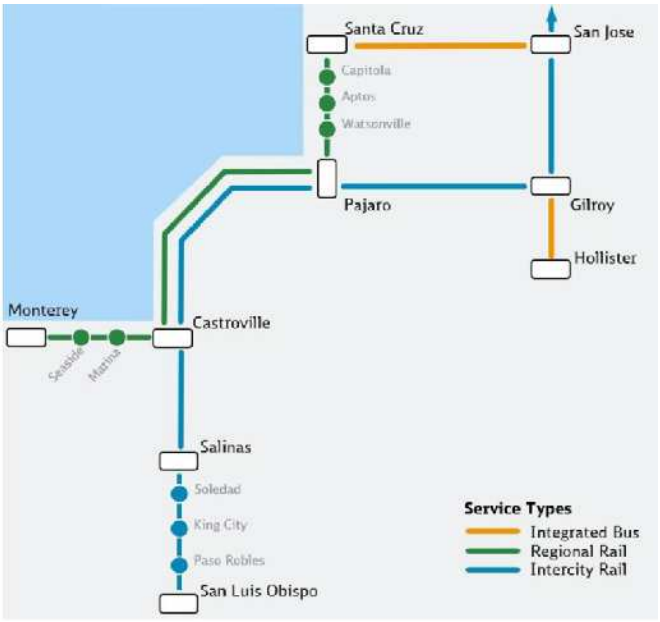
Additional capital costs would include double-tracking the remaining 8.5 miles of track between Morgan Hill and Gilroy, a short stretch of single track between Gilroy and the junction with the San Benito Branch Line to Hollister, portions of single track through the Pajaro River canyon to Aromas, and between the south end of Elkhorn Slough and Castroville (Monterey Branch Line junction.

- Maximize double track at both ends of Elkhorn Slough to improve schedule reliability. In the long run, consider a bypass or rail viaducts to improve Slough water circulation and raise the track bed to mitigate projected sea level rise.

Figure 12 (next page) shows the 2050 "Vision Plan" for Monterey Bay rail services outlined in 2019's *Monterey Bay Area Network Integration Study.* The major difference in TRAC's plan would be operation of "mainline" service from San Jose directly to both Santa Cruz and the Monterey Peninsula. Instead of mainline service, Salinas would be served by a shuttle train connecting to the main trains in Castroville. As previously discussed in this paper, independent local trains would also operate on the Santa Cruz Rail Branch Line in addition to through BEMU service from San Jose.

[39] https://www.joc.com/la-transit-agency-gets-option-buy-sps-coast-line-route-proposed-high-speed-use_19920930.html

**Figure 12. 2050 "Vision" Plan for Monterey Bay Area Rail Passenger Service**




Local trains could also operate between the Monterey Peninsula, Castroville and Salinas, though that would require double track between Castroville and Salinas. The advantage of the TRAC plan is that service on the mainline between Pajaro and Castroville would be limited to hourly slots in each direction, postponing the need to doubletrack the section through the Elkhorn Slough area.

## 4d. Estimated Operating Costs and Revenues

As previously noted, the *Monterey Bay Area Network Integration Study* proposed a total of 17 round trips between the San Jose Amtrak/Caltrain station and Salinas. If operated seven days per week, 52 weeks per year, this results in 2,380 revenue train-miles per day totaling 869,000 train-miles per year. The $35.00 per train-mile cost estimate includes operation of two 3-4-car trainsets such as the Stadler BEMUs between San Jose and the Pajaro station. A shuttle train would connect Castroville to Salinas, serving about 1,000 daily passengers.

This proposed service pattern results in a total of 595,680 annual train-miles between San Jose and Pajaro. After southbound trains split (and reconnect in the northbound direction) in Pajaro each hour, one BEMU trainset would operate the 20 miles to the Beach Boardwalk and downtown Santa Cruz; the second would travel the 26 miles to downtown Monterey from Pajaro. With fewer stops, travel time for the two branches should be similar. The summary of estimated train-miles in each mode and operating cost calculations are summarized in Figure 13 on the next page. Passengers on each segment are based on local population and estimated usage by visitors, split as estimated above to each branch line.

## 4e. Discussion and Analysis

| **Figure 13. Bay Area-Monterey Bay Area Train-Miles, Operating Expense, Operating Revenue** | | | | | | |
|---|---|---|---|---|---|---|
| **Estimated Operating Expenses, 2022 Dollars** | | | | | | |
| Segment | Distance, Miles | Round Trips | Daily Train-Miles | Annual Train-Miles | Cost Per Train-Mile | Total Operating Cost (Annual) |
| San Jose – Pajaro | 49.0 | 17 | 1,666 | 608,090 | $35.00 | $21,283,150 |
| San Jose–Gilroy (local service) | *30.0* | | | | | |
| Pajaro – Santa Cruz | 20.0 | 17 | 680 | 248,200 | $30.00 | $7,446,000 |
| Pajaro – Castroville | 10.0 | 17 | 340 | 124,100 | $30.00 | $3,723,000 |
| Castroville – Salinas | 11.0 | 17 | 374 | 136.510 | $30.00 | $4.095,300 |
| Castroville – Monterey | 16.0 | 17 | 544 | 198,560 | $30.00 | $5.956,800 |
| **Total** | **106.0** | **17** | **3,604** | **1,315,460** | **$32.31** | **$42,504,250** |
| **Estimated Patronage & Operating Revenues, 2022 Dollars** | | | | | | |
| Segment | | Annual Passengers on segment | Average Trip Length[40] | Annual Passenger-Miles & | Average Per Passenger-Mile | Total Operating Revenues** (Annual) |
| San Jose – Pajaro | 49.0 | 2,800,000 | 45.0 | 142,000,000 | $0.25 | $31,499,500 |
| San Jose – Gilroy* | *30.0* | 800,000 | 20.0 | 16,000,000 | $0.25 | $4,000,000 |
| Pajaro – Santa Cruz [premium visitor fare] | 20.0 | 1,600,000 | 12.0 | 20,050,000 | $0.304 | $6,092,500 |
| Pajaro – Castroville | 10.0 | 2,109,000 | 10.0 | 21,090,000 | $0.25 | $5,272,500 |
| Castroville – Monterey | 16.0 | 2,100,000 | 13.1 | 27,600,000 | $0.25 | $6,900,000 |
| Castroville – Salinas | 11.0 | 500,000 | 11.0 | 5,500,000 | $0.25 | $1,375,000 |
| **Grand Total, Passengers**[41] | **106.0** | **4,159,000** | **56.9** | **216,240,000** | $0.25 | **$55,139,500** |
| **Projected Operating Margin** | | | | | | **$12,635,250** |
| Projected Operating Margin – Train Mile | | | | | **+29.7%** | **$9.61** |
| Figure 13 is based on detailed data and assumptions shown in Appendix A, Figure A-2. | | | | | | |
| Does not include ancillary revenues such as parking charges, advertising, station concessions, etc. | | | | | | |

The results of Figure 13 result in an estimated average load of 164.1 passenger-miles per train-mile (189,400,000 annual passenger-miles / 1,154,130 annual train-miles). This result compares favorably with the *Pacific Surfliners* corridor in Southern California. The projected average load is also significantly higher that the Capitol Corridor between the Bay Area and Sacramento region.

Projected performance is projected to be excellent compared to the *Pacific Surfliners* and Capitol Corridor (which have the second and third highest intercity ridership in the U.S.), despite the much higher populations served by these latter corridors. This is partly explained by the large, concentrated visitor destinations in Santa Cruz County and the Monterey Peninsula. While commuter patronage post-Covid is likely to be much smaller than previously projected, this market would still make up a significant portion of patronage.

[40] Estimated passenger-miles on each segment were calculated by applying locations of likely highest patronage on each segment, e.g., for example, not all visitors from San Jose will travel to Santa Cruz, but to Aptos, Capitola, or elsewhere.

[41] Total passengers on the network, combining multiple segments. For example, San Jose to Santa Cruz visitors would use the San Jose-Pajaro and Pajaro-Santa Cruz segments. Trips by Monterey Peninsula residents to San Jose would use the Castroville-Monterey, Castroville-Pajaro, and Pajaro-San Jose segments.

The projected operating profit margin of about $13.4 million per year is significant, but it is insufficient to cover of the projected infrastructure need (e.g., mostly additional double-track and new stations) between San Jose and the Monterey Bay Area. However, as with the other proposed services on the Santa Cruz Rail Branch Line, private-sector operations appear feasible, in partnership with state and local governments, who in principle could lease fixed facilities to the winning private proposal(s). One advantage of leasing public-owned infrastructure is that a private operator could be terminated due to poor performance and other contract breaches

## 5. Conclusion

This paper was structured to outline an overall approach to service introductions on the Santa Cruz Rail Branch Line. Clearly, Santa Cruz County residents are interested in electric rail transit, followed by Beach Shuttles and passenger service from the San Francisco Bay Area. While lunch, dinner, and excursion trains from Santa Cruz to Davenport are probably of limited interest to locals, they could bring in significant revenues, which would help pay for line maintenance and improvements.

Introducing trains from the Bay Area onto the SCRBL will require two or three additional sidings to accommodate 30-minute headways for local rail service, as well as to reserve capacity for other local services, freight, special trains, etc. TRAC believes the line can be structured to accommodate 15-minute headways with those additional sidings on what would remain primarily a single-track line. A sufficient number of sidings would allow up to four trains per hour in each direction. Initially, one of the additional "slots" could be filled by hourly Bay Area trains.

The fourth "slot" would provide reserve capacity to operate additional peak period local trains on the SCRBL, direct service to Salinas and Monterey if demand warrants, and special trains, as may be needed. Note that because excursion and dinner trains would operate mostly to the west of the City of Santa Cruz, they should not require additional track capacity.

It is important to note that Sacramento's RT Metro light rail system operated as a mainly single-track system for decades, running more than 16 hours per day every 15-minutes in each direction, indicating that a properly designed route can still be high capacity, even with the limitations of single-track.

# APPENDIX A. Details of TRAC's Own Ridership Analysis

## A.1. Monterey Bay Area Ridership Study

The 1998 *Around the [Monterey] Bay Rail Study* sponsored by SCCRTC and TAMC conservatively predicted 30,000+ round trip passengers would use a revived *Suntan Special* operating on twenty-four spring, summer, and early fall weekends (e.g., 48 days per year) between San Jose and Santa Cruz via Gilroy and Watsonville (625 passengers per train). The *Around the Bay* study also predicted that similar weekend service to the Monterey Peninsula might attract more than 60,000 annual round trips with to one round trip train per day on weekend days year-round. This is 576 projected passengers per train.

Revival of the *Suntan Special* may be profitable, particularly if Diesel Multiple Units (DMUs) or Battery-Electric Multiple Units (BEMUs) are used during lighter ridership periods outside late spring, summer, and early fall weekends. Longer, locomotive-hauled trains may be needed on busy May to October weekends, depending on good weather and other conditions.

TRAC believes potential visitor ridership to/from Santa Cruz County and the Monterey Peninsula would be higher than predicted by the Amtrak data comparison with the Santa Barbara area and San Diego County (Figure 10, page 27), and 1998 estimates for reviving the *Suntan Special.*

## A.2. Potential Monterey Bay Area Rail Ridership by Locals

The 2019 *Monterey Bay Area Network Integration Study* proposed a 17-round trip service between Santa Cruz, Monterey, and San Jose. TRAC proposes modifying this service plan to provide direct service legs to Santa Cruz and the Monterey Peninsula. The *Network Integration Study* projected 600,000 annual passengers between Salinas, Castroville, Watsonville. The population of these areas is about 300,000 residents, which works out to be about two annual intercity rail rides per capita.

There are about 150,000 additional residents of Central Santa Cruz County west of Watsonville that would be directly served by the Santa Cruz Rail Branch Line. There are about another 150,000 residents of the Monterey Peninsula, including Carmel Valley and the City of Marina. TRAC's proposal for the 17-round trip service proposed by the *Network Integration Study* is to operate service with BEMUs, with two trainsets coupled into one train between San Jose and Pajaro, then have one unit split off in Pajaro to provide direct service to Santa Cruz. The second trainset would run through to downtown Monterey. A shuttle train would operate from Salinas to Castroville, connecting to trains to/from San Jose.

The population directly served in TRAC's plan is double that served by the service proposed in the *Network Integration Study*. This doubles the projected ridership to about 1.2 million per year. This number is in addition to estimates for visitors discussed above. It incorporates a significantly reduced number of commuters to Santa Clara County and the Bay Area compared to earlier estimates.

Combined with visitor trips via rail, as shown by Figure 13 (page 31), we estimate that there would be a total of 2.8 million annual intercity trips on for Bay Area–Monterey Bay Area service. This compares favorably to the 2009 estimate made for a San Jose-Salinas peak-period only shuttle service running every 45 minutes. In retrospect, that estimate probably greatly overestimates potential commuter volumes to Silicon Valley and the San Francisco Bay Area, particularly given post-Covid trends towards much a higher proportion of "working at home."

## A.3. Calculations Using the Reat Younger Rules of Thumb

**Figure A-1. "Rules of Thumb" Applied to Monterey Bay Area Rail Ridership**

| | | Santa Cruz County | | |
|---|---|---|---|---|
| Category | Rule of Thumb | Population* | Annual Round Trips | One-Way Trips |
| Population Within 50 miles[42] | 10% ride per year | 3,500,000 | 350,000 | 700,000 |
| Population 50-100 Miles[43] | 3.3% ride per year | 3,000,000 | 100,000 | 200,000 |
| Population 100-150 Miles[44] | 1.3% ride per year | 4,000,000 | 54,000 | 108,000 |
| Less current Roaring Camp Railroad's patronage | | | (200,000) | (400,000) |
| **Net Total Potential Annual Ridership*** | | | **304,000** | **608,000** |
| | | | | |
| | | Monterey Peninsula/County | | |
| Category | Rule of Thumb | Population* | Annual Round Trips | One-Way Trips |
| Population Within 50 miles[45] | 30% ride within 3 years | 3,500,000 | 350,000 | 700,000 |
| Population 50-100 Miles[46] | 10% ride within 3 years | 2,000,000 | 120,000 | 240,000 |
| Population 100-150 Miles[47] | 4% ride within 3 years | 3,000,000 | 40,000 | 80,000 |
| **Net Total Potential Annual Ridership** | | | **510,000** | **1,020,000** |
| **Grand Total**** | | | **814,000** | **1,628,000** |
| * Visitors plus local populations in Santa Cruz, Monterey, and San Benito Counties. Local riders are a significant share of Roaring Camp Railroads patronage. To obtain visitors only in Santa Cruz, Roaring Camp excluded. | | | | |
| ** Rounded to 1.6 million. | | | | |

Based on Reat Younger's rules of thumb applied to the totals shown in Figure A-1, direct passenger service to both Santa Cruz and the Monterey Peninsula may attract 1,600,000 or more annual one-way passengers as calculated in Figure A-1. TRAC estimates about 600,000 one-way trips to/from Santa Cruz County (Figure A-2, Row 4) from the S.F. Bay Area, and about 1,000,000 one-way trips to/from the Monterey Peninsula (Figure A-2, Row 5). Its larger size reflects the larger number of visitors to the Monterey Peninsula compared to Santa Cruz County.

This number is about twice the ridership resulting from applying Amtrak ridership factors from Santa Barbara and San Diego County to annual visitation. (Figure 10, page 27.) Accommodating such volumes is likely to require at least hourly services when potential non-visitor intercity rail ridership by Monterey

[42] Santa Cruz County, Santa Clara County, Southern Alameda County, and the southern half of San Mateo County.
[43] The rest of Alameda County, Contra Costa County, north half of San Mateo County, San Francisco, southern Solano and Marin Counties.
[44] Sonoma, Napa, the rest of Solano, Yolo and Sacramento, Placer and El Dorado Counties (e.g., the Sacramento urbanized area).
[45] Monterey Bay Area including San Benito County, Santa Clara County, and small portions of Southern Alameda and San Mateo Counties.
[46] The rest of Alameda County, West and Central Contra Costa County, and the north half of San Mateo County.
[47] The counties listed for Santa Cruz County are included, along with San Francisco, Marin, southern Solano and Marin Counties. San Luis Obispo County is also within this range, but is not a significant source of visitors, compared to the S.F. Bay Area.

Bay Area residents is added to the total.

## A.4. Estimated Ridership and Revenues by Rail Line Segment

The details of the analysis that are summarized in Figure 13 (page 31) are provided in Figure A-2 below. It shows estimated one-way trips for each of the five rail line segments, broken out by each of the individual rail passenger markets.

**Figure A-2. Rail Patronage by Segment, Passenger Miles & Operating Revenues, 2022**

| | A | B | C | D | E | F | G |
|---|---|---|---|---|---|---|---|
| 1 | Segment, Market(s) | Seg-ment Length, Miles | Annual Passengers on Segment | Average Trip Length | Annual Passenger-Miles | Fare per Passenger -Mile | Operating Revenues (Annual) |
| 2 | **San Jose – Pajaro Segment** | **49.0** | | | | | |
| 3 | San Jose – Gilroy (local trips on segment) | *30.0* | 800,000 | 20.0 | 16,000,000 | $0.25 | $4,000,000 |
| 4 | San Jose – Santa Cruz visitors | | 600,000 | 45.0 | 27,000,000 | $0.25 | $6,750,000 |
| 5 | San Jose – Monterey visitors | | 1,000,000 | 45.0 | 45,000,000 | $0.25 | $11.250,000 |
| 6 | San Jose – Santa Cruz County residents | | 550,000 | 45.0 | 24,750,000 | $0.25 | $6,187,500 |
| 7 | San Jose – Monterey County residents | | 650,000 | 45.0 | 29,250,000 | $0.25 | $7,312,000 |
| 8 | **Total, San Jose – Pajaro Segment** | **49.0** | **3,600,000** | **39.4** | **142,000,000** | **$0.25** | **$35,499,500** |
| 9 | **Pajaro–Santa Cruz Segment** | **20.0** | | | | | |
| 10 | San Jose – Santa Cruz visitors | | 600,000 | 18.0 | 10,800,000 | $0.35 | $3,780,000 |
| 11 | San Jose – Santa Cruz County residents | | 550,000 | 10.0 | 5,500,000 | $0.25 | $1,375,000 |
| 12 | Santa Cruz–Watsonville–Monterey local trips | | 250,000 | 15.0 | 3,750,000 | $0.25 | $937,500 |
| 13 | **Total, Pajaro – Santa Cruz Segment** | | **1,600,000** | **12.5** | **20,050,000** | **$0.304** | **$6,092,500** |
| 14 | **Pajaro – Castroville Segment** | **10.0** | | | | | |
| 15 | San Jose – Monterey visitors | | 1,000,000 | 10.0 | 10,000,000 | $0.25 | $2,500,000 |
| 16 | San Jose – Monterey Peninsula Residents | | 300,000 | 10.0 | 3,000,000 | $0.25 | $750,000 |
| 17 | San Jose – Salinas/N. Monterey Co. residents | | 300,000 | 10.0 | 3,000,000 | $0.25 | $750,000 |
| 18 | Monterey (Salinas) – Santa Cruz Co. local trips | | 509,000 | 10.0 | 5,090,000 | $0.25 | $1,272,500 |
| 19 | **Total, Pajaro – Castroville Segment** | **106.0** | **2,109,000** | **10.0** | **21,090,000** | **$0.25** | **$5,272,500** |
| 20 | **Castroville – Monterey Segment** | **16.0** | | | | | |
| 21 | San Jose – Monterey visitors | | 1,000,000 | 15.0 | 15,000,000 | $0.25 | $3,750,000 |
| 22 | San Jose – Monterey Peninsula residents | | 300,000 | 11.0 | 3,300,000 | $0.25 | $825,000 |
| 23 | Monterey – Watsonville – Santa Cruz local | | 300,000 | 11.0 | 3,300,000 | $0.25 | $825,000 |
| 24 | Monterey – Salinas local trips | | 500,000 | 12.0 | 6,000,000 | $0.25 | $1,500,000 |
| 25 | **Total, Castroville Monterey Segment** | **16.0** | **2,100,000** | **13.1** | **27,600,000** | **$0.25** | **$6,900,000** |
| 26 | **Castroville – Salinas/ N. Monterey Co.** | **11.0** | | | | | |
| 27 | San Jose – Salinas/N. Monterey Co. residents | 11.0 | 300,000 | 11.0 | 3,300,000 | $0.25 | $825,000 |
| 28 | Salinas – Monterey local trips | 11.0 | 200,000 | 11.0 | 2,200,000 | $0.25 | $550,000 |
| 29 | **Total, Castroville – Salinas/N. Monterey Co.** | **11.0** | **500,000** | **11.0** | **5,500,000** | **$0.25** | **$1,375,000** |
| 30 | **Grand Totals** (multiple segments combined) | | **4,159,000** | **56.9** | **216,240,000** | **$0.255** | **$55,139,500** |
| 31 | Estimated Operating Margin | | | | **+29.7%** | | **$12,635,250** |

**Figure A-2 Notes**

- Existing Caltrain diesel trains from San Jose to Gilroy would be replaced by BEMU service to/from the Monterey Bay Area. Thus, local Gilroy to San Jose passengers would be counted in the passenger totals, with higher ridership expected due to proposed 17 daily round trips vs. the 3 provided by Caltrain in 2022.
- Passenger Fare Revenues totals shown in Figure A-2 do not include additional fare revenues that would be generated on connecting services, e.g., Caltrain and the Capitol Corridor north of the San Jose Caltrain/Amtrak station.
- Revenues in Figure A-2 also do not include ancillary revenues such as parking charges, station or on-train advertising, station concessions, etc.
- Figure A-2 shows estimated passenger volumes by each travel market on each segment. For example, there is an estimated total of 600,000 annual one-way trips by visitors from San Jose and points north to Santa Cruz County. These 600,000 trips would use the San Jose-Pajaro segment, and the Pajaro-Santa Cruz segment. Trips by Monterey Peninsula residents to San Jose would use the Monterey-Castroville, Castroville-Pajaro, and Pajaro-San Jose segments. Local passengers traveling between downtown Monterey and downtown Santa Cruz would use the Monterey-Castroville, Castroville-Pajaro, and Pajaro-Santa Cruz segments.
- Estimated passenger-miles on each segment were calculated by applying locations of likely highest patronage on each segment, e.g., for example, not all visitors from San Jose will travel to Santa Cruz, but instead to Aptos, Capitola, or elsewhere; this means an average trip length less than the full length of the Santa Cruz segment.
- Local trips remaining within the Monterey Bay Area between Monterey, Pajaro/Watsonville and Santa Cruz were calculated from the "Around the Bay" rail service as discussed in the *Monterey Bay Area Network Integration Study*, page 13 of ridership forecasting chapter. Estimate for 2032. This market is served on the Santa Cruz-Pajaro, Pajaro-Castroville, and Castroville -Monterey segments, plus connecting shuttle from Salinas at Castroville station. https://www.tamcmonterey.org/files/2b7b66782/TAMC+Ridership+Forecasts_20210322_withSchedules_Final.pdf
- Figure A-2 also assumes that San Jose trains in both directions meet at Pajaro at the same times, facilitating cross-platform connections for local Santa Cruz County–Monterey County travelers. This would also allow major operating cost savings by eliminating need for operation of separate trains to provide local Santa Cruz-Pajaro-Castroville-Monterey service, which would cost another $12-$15 million per year on top of the estimates here.
- The estimate for local passengers between Monterey/Seaside, CSU Monterey (Fort Ord), Marina, Castroville and Salinas are based on current bus ridership on Monterey-Salinas Transit Route 20 between Monterey and Salinas, which averages approximately 2,000 daily trips. This market is served by the Castroville-Monterey and Castroville-Salinas rail segments. It is assumed that Route 20 patronage will recover to its pre-Covid peak by the time rail service is implemented.

Average trip lengths for each rail segment listed in Figures 13 and A-2 were estimated as follows:

- San Jose – Gilroy: 50% of the "local" passengers between San Jose and Gilroy board at Morgan Hill and San Martin.
- San Jose – Pajaro: About 10% of passengers board at three south San Jose stations, reducing average trip length slightly.
- Pajaro – Santa Cruz: About 30%-40% alight at beaches in Aptos, Capitola, and East Santa Cruz. Premium fare on this segment due to direct service to beaches.
- Pajaro – Castroville: No stations on this segment, so 100% of passengers travel the full length.
- Castroville – Salinas: 2.0 trips per year per capita for Salinas, population 150,000.
- Castroville–Monterey: About 10% of riders board/alight in Marina, 7 miles from Castroville. About 20%-30% use Seaside station, 4 miles from downtown Monterey.
- Santa Cruz – Watsonville – Monterey: The Network Integration Study predicts 924,000 annual passengers in the "Around the Bay" market by 2050.

## A.5. Potential Local Rail Ridership: Santa Cruz, Watsonville, and Monterey

In addition to visitor and local traffic on S.F. Bay Area–Monterey Bay Area trains, there is potential local ridership within the Monterey Bay Area. The *Network Integration Study* estimated that there would be 506,300 local trips via 17 daily express bus round trips (60-minute headways) between Santa Cruz, Watsonville, Castroville, and the Monterey Peninsula in 2032. The study estimated that buses would attract about 2/3 of potential ridership of rail. Thus, TRAC estimates that about 759,000 passengers would use 17 local round trips between Santa Cruz, Watsonville, Castroville, and the Monterey Peninsula (506,000 plus 50%) (Figure A-2, Rows 12 + 18 + 23).

## A.6. Potential Local Rail Ridership: Monterey -- Castroville -- Salinas

In addition, there is the potential for local rail ridership between Salinas, Castroville, and the Monterey Peninsula. Monterey-Salinas Transit (MST) Route 20 between Salinas and Monterey currently serves about 2,000 daily riders. This figure is used to estimate local rail ridership on this route (Figure A-2, Rows 24 + 28); many passengers are likely to transfer to/from the remaining MST Route 20 segment between Marina and downtown Salinas.

**From:** Jl Lind <4stars@usa.com>
**Sent:** Tuesday, April 18, 2023 5:32 PM
**To:** Bertaina, Lara E@DOT <lara.bertaina@dot.ca.gov>
**Subject:** The coastal rail trail segment 12 project

**EXTERNAL EMAIL.** Links/attachments may not be safe.

Hello
lara.bertaina@dot.ca.gov.

RE:
The coastal rail trail segment 12 project.

I would like to know when the physical construction on the ( segment 12) Rail Trail is going to start.

The coastal rail trail segment 12 project
From between State Park drive in Aptos and south toward
Rio del Mar boulevard or thereabouts.

I currently use the existing rail trail
And would like to know when they're going to close the Rail trail for construction.

Thank you so much for considering my request.

Kind regards

JJ
Lind
4star@usa.com

I find "Spiritual
Truth"🌵 at:

http://glorytogodmedia.orm
Dr. Randy Brodhagen
🌴"Pastor Randy"🌴

🌴AND🌴

https://tonyevans.org/
🌵Dr. Tony Evens & The Urban Alternative

🌴 AND 🌴

YouVersion Bible App + Audio Bible

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https://www.vcy.tv/

**To:** Bertaina, Lara E@DOT
**Subject:** RE: Cabrillo College Drive Park Ave to Mar Vista

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**From:** Douglas M Thomson Sr. <douglasmthomsonsr1@yahoo.com>
**Sent:** Friday, April 21, 2023 11:06 AM
**To:** Bertaina, Lara E@DOT <lara.bertaina@dot.ca.gov>
**Subject:** Cabrillo College Drive Park Ave to Mar Vista

**EXTERNAL EMAIL.** Links/attachments may not be safe.

To whom it may concern

I own the property near the corner of Park Avenue and Cabrillo College Drive Soquel Ca. The location borders, Soquel, Aptos and Capitol Ca. In the County of Santa Cruz California.

I have witnessed several near miss accidents where pedestrians and cyclist were nearly killed or injured by vehicle driving on the unprotected roadway along the area.

The area is being developed, as the college and my neighbors are adding another 700+ units in the immediate area. This will increase the use of the area significantly. We must act quickly to install the path in order to serve and protect our Citizens.

I propose that a Pedestrian/Bike path with a raised curb along roadways similar to the East and Westcliff path in Santa Cruz County be installed alongside Hwy 1 from Park Avenue to Mar Vista Drive along the Cabrillo College Drive side of Hwy 1 in phase one.

The path would protect our Citizens, decrease vehicle use and allow our Citizens to use the path safely to protect our pedestrians who will walk, hike, and run on the path and our cyclist, e-bike and other modes of transportation will use the path. This will significantly decrease our carbon footprint.

In phase two we could extent the path south to State Park Drive or further south towards Watsonville. In phase three we could install the path north to Soquel Avenue or further north towards Santa Cruz without the need to purchase land. The State, County and our Cities already owns the land along these important roadways.

I had my Traffic and other Engineers review my plan. We find that it is not only feasible that it is also needed if we are going to move forward in our goal to decrease our carbon footprint and increase our use of e-bikes and other environmentally friendly products and services in our State and County.

I hope this information is helpful to you and others working on our very important transportation needs and other services. If you wish to speak with me, please feel free to email or call me @ 916-690-4339 anytime. Have a fantastic year.

***Very Respectfully,***

***Douglas M. Thomson Sr.***

***Retired Distinguished Naval Veteran***

**From:** Larkstone99 <Larkstone99@protonmail.com>
**Sent:** Saturday, April 22, 2023 11:30 AM
**To:** Bertaina, Lara E@DOT
**Subject:** Highway 1 bus on shoulder segment 12 project

**EXTERNAL EMAIL.** Links/attachments may not be safe.

Dear SCCRTC,

I have two big concerns about the bus on shoulder widening project. First, what is their in place to stop frustrated car drivers who are stuck in traffic from illegally using the lane to get around other cars?

And secondly, what if a car breaks down on the side of the highway? What happens then if there no room to move the car or if the car blocks the bus lane, then we are right back where we started?

Sincerely,

Stephanie Tully
Email: Templecat99@gmail.com

Sent from Proton Mail for iOS

**From:** jennifer harris-anderson <buzznjen@comcast.net>
**Sent:** Sunday, April 23, 2023 9:34 AM
**To:** Bertaina, Lara E@DOT
**Subject:** Santa Cruz RTC Developments

EXTERNAL EMAIL. Links/attachments may not be safe.

Kara,

This comment is in regards to Segment 12 of the Santa Cruz Branch Line Rail Trail. As you know, Santa Cruz County is moving toward building a paved trail adjacent to the existing 100-year-old railroad tracks at a cost which rivals that of building a third lane onto Highway One. This is due to the fact that massive amounts of earth need to be excavated, huge concrete retaining walls have to be built, cabled fencing needs to be erected and hundred of mature trees need to be cut. Currently, there is no funding for a train, ridership projections are low, a tax initiative would need to be passed and construction is at best decades away. A feasibility study is due out in about two years that hopefully will definitively assess the practicality of a train. Might it be best to halt the insanely expensive rail trail until the study is finalized and instead remove the tracks and ties (which can be recycled and sold and must be replaced for any future train) and allow for a trail-- paved, graveled or left natural down the center of the corridor so the general public can start using it for recreation and active transportation?

Thank You,

Sincerely,
Frank Anderson
212 16Th Ave
Santa Cruz, Ca. 95062
Cell/text 831-566-2100

**From:** ANDREA RATTO <andrearatto@sbcglobal.net>
**Sent:** Monday, May 1, 2023 3:42 PM
**To:** Bertaina, Lara E@DOT
**Subject:** Hwy 1 Project

EXTERNAL EMAIL. Links/attachments may not be safe.

I don't have any solution to mitigate the environmental impact of this project. Long overdue but will be messy, inconvenient and bog down traffic for the duration. However as a south county commuter I don't understand why the commute south only is mentioned. It is rare that there is a smooth commute north from Watsonville to Santa Cruz at ANY time of day, almost always traffic is backed up and weekends are no exception. Ironically now that city council is approving multiple dense housing projects for our community the additional lane will soon do little to mitigate the traffic jam on Highway 1 with the addition of many more people and cars. I would like to see a head count of how many of you folks orchestrating this project get on the bus every day or ride your bike to your place of work, recreation or shopping. By not providing adequate parking in these structures they may be appropriate for students( whose parents may be the only ones who will be able to afford these overpriced units) but working families need a car and a place to park it without having to pay additional garage fees. I've always used public transportation and continued to while a student at UCSC( bus system great for accessing campus and major arteries). However as a working student there was more flexibility in my time. Families with children do not have that luxury. South county folks think twice about accessing businesses in north county as it's a time suck sitting on the highway belching out exhaust. I drive a hybrid but rarely access Santa Cruz for all of these reasons.

Sent from my iPad

**From:** patrizia2@pacbell.net
**Sent:** Monday, May 8, 2023 3:27 PM
**To:** Bertaina, Lara E@DOT
**Subject:** Rail with Trail - Santa Cruz Co

**EXTERNAL EMAIL.** Links/attachments may not be safe.

Dear Ms Bertaina

RE: proposed Highway 1 Auxiliary Lane and Bus-on-Shoulder Project from Freedom to State Park including Segment 12 of the Coastal Rail Trail

- The back & forth on the rail with trail issue in Santa Cruz County has gone on far too long
- Citizens want this benefit - its time to get it done and ASAP
- The current rail line - a freight railroad - should be kept active so it is not taken away.
- New CA housing legislation mandates new housing to be built along quality public transit lines: Santa Cruz Co. is sorely lacking such transportation benefits
- Without multimodal transportation opportunities - improvements people will be as dependent on cars as they are now
- It would be a waste of time and money to widen Hiway 1 without new longer rail bridges included in the project; otherwise the project would require a re-do which would be a needless duplication of labor and money not to forget a repeat of horrific traffic disruption.

I appreciate your ear - thank you for consideration of my comments.

Sincerely, Patti Brady
500 34th Ave Santa Cruz 95062

**From:** Jane Bruce-Munro <jabrumu@gmail.com>
**Sent:** Monday, May 8, 2023 1:07 PM
**To:** Bertaina, Lara E@DOT
**Subject:** For Rail With Trail, Santa Cruz County

**EXTERNAL EMAIL.** Links/attachments may not be safe.

To whom it may concern:
I've lived and worked in Santa Cruz ever since 1978. I raised my daughter here, and now I'm retired.

I'm writing to say that both Rail AND Trail are very much needed and wanted in our county.

Many, many residents of this county like myself have wanted fully functioning Rail transit AND Trail for many years.

And let me add that we do NOT want the highway widened unless the project includes new longer rail bridges.

Thank you so much for your consideration.

Sincerely,
Jane Bruce-Munro
2627 Mattison Lane, Space 65
Santa Cruz, CA 95062

**From:** david van brink <david.van.brink@gmail.com>
**Sent:** Monday, May 8, 2023 11:57 AM
**To:** Bertaina, Lara E@DOT
**Subject:** SUPPORT santa cruz Hwy 1 Aux Lanes/segment 12/rail/trail

**EXTERNAL EMAIL.** Links/attachments may not be safe.

Hello --
I am David Van Brink and I've lived in Santa Cruz County for over 30 years now.
The current push to expand our transportation beyond car-centrism is exciting!

Caltrans has been amazing. Please continue to support our rail and trail and public transit projects. We love them and know it's the right thing to do.

Also, in particular... Please, please do not remove the rail crossings as part of the Highway 1 Aux Lanes widening. Please, replace and update them. Rail connectivity is precious, and once removed never comes back.

Thank you for all your great work -- David Van Brink

_____
**david van brink / david.van.brink@gmail.com / 831.332.6077**

**From:** Mark Johannessen <mark@johannessenlaw.com>
**Sent:** Tuesday, May 9, 2023 3:33 PM
**To:** Bertaina, Lara E@DOT
**Subject:** Santa Cruz Segment 12 – State Park Drive to Freedom Blvd.

**EXTERNAL EMAIL.** Links/attachments may not be safe.

Dear Ms. Bertaina –

I am a resident of Aptos, California. I am writing in support of the upcoming project in Santa Cruz County for the construction of Highway 1 auxiliary lanes, bus on shoulder, and Coastal Rail Trail Segment 12.

You may know that the issue of the use of the Santa Cruz Branch Line Corridor (SCBLC), which contains a rail line, active in parts, was put to a public vote in June 2022. The measure (Measure D) if passed would have had the tracks removed and a trail alone developed along the SCBLC. That measure was resoundingly defeated (73% opposed - see https://ballotpedia.org/Santa_Cruz_County,_California,_Measure_D,_Branch_Line_Rail_Corridor_Greenway_Trail_Initiative_(June_2022)), with the public expressing extremely strong support for keeping the rail and building the trail concurrent with rail improvements, and plan for electric passenger rail along the rail line.

In October 2021, a demonstration of an electric lightweight streetcar manufactured by TIG-m of Chatsworth, California (https://tig-m.com ) occurred (see https://youtu.be/GlQ8Bz7bspI). During the hugely successful 4-day demonstration, which was approved by local, state and federal authorities, the streetcar carried over 2,100 people over 433 miles on sections of the track in Watsonville and Santa Cruz.

Historically, Santa Cruz was built along the rail line and today about 50% of the county's population lives within ½ mile from the track. This presents incredible transit-oriented development opportunities - housing, businesses, and amenities - within walking distance from the line, aligns with the county's mobility planning, would provide a vital connection with Watsonville residents to allow folks to avoid having to travel on Highway 1 for work or otherwise, and would provide ready transportation for US Santa Cruz students. In addition, with the coordination of the region's bus system, this rail line will be integral to a car-less, carbon-free high-density regional transportation system. The rail system would also connect to the state's rail system in Pajaro as well as connecting with the rail system being developed in Monterey County.

Although this project does not address the rail system directly, the bridges that cross Highway 1, which are a part of this project, do. Because of the pressing need for better regional transportation and housing needs and public support, it is imperative that the bridges to be constructed include a rail line for lightweight electric passenger rail concurrently with trail construction.

Thank you,

Mark Johannessen

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Mark Johannessen, JD, MBA, CPA, CFLS*
Past President, Santa Cruz County Bar Association

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* Family Law Certified Specialist, State Bar of California, Board of Legal Specialization
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**From:** Molly Ording <molly.ording@icloud.com>
**Sent:** Tuesday, May 9, 2023 2:37 PM
**To:** Bertaina, Lara E@DOT
**Subject:** Fwd: HWY 1 Auxiliary Lanes, Bus on Shoulder, Rail Trail Segment 12 Draft EIR

**EXTERNAL EMAIL.** Links/attachments may not be safe.

Sent from my iPhone

Begin forwarded message:

> **From:** Molly Ording <molly.ording@icloud.com>
> **Date:** May 9, 2023 at 1:44:37 PM PDT
> **To:** lara.bertina@dot.ca.gov
> **Subject: HWY 1 Auxiliary Lanes, Bus on Shoulder, Rail Trail Segment 12 Draft EIR**
>
> Good Afternoon Lara:
>
> I am writing to express our STRONG support for the Santa Cruz County's RTC recently released draft EIR on the above much needed and long awaited transportation improvements. We have been long supporters of both the alternative & additional auto & bus traffic options as well as the long awaited and widely supported Segment 12 of the Coastal Rail Trail and the ENTIRE rail trail! I trust ALL members of the RTC will recall the widespread County support for these measures and not be deterred by the few naysaying voices that seemingly are unwilling to accept progress, change, improvements and the vast majority's will of the people!
>
> Please continue your support & study to advance these essential transportation improvements! Our county and its residents are counting on their votes counting and these long awaited transportation improvements, especially the entire rail line, actually moving toward reality…improving all our lives in the future as well as adding more safeguards to our precious environment. Thank you so much for your support.
>
> MOLLY & MICKEY ORDING
> 218 Monterey Avenue
> Capitola, Calif.
>
> 831/334-5559

**From:** Nick Adams <bmovieking@msn.com>
**Sent:** Thursday, May 11, 2023 1:10 PM
**To:** Bertaina, Lara E@DOT
**Subject:** Build segment 12-Santa Cruz County

**EXTERNAL EMAIL.** Links/attachments may not be safe.

Dear Ms. Bertaina,

Please build the Coastal Rail Trail ASAP. Design and build Segment 12 and do NOT widen Highway 1 in Santa Cruz County, unless a new longer rail bridge is included in the project.

Vibrant communities and neighborhoods encourage diversity of all kinds and support public transit. 74% of county voters overwelmingly supported keeping and building the Rail Trail.

Please keep in mind future generations by not holding the young as hostages to our privilege.

Sincerly,

Nick Adams
Capitola, 95010
Santa Cruz County Resident

**From:** Jonathan Goren <jrgoren@ucsc.edu>
**Sent:** Thursday, May 11, 2023 5:31 PM
**To:** Bertaina, Lara E@DOT
**Subject:** DEIR Highway 1 Auxiliary Lanes Project Comment

**EXTERNAL EMAIL.** Links/attachments may not be safe.

Hello,

I am submitting comments for the DEIR Highway 1 State Park Dr to Freedom Blvd Aux Lanes, Bus-on-Shoulder & Coastal Rail Trail Segment 12 Project. I live in Santa Cruz County.

This project claims to improve traffic conditions by widening the highway; however, time and time again studies show that widening highways does not improve traffic conditions. A local example, look at SFStreetsBlog's "Not a Surprise: 101 Freeway Widening Shows Negative Results."

Additionally, California and Santa Cruz County have set climate goals and an important part of meeting climate goals is reducing vehicle miles traveled (VMT). This project increases VMT. The State and County say one thing yet do the complete opposite.

If the State and County want to meet their climate goals and make *substantive changes*, Caltrans and the Santa Cruz County RTC must prioritize the construction Rail Trail from Davenport to Pajaro and especially the **passenger rail service** from West Side Santa Cruz to Pajaro with 15 minute frequencies.

It is truly unfortunate that our transportation planners continue to make choices that benefit the status quo and do not address historically underserved communities and transportation sectors (public transit and active transportation). Transportation planners in the United States have not figured out how to reduce traffic despite decades of experience dating back to the 1950s with the passing of the National Interstate Act and the massive amount of money the United States has granted to highway construction: Provide attractive and functional methods of transportation that are not the car.

Regards,
Jonathan Goren

**From:** Barry Pearlman <pearlman.barry@gmail.com>
**Sent:** Thursday, May 11, 2023 4:32 PM
**To:** Bertaina, Lara E@DOT
**Subject:** Auxiliary Lane on Hiway 1 Santa Cruz

EXTERNAL EMAIL. Links/attachments may not be safe.

Hello- I support the building of an auxiliary lane on Highway 1 in Santa Cruz County from Freedom to State park.
Thank you,
Barry
Pearlman
24 Lower Cutter Drive
Watsonville, CA 95076
(831) 227-9220

**From:** Tina Andreatta <tina.marieotr@gmail.com>
**Sent:** Tuesday, May 16, 2023 10:53 PM
**To:** Bertaina, Lara E@DOT
**Subject:** Preserve, Protect, Design and Build the Coastal Rail with Ultimate Trail

**EXTERNAL EMAIL.** Links/attachments may not be safe.

Dear Ms. Bertaina,

Please steadfastly and swiftly continue designing and constructing the Coastal Rail and Trail through Santa Cruz County with connections to Monterey and San Benito Counties.

Its imperative to keep the rail line active. The rail line must be protected by the STB as a freight railroad.

Highway One must NOT be widened unless new longer rail bridges are built above it.

Please no more studies as this is a deliberate delay tactic by anti-public transit people. The majority of Santa Cruz County residents strongly support rail transit ASAP.

Authentic planning is never about our own generation, always the next. Please remember we must not hold the young as hostages to our privilege.

Sincerely,

Tina Andreatta
Aptos, CA 95003
Santa Cruz County Resident

**From:** Debbie Bohnet <valeriebohnet@gmail.com>
**Sent:** Friday, May 19, 2023 4:02 PM
**To:** Bertaina, Lara E@DOT
**Subject:** Environmental Impact Report/Environmental Assessment - SR 1 Auxiliary Lanes and Bus on Shoulder 'Improvements'
**Attachments:** air pollution uptake.pdf; atmospheric carbon.pdf

**EXTERNAL EMAIL.** Links/attachments may not be safe.

Hello Lara,
I am writing this email to first thank you for your consideration and attention to the recent call you received from me regarding this issue.

In the interest of the point you made regarding the importance of science based decisions please see and review the following attached
articles. In the hope that science does not take a back seat or diminishing strength of process in the current climate of expediency,
and financial interests of those with powerful appetites for progress at the expense of something of such a magnitude of value.

As you put it, "There is too much money involved and at stake". I will add-- For our little lives who will be so profoundly affected to matter.

Best Regards,

Deborah Bohnet
920 Capitola Avenue #19
Capitola, CA 95010

# AIR POLLUTANT UPTAKE BY SACRAMENTO'S URBAN FOREST

by Klaus I. Scott, E. Gregory McPherson, and James R. Simpson

**Abstract.** A dry deposition model was employed to estimate air pollutant uptake by Sacramento's urban forest. Assuming 1990 air pollutant concentrations, model simulations estimated that approximately 1,457 metric tons of air pollutant are absorbed annually, at an implied value of US$28.7 million. The growing season daily uptake for ozone was approximately 2.4 metric tons per day, while particulate matter (< 10 μ diameter, $PM_{10}$) uptake was slightly greater, at 2.7 metric tons per day. Daily uptake of $NO_2$ and particulate matter represented 1% to 2% of anthropogenic emissions for the county. Estimated growing-season annual air pollutant uptake rates averaged 10.9 kg/(ha land area per yr) for the entire study area, 13.9 kg/(ha land area per yr) for urban areas and 4.2 kg/(ha land area per yr) for rural areas. Pollutant uptake rates decreased with decreasing tree canopy cover, along an urban-to-rural gradient.

Tree planting in Sacramento, California, and in other urban areas provides energy and air-quality benefits by direct shading of buildings (reducing energy demand for cooling), by cooling the atmosphere through transpiration of water from leaves, and by the direct absorption of air pollutants by leaf surfaces (Landsberg 1981; Akbari et al. 1992; Rosenfeld et al. 1995; Sailor 1995; McPherson et al. 1994, 1997a, 1997b; Simpson and McPherson 1996; Taha 1996; Simpson 1998). As urban forestry has expanded from the notion of municipal street tree management to urban ecosystem management, new partnerships among local government, electric utilities, and volunteer associations have formed. Local air-quality management districts represent a potential partner to the extent that healthy urban forests provide air-quality benefits. The aim of this research was to produce estimates of both annual air pollutant uptake by Sacramento's urban forest and its economic value. This study was one component of the Sacramento Urban Forest Ecosystem Study (SUFES), whose goal is to determine relationships between urban forest structure and function and associated benefits and costs. These and other SUFES results are being used as inputs for a geo-referenced cost-benefit analysis of the region's urban forest.

## Methods

**Overview.** The Sacramento metropolitan area is a rapidly urbanizing region approximately 120 km (75 mi) northeast of San Francisco, located in California's Central Valley. The air basin is bounded on the east by the Sierra Nevada and on the west by the Coast Range mountains. Topography and meteorological conditions, combined with growing emissions, contribute to episodes of poor air quality. Summer months are warm and virtually cloud-free, with light winds, relative humidities less than 20%, and days that can exceed 38°C (100°F) (NOAA 1990). Prevailing wind direction is southerly, except in spring and autumn, when it is northerly. During warm months, cool oceanic air often flows into the valley through a sea-level gap in the Coast Range, resulting in rapid cooling of the Sacramento area during late afternoon and nighttime hours.

Sacramento County air-quality monitors registered violations of federal (> 0.12 ppm) and California (> 0.09 ppm) standards for ozone ($O_3$) an annual average of 9 and 46 days, respectively, for the period 1990 through 1992 (ARB 1991, 1992, 1993). Federal and state laws allow no more than one event above the hourly standard ("exceedance") at any air monitoring site per year, averaged over 3 years. As a result, the Sacramento area has been designated a "nonattainment area" for both federal and state health-based standards for ozone. Ozone is formed in the atmosphere through photochemical reactions involving precursors such as oxides of nitrogen ($NO_x$), hydrocarbon compounds, and oxygen. In 1990 estimated daily emission of $NO_x$ and hydrocarbons in Sacramento County was 90.9 and 129.0 t, respectively (SMAQMD 1994).

Particulate matter less than 10 μ in diameter ($PM_{10}$) is generated by such processes as agricultural tillage, construction and demolition, road or vehicle wear, fuel combustion, and atmospheric photochemical reactions involving hydrocarbons, $NO_x$, and oxides of sulfur. Because $PM_{10}$ can readily enter respiratory airways, adverse health effects can occur from acute and chronic exposures. Federal and California standards for average daily and annual $PM_{10}$ concentrations were exceeded in each year from 1990 to 1992. In 1990, estimated daily emission of $PM_{10}$ in Sacramento County was 119 t per day (SMAQMD 1995).

Sulfur oxides ($SO_x$), such as sulfur dioxide ($SO_2$), are generated by combustion of sulfur-containing fuels, such as coal or fuel oil, and emitted principally from stationary sources such as electric utilities, smelters, and pulp and paper mills. Sulfur dioxide can be

converted to sulfate aerosols such as sulfuric acid ($H_2SO_4$), a component of acid deposition. Unlike many other urban regions, the Sacramento area has few significant stationary $SO_x$ sources. Home heating-oil combustion and heavy-duty truck operation comprise the main $SO_2$ sources for the county. In 1990, Sacramento County $SO_x$ emissions were 4.2 t per day (SMAQMD, personal communication 1996) and ambient concentrations did not exceed either federal or state $SO_2$ standards.

Trees absorb gaseous pollutants through leaf stomata and bind pollutant particles onto leaf surfaces. When trees absorb gaseous or intercept particulate pollutants without aid of precipitation, it is called "dry deposition." Deposited pollutant gases and particles can be chemically altered by plant tissues and may be metabolized or cause foliar injury (Smith 1978, 1981). Particles can be resuspended by turbulence or other mechanical action. Absorbed pollutants can be deposited to the ground surface as litter or leaf fall.

Air pollutant uptake by Sacramento's urban forest was estimated using canopy cover information from the SUFES project and dry deposition algorithms developed for regional air-quality models (Killus et al. 1984; Wesley 1989; Nowak 1994). Air pollutant deposition to buildings, streets, or other surfaces was neglected. To estimate pollutant uptake by trees, dry deposition model calculations incorporated information about air pollutant concentrations as well as meteorological and urban forest conditions. Hourly meteorological data and air pollutant concentrations, together with canopy cover areas from SUFES, were used as inputs. Model simulations were run for a season corresponding to the period when local deciduous trees are in leaf (March 15 through November 15). Hourly pollutant uptake for ozone ($O_3$), nitrogen dioxide ($NO_2$), sulfur dioxide ($SO_2$), and particulate matter ($PM_{10}$) were summed to yield total monthly and annual estimates of air pollutant removal by trees in the Sacramento area.

(For a complete description of the study area, sampling units, and land-use classes, see pages 175–177 of this issue.)

Emission-control cost factors (dollars per metric ton) were used to estimate economic value of air pollutant uptake by trees. Metric tons of pollutant removed by trees were multiplied by the control-cost factor for the particular pollutant species (Table 1). Control-cost factors were developed by the local air-quality management district (SMAQMD 1993) to determine cost effectiveness of pollutant emission-control technologies. Control-cost factors reflect what local regulators, industry, and other parties have determined to be society's willingness to pay for controlling precursor and pollutant emissions. We assigned the control-cost factor for $NO_2$ to the value of ozone uptake by trees because direct control costs for ozone have not been defined (e.g., ozone is not directly emitted into the atmosphere).

**Deposition.** Dry deposition of an air pollutant to a forest can be expressed as the product of a deposition velocity $V_d$ (cm/s or m/s), a pollutant concentration C ($g/m^3$), the tree canopy coverage for a given land area ($m^2$), and a time step. When the canopy is treated as a single layer, the formulation is sometimes called a "big leaf" model. The deposition velocity is represented as an inverse sum of resistances, $V_d = 1/(r_a + r_b + r_c)$, where $r_a$ and $r_b$ are aerodynamic resistances, and $r_c$ is canopy resistance. Hourly deposition velocities for each pollutant were calculated for the Sacramento area for a base year (1990) growing season (March 15 through November 15) using formulations described in the appendix. Hourly meteorological data for wind speed, solar radiation, and precipitation from a California Department of Water Resources (CDWR) monitoring site in Sacramento County, together with nighttime 3-hourly cloud cover data from a local airport, were used as input data. Hourly pollutant deposition to SubRAD (Sub-Regional Assessment District) canopy areas were then summed to obtain monthly and growing-season annual pollutant deposition.

**Pollutant concentrations.** Hourly concentrations for $NO_2$, $O_3$, and $SO_2$ (ppm), and 24-hour average $PM_{10}$ concentrations ($\mu g/m^3$) were obtained from the U.S. EPA Aerometric Information Retrieval System (AIRS) database for 1990 for 10 monitoring stations throughout Sacramento County. One monitoring station was located in a rural area, whereas others were in urban areas of the county. Seven stations monitored for ozone, 6 for $NO_2$, 7 for $PM_{10}$, and 2 for $SO_2$. Hourly ozone and $NO_2$ concentrations averaged among monitoring

**Table 1. Pollutant uptake by trees (t, metric tons) during the growing season and annual monetary value (in thousands of U.S. dollars) for Sacramento County sectors and entire study area. Estimated tons of pollutant removed by trees was multiplied by 1993 control costs ($/t): $O_3$ = $26,999; $NO_2$ = $26,999; $PM_{10}$ = $11,681; $SO_2$ = $20,167 (SMAQMD 1993).**

| Sector | Ozone | | $NO_2$ | | $PM_{10}$ | | $SO_2$ | | Total | |
|---|---|---|---|---|---|---|---|---|---|---|
| | t | $ | t | $ | t | $ | t | $ | t | $ |
| City | 123.5 | 3,333 | 34.7 | 937 | 126.3 | 1,476 | 4.5 | 90 | 289.0 | 5,836 |
| Suburban | 217.7 | 5,878 | 59.1 | 1,595 | 214.7 | 2,508 | 8.1 | 163 | 499.6 | 10,144 |
| Rural | 261.8 | 7,070 | 54.7 | 1,476 | 338.1 | 3,949 | 14.2 | 287 | 668.8 | 12,782 |
| Study area | 603.0 | 16,281 | 148.4 | 4,008 | 679.1 | 7,933 | 26.8 | 541 | 1,457.4 | 28,763 |

stations in urban areas were used to estimate deposition to the city and suburban sectors. Ozone and $NO_2$ concentrations from the rural monitoring station were used to estimate pollutant deposition to the rural sector. $PM_{10}$ was monitored episodically (approximately one 24-hour period every 6 days) and on different days throughout the study area. Average monthly concentrations for the urban stations were used to estimate $PM_{10}$ deposition to the city and suburban sectors, while average monthly concentrations from the single rural site were used to estimate particulate deposition to the rural sector. Sulfur dioxide was monitored in only 2 urban sites. Having no other option, we assumed $SO_2$ to be homogeneously distributed throughout the study area.

Pollutant concentrations in Sacramento in 1990 were typical of concentrations for the period 1989 to 1992. For the growing season, $O_3$ concentration between 1500 and 1600 hours averaged 0.061 ppm, with higher average hourly concentrations occurring in July (0.079 ppm), August (0.771 ppm), and September (0.071 ppm). Lowest average hourly afternoon concentrations occurred in March (0.048 ppm) and November (0.045 ppm). In Sacramento County, the 0.12 ppm National Ambient Air Quality Standard (NAAQS) for ozone was exceeded 15 times between June and September (ARB 1991). The growing-season $NO_2$ concentrations averaged 0.017 ppm in the morning hours and 0.023 ppm in the afternoon. The average hourly concentrations were highest in October (0.030, 0.045 ppm) and November (0.029, 0.044 ppm), occurring from 700 to 900 hours and from 1700 to 1900 hours. Monthly $PM_{10}$ concentrations averaged 33 $\mu g/m^3$, while peak concentrations during the growing season occurred in September (39 $\mu gm/^3$), October (44 $\mu g/m^3$), and November (60 $\mu g/m^3$). The growing season average hourly $SO_2$ concentration was low—0.001 ppm.

## Results and Discussion

Total estimated pollutant uptake by Sacramento's urban forest was 1,457 metric tons (t) (1 t = 1,000 kg). Ozone and $PM_{10}$ had the highest removal rates (Table 1). Peak monthly removal rates for ozone occurred in April and May (83.2 and 83.8 t) and for $PM_{10}$ in September and October (119.7 and 130.2 t). Average growing-season daily uptake for all pollutants combined was approximately 5.9 t per day, with ozone and $PM_{10}$ at approximately 2.4 and 2.7 t per day. Average daily uptake of $NO_2$ was approximately 0.6 t per day, which is approximately 1% of the daily anthropogenic oxides of nitrogen emissions in Sacramento County (assuming $NO_x$ is converted to $NO_2$) (ARB 1995). Daily removal of $SO_2$ (0.11 t/day) and particulate matter by trees represented approximately 3% and 2% of the daily anthropogenic $SO_2$ and $PM_{10}$ emissions, respectively, for Sacramento County (ARB 1995).

Because daytime deposition velocities were greater in April than in August, maximum ozone uptake occurred in April, even though ozone concentrations were greater in August. Moderate daytime air temperatures in April (~23°C [~73°F] compared to 32°C [90°F] in August) resulted in bulk canopy stomatal resistances ($r_s$) of approximately 2.5 s/cm from 1200 to 1500 hours, whereas the August daytime $r_s$ averaged 20.3 s/cm. Combined with other resistance components, bulk canopy resistance ($r_c$) for April averaged 157.8 s/cm from 1200 to 1500 hours, half that of the August $r_c$ (248.3 s/cm). Resulting deposition velocities for ozone during the hours 1200 to 1500 ranged from 0.60 to 0.54 cm/s in April (averaging 0.57 cm/s), a factor of 1.27 greater than deposition velocities in August (0.48 to 0.43 cm/s). For the same daytime period, April ozone concentrations (~0.049 ppm) were 16% lower than August ozone concentrations (~0.058 ppm). Taken together, these two factors account for much of the higher April uptake, compared to August. For example, ozone deposition to the city sector in April was approximately 15.9 t, whereas deposition in August was 14.7 t ($14.7\ t \times 1.27 \times 0.84 \approx 15.7\ t$).

Ozone and $NO_2$ concentrations at the rural monitoring station were, on average, 19% and 29% lower, respectively, than concentrations in urban areas. As a result, deposition to the rural sector was slightly less than deposition to combined city and suburban sectors (Table 1), even though total canopy cover area was greater in the rural sector than combined city and suburban sectors (Table 2).

Annual $PM_{10}$ deposition to combined city and suburban sectors (341 t) was nearly equivalent to deposition for the rural sector (338.1 t) (Table 1). Differences between monthly urban and rural $PM_{10}$ concentrations used in deposition calculations were small for most of the growing season. However, in March the average hourly $PM_{10}$ concentration for combined city and suburban sectors was 29 $\mu g/m^3$ and in October the average was 52 $\mu g/m^3$. Rural sector concentrations for these 2 months were 21 and 43 $\mu g/m^3$, respectively. Because $PM_{10}$ concentrations were roughly equivalent for much of the growing season, deposition to the rural sector could have been greater due to greater total canopy cover. However, lower surface roughness $z_o$ (Table A1; see appendix) in the rural area contributed to greater aerodynamic resistance, thereby reducing deposition velocities. For example, the October average hourly deposition velocity for particulates in the city sector between 1100 and 1700 hours was 1.3 cm/s (suburban sector average was 1.2 cm/s), while the rural $V_d$ average was 1.1 cm/s. Hence, the

**Table 2. Tree canopy cover (ha, hectares) and growing-season air pollutant deposition (t, metric tons) by land use for Sacramento County sectors and entire study area.**

| | City | | | Suburban | | | Rural | | | Study area | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Land Use | ha | %[w] | t | ha | %[x] | t | ha | %[y] | t | ha | %[z] | t |
| Residential-Low | 1,725 | 56.1 | 162.0 | 3,475 | 60.7 | 303.4 | 748 | 7.3 | 48.8 | 5,948 | 31.2 | 514.3 |
| Residential-High | 154 | 5.0 | 14.4 | 182 | 3.2 | 15.9 | 15 | 0.1 | 1.0 | 350 | 1.8 | 31.3 |
| Comm./Indus. | 250 | 8.1 | 23.5 | 186 | 3.2 | 16.2 | 165 | 1.6 | 10.8 | 601 | 3.2 | 50.5 |
| Institutional | 449 | 14.6 | 42.2 | 814 | 14.2 | 71.1 | 446 | 4.3 | 29.0 | 1,709 | 9.0 | 142.3 |
| Transportation | 83 | 2.7 | 7.7 | 15 | 0.3 | 1.3 | 18 | 0.2 | 1.1 | 115 | 0.6 | 10.2 |
| Agriculture | 21 | 0.7 | 2.0 | 82 | 1.4 | 7.2 | 2,559 | 24.9 | 166.8 | 2,662 | 14.01 | 75.9 |
| Vacant/Wild | 396 | 12.9 | 37.2 | 967 | 16.9 | 84.5 | 6,310 | 61.5 | 411.3 | 7,673 | 40.35 | 33.0 |
| **Total** | **3,078** | | **289.0** | **5,721** | | **499.6** | **10,261** | | **668.8** | **19,058** | | **1,457.4** |

[w,x,y]Calculated as the total canopy cover for a given land-use category, divided by the total canopy cover of the sector.
[z]Calculated as the total canopy cover for a given land-use category summed over city, suburban, and rural sectors, divided by the total canopy cover of the entire study area.

rural sector canopy cover advantage (factor = 1.16) is nearly canceled out by decreased deposition velocities (factor = 1.3/1.1 = 1.18). Slightly greater $PM_{10}$ deposition to combined city and suburban sectors may then be due to higher March and October $PM_{10}$ concentrations.

Sulfur dioxide deposition to the rural sector was approximately 12% greater than deposition to urban sectors. Because $SO_2$ was assumed to be homogeneously distributed throughout the study area, the difference in total deposition may be attributed to the greater overall canopy cover area in the rural sector (10,261 ha, Table 2), offset by smaller deposition velocities due to greater aerodynamic resistance for the rural sector. Average hourly deposition velocities between 1100 and 1700 hours in April, when monthly $SO_2$ uptake was greatest, for the city, suburban, and rural sectors were 0.46, 0.44, and 0.43 cm/s, respectively.

Total monetary value of pollutant removal (Table 1) was estimated to be US$28.7 million ($1,500/[ha tree cover per yr]). The highest value was for ozone removal (57% of the total value) followed by $PM_{10}$ (27%). With an estimated 6 million trees in the Sacramento area (McPherson 1998), the annual air pollutant removal benefit is approximately $5 per tree per year. Distribution of economic benefit by sector follows the distribution of pollutant deposition by canopy cover (Table 2). For example, due to higher pollutant concentrations in urban areas, monetary value of $NO_2$ and ozone uptake is greater in combined city and suburban sectors than in the rural sector. On the other hand, economic values of $PM_{10}$ uptake in the urban and rural sectors are comparable, while $SO_2$ uptake is slightly greater in the rural sector due to greater canopy cover and assumed homogeneous distribution of $SO_2$.

**Pollutant deposition by land use.** Over half of the tree cover in city and suburban sectors is located in the residential low-density land-use category (Table 2). Another 27% to 30% of the tree cover is in the institutional and vacant/wild categories (McPherson 1998). Consequently, it is estimated that over 80% of pollutant deposition to trees in city and suburban sectors occurs in these 3 land-use categories. Over half the tree cover in the rural sector is located in the vacant/wild category, with another 25% in agriculture. Similarly, the bulk of pollutant deposition to trees in the rural sector occurs in these land-use categories. It is not surprising that low-density residential areas in city and suburban sectors contain a large fraction of the sector's canopy cover. It is surprising that natural and unmanaged areas (e.g., vacant/wild) comprise another major portion of "urban" forest cover, nearly equal to that of institutional lands. This is because vacant/wild lands include riparian corridors, which are present along the American River and numerous creeks, streams, sloughs, and canals throughout the urbanized Sacramento area.

Normalizing total annual deposition to trees by land area results in deposition rates (kg/[ha per yr]) by SubRAD, sector, or land use. The deposition rate reflects the distribution of canopy cover across land uses, as well as surface roughness and pollutant concentrations. Annual pollutant deposition rates by SubRAD and sector land use are shown in Figure 1 and Table 3.

Deposition rates are greatest in a transect from residential Sacramento city neighborhoods and along a northeast corridor between highways I-80 and US 50. Estimated deposition rates in the city and suburban sectors are greatest in the residential low-density, residential high-density, and institutional land-use categories (Table 3). Although vacant/wild lands are areally extensive and contain between 13% and 17% of city and suburban canopy cover (Table 2), they are characterized by relatively open "oak savanna"

woodlands (with the exception of riparian habitat). As a result, deposition rates for city and suburban sectors' vacant/wild lands are less than those of the more densely tree-covered residential and institutional land uses.

These estimated annual pollutant deposition rates are in agreement with simulations for other urban areas. For example, pollutant deposition rates for the Chicago, Illinois, area were estimated to range between 9.7 and 19.4 kg/(ha land area per yr) (Nowak 1994). For the Sacramento study area, deposition rates averaged 10.9 kg/(ha land area per yr). Estimated annual ozone deposition rate per ha of *tree cover* for the Sacramento area (40.1 kg/[ha tree cover per yr]) was greater than the rate estimated for the Chicago study area (30.7 kg/[ha tree cover per yr]) by a factor of 1.3. Longer local foliation period and greater pollutant concentrations may contribute to the higher estimate for Sacramento. The growing season for Sacramento (246 days) exceeds Chicago's (May 1 through October 31, 184 days) by a factor of 1.3. Summer daytime peak ozone concentrations for Sacramento averaged 0.061 ppm, a factor 1.4 greater than the Chicago average (~0.043 ppm). Taken together, pollutant uptake rates for the Sacramento area might be expected to exceed rates for the Chicago area by a factor of 1.8 (1.3 × 1.4). However, the hourly-varying daytime canopy resistances of the present model were somewhat greater than the constant values used in the Chicago study. Therefore, resulting deposition velocities with this model may be less than those computed using constant $r_c$ values. Extended foliation period and higher pollutant concentrations could presumably result in greater deposition rates for urban forests in other regions, such as the Los Angeles, California, basin.

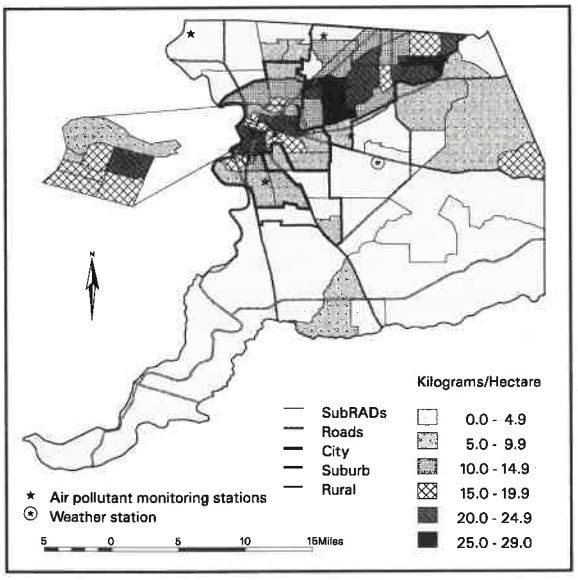


**Figure 1. Estimated annual air pollutant uptake by Sacramento County's urban forest.**

Due to differences in total canopy cover area, estimated total annual pollutant uptake for Sacramento (1,457 t) is approximately 25% of that estimated for the Chicago study area (5,575 t). Canopy cover for the Chicago study area was estimated at 19% of the 3,350 km² land area (e.g., 65,000 ha), which is approximately a factor 3.4 greater than the estimated canopy cover for the Sacramento area (19,000 ha). Although canopy cover and estimated total pollutant uptake are greater for the Chicago study area, the estimated monetary value of air pollutant uptake by trees in the Sacramento area (US$28.7 million) is 3 times greater than Chicago's due to differences in control-cost pricing for the individual pollutants. For example, $PM_{10}$ uptake by trees in the Chicago and suburban Cook County area (2,479 km² [953 mi²], similar to the SUFES study area) was estimated at 1,391 t for a value of $2 million ($1,441/t). By contrast, total $PM_{10}$ uptake by trees in the SUFES study area (679.1 t) is approximately half that for the Chicago and suburban Cook County area, but local control cost ($11,681 t) is 8.1 times greater. Taken together, the value of $PM_{10}$ uptake ($7.9 million) by Sacramento trees is 4 times greater than the estimate for the Chicago and suburban Cook County area.

**Sources of uncertainty and model limitations.** Pollutant deposition estimates are sensitive to uncertainties associated with canopy resistance, particle resuspension rates, and inhomogeneities in the spatial distribution of air pollutants. Our use of canopy

**Table 3. Air pollutant deposition rate (kg/[ha land area per yr]) by land use for Sacramento County sectors and entire study area.**

| Land Use | City | Suburban | Rural | Study area |
|---|---|---|---|---|
| Residential-Low | 18.6[w] | 17.4 | 5.1 | 14.4[x] |
| Residential-High | 14.2 | 10.6 | 5.5 | 11.7 |
| Comm./Indus. | 6.1 | 4.0 | 2.5 | 4.1 |
| Institutional | 14.8 | 21.8 | 4.0 | 10.6 |
| Transportation | 8.0 | 2.5 | 0.5 | 2.8 |
| Agriculture | 1.0 | 4.8 | 1.8 | 1.8 |
| Vacant/Wild | 9.0 | 9.5 | 5.1 | 5.7 |
| Sector | 12.2[y] | 13.5 | 3.4 | 5.7[z] |

[w]Calculated as the pollutant deposition for a given land-use category, divided by the area of the land-use category.
[x]Calculated as the pollutant deposition for a given land-use category summed over city, suburban, and rural sectors, divided by the total area of the land-use category.
[y]Calculated as the total pollutant deposition in a given sector, divided by the total land area of that sector.
[z]Calculated as the total pollutant deposition for the entire study area, divided by the total land area.

resistance for deciduous forests may overpredict daytime canopy resistance for well-watered urban trees. In the present model, bulk canopy stomatal resistance ($r_s$) increases with temperature. However, leaf stomata of urban trees with abundant water sources may remain open, in contrast to natural forest stands, which may become water stressed. As a result, deposition to urban forests during warm periods might be underestimated. On the other hand, Massman et al. (1994) found that the Wesley algorithms underpredicted ozone canopy resistance for California Central Valley crops by a factor of 1.4 to 2, which suggests possible overestimation of ozone deposition. An additional source of uncertainty associated with canopy resistance is local climate effects. In the present model, we have employed hourly meteorological data from a single station, which may not be representative of conditions in local atmospheric surface layers.

Other sources of uncertainty are canopy resistance parameter inputs based upon land use (Table A2; see appendix). By using parameters for deciduous forests, we have assumed that the urban forest has a closed canopy and is horizontally homogeneous at scales of several kilometers. Alternatively, urban forests may be better characterized as well-watered "sparse canopies," comprising patches or stands of trees, impervious surfaces (streets and buildings), turf, and dispersed, open-grown individual trees. Bulk canopy or surface resistances for urban forests are currently unavailable.

Factors that influence particulate dry deposition include atmospheric characteristics (e.g., turbulence), surface properties (e.g., canopy architecture, roughness, albedo, wetness, chemical reactivity), and properties of the depositing particle species (size, mass, chemical composition). Particle resuspension is also influenced by these factors (Davidson and Wu 1990). Based on limited literature for open-grown urban tree canopies (Dochinger 1980; Nowak 1994) we assumed a 50% resuspension rate as a base case. Resuspension rates may range from 20% (resulting in an underestimate by a factor of 1.6 from the base case) to 80% (causing an overestimate by a factor of 2.5 from the base case). In this model, we have assumed that $PM_{10}$ deposition in the Sacramento area is comprised of relatively large particles, characteristic of fugitive dust from roads, construction, and agricultural activities. Smaller secondary aerosols ($PM_{2.5}$) are produced by photochemical reactions involving $NO_x$, $SO_x$, and hydrocarbons and comprise a significant portion of the overall mass of particulate pollution in urban areas. So-called *process-oriented* models, which treat particle removal processes as a function of particle size, will be required to model deposition of both $PM_{10}$ and $PM_{2.5}$ to urban forests, rather than the *bulk-resistance-oriented* model employed in this work (Ruijgrok et al. 1995).

Another source of uncertainty is the inhomogeneity of the pollutant field. Pollutant concentrations are influenced by such factors as prevailing winds and transport from nearby pollutant sources. Monitoring stations are generally located in populated areas to detect elevated concentrations or violations of ambient air-quality standards (ARB 1994). Extrapolation of monitoring station concentrations to distant canopy areas may then result in over estimations of pollutant dry deposition.

In this analysis, we applied the $NO_2$ control cost to the value of ozone uptake by the urban forest. This method is problematic because it treats ozone as a primary pollutant and neglects photochemical reactions involved in the formation of ozone. In addition, biogenic hydrocarbon emissions from trees (BVOCs), not considered here, play a role in ozone formation (Corchnoy et al. 1992; Winer et al. 1995; Benjamin et al. 1996; Guenther et al. 1996). An alternative valuation scheme could involve estimating urban forest BVOC emissions and adjusting associated BVOC emission cost with a correction factor representing a ratio of ozone uptake to ozone produced as a result of BVOC emissions. The interaction of urban forests with climate and photochemical air pollution has been investigated for the Atlanta, Georgia, and Los Angeles, California, metropolitan areas using photochemical and mesoscale meteorological models (Cardelino and Chameides 1990; Rosenfeld et al. 1995; Sailor 1995; Taha 1996). These efforts will benefit from improved algorithms for the representation of dry deposition to urban vegetation and the emission of BVOCs. Modeled BVOC emissions will also be influenced by a better understanding of urban forest canopy structure and the distribution of foliar biomass. By altering urban heat islands, urban forests may affect wind fields and convergence/divergence zones and thereby the distribution of both air pollutants and precipitation. In turn, by intercepting precipitation, urban forest canopies may alter stormwater runoff and water quality, as deposited pollutants drip or flow to the ground, in ways not explicitly treated in current urban hydrologic models (Xiao et al. 1998). Urban forests may then provide benefits for nonpoint-source water pollution and urban stormwater management.

## Summary

A dry deposition model has been applied to estimate air pollutant deposition to Sacramento's urban forest. Assuming 1990 pollutant concentrations, approximately 1,457 t of air pollutants were absorbed by trees throughout the study area, at an implied value of US$28.7 mil-

lion. Pollutant uptake by trees represented 1% to 2% of anthropogenic emissions for such pollutants as $NO_x$ and $PM_{10}$. Urban land uses with the highest rates of pollutant uptake included residential areas, institutions (e.g., parks, campuses), and vacant, unmanaged, or natural areas. Furthermore, the institutional, commercial/industrial, and vacant/wild land uses for the city and suburban sectors also have high potential for additional tree planting (McPherson 1998). Unlike urban areas in the midwest or eastern United States, canopy cover in the Sacramento area *decreases* along an urban-to-rural gradient. Therefore, estimated pollutant uptake rates per unit land area were highest for residential and institutional land uses, compared to natural or unmanaged lands. Possible management implications of these estimates are that air pollutant uptake benefits from tree planting may be optimized by planting in areas where air pollutant concentrations are elevated and where relatively high planting densities can be achieved. Trees are an integral component of the complex web of roads, buildings, and waterways that comprise the urban ecosystem. Knowledge about their role in urban ecosystems will help to inform ecosystem management and enhance the health of urban dwellers.

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## Appendix: Summary of the Dry Deposition Model

Dry deposition is defined as the product of a deposition velocity $V_d$ (cm/s or m/s), a pollutant concentration C (g/m$^3$), canopy area (m$^2$), and a time step (Killus et al. 1984; Nowak 1994). By analogy with Ohm's Law, deposition velocity is defined as the inverse sum of a series of resistances, $V_d = 1/(r_a + r_b + r_c)$, where $r_a$ is aerodynamic resistance, $r_b$ is quasi-laminar boundary-layer resistance, and $r_c$ is the canopy resistance (Baldocchi et al. 1987). Aerodynamic resistance, $r_a$, is expressed as

$$r_a = \frac{u(z)}{u_*^2}$$

where u(*z*) is the wind speed (m/s) at height *z* (defined as 10 m above a zero-plane displacement length, e.g., $z - d = 10$), and $u_*$ is the frictional velocity (m/s). Resistance $r_b$ is expressed as

$$r_b = B^{-1} u_*^{-1}$$

where $B^{-1} = 2.2^{-1/3}$ The frictional velocity $u_*$ (m/s) is

$$u_* = \frac{ku(z-d)}{\ln\left[\frac{(z-d)}{z_o}\right] - \Psi_m\left[\frac{(z-d)}{L}\right] + \Psi_m\left[\frac{z_o}{L}\right]}$$

where $\Psi_m$ is the dimensionless stability function for momentum, *k* is von Karman's constant (0.4), *d* is a zero-plane displacement length, $z_o$ is an aerodynamic roughness length for the 3 sectors (city, suburban, rural), and *L* is the Monin-Obukhov length (m) (van Ulden and Holtslag 1985). *L* was estimated by classifying hourly meteorological data (solar radiation, wind speed, nighttime cloud cover) using an automated look-up table to estimate 1/*L* as a function of Pasquill classes (Golder 1972; Gifford 1976). Nine stability classes were used. When atmospheric conditions are unstable ($L \leq 0$), the function $\Psi_m$ (van Ulden and Holtslag 1985) is

$L \leq 0$:

$$\Psi_m = 2\ln\left[\frac{(1+X)}{2}\right] + \ln\left[\frac{(1+X^2)}{2}\right] - 2\tan^{-1}(X) + \frac{\pi}{2}$$

where the dimensionless *X* (Dyer and Bradley 1982) is

$$X = \left(1 - 28\frac{z}{L}\right)^{0.25}$$

When conditions are stable ($L > 0$), the function $\Psi_m$ (van Ulden and Holtslag 1985) is

$$L > 0:$$

$$\Psi_m = -17\left[1 - \exp\left(-0.29\frac{(z-d)}{L}\right)\right]$$

Surface morphology from SUFES was used to estimate surface roughness ($z_o$) for each sector by land use. Land use was determined through aerial photo interpretation and ground sampling. Tree dimensions were determined from SUFES measurements of trees within 675 randomly distributed 100 m² plots (McPherson 1998). The formulation of Lettau (1969) was used to estimate surface roughness due to trees:

$$z_o = c_2 h \lambda$$

where $c_2$ is a constant (≈0.5), $h$ is an average height of roughness elements (trees) in the area of interest (e.g., sector land use), and $\lambda$ is a roughness density, defined as a ratio of average silhouette area of obstacles in the area of interest to average lot area. Average lot area is defined as the quotient of total area over which the elements are being considered (e.g., sector land use), divided by the number of elements within the area of interest. Tree height and crown silhouette area were determined from measurements taken of trees located in the plots. Tree silhouette area was calculated using formulas for cylindrical, paraboloid, and ellipsoid crown geometries. Building roughness values for Sacramento land-use categories were adapted from Myrup and Morgan (1972). Sector composite roughness values were derived by selecting the greatest of 2 values of roughness length $z_o$ (buildings or trees) and weighting the selected value by the corresponding land use area percentage (Table A1).

Canopy or surface resistance ($r_c$) was parameterized following formulations of Wesley (1989) as

$$r_c = \left[\frac{1}{(r_s + r_{mx})} + \frac{1}{r_{lux}} + \frac{1}{(r_{dc} + r_{clx})} + \frac{1}{(r_{ac} + r_{gsx})}\right]^{-1}$$

Bulk canopy stomatal resistance $r_s$ is represented as

$$r_s = r_i\left(1 + \left[200(G + 0.1)^{-1}\right]^2\right)\left(400\left[T_s(40 - T_s)\right]^{-1}\right)$$

where $r_i$ is a minimum stomatal resistance for water vapor, $G$ is solar radiation (W/m²), and $T_s$ is the air temperature near the surface (°C) between 0°C and 40°C. Bulk canopy stomatal resistance is set to a large value when temperatures are outside this range, based on the assumption that stomatal uptake is reduced. At nighttime, bulk canopy stomatal resistance is also set to a large value.

A combined minimum stomatal and mesophyll resistance for a pollutant gas $x$ is represented as

$$r_{smx} = r_s \frac{D_{H_2O}}{D_x} + r_{mx}$$

where $D_x$ is the molecular diffusivity of pollutant gas $x$ in air, $D_{H_2O}$ is the molecular diffusivity of water vapor, and $r_{mx}$ is the mesophyll resistance for the gas of interest.

The mesophyll resistance for gas $x$ is computed as

$$r_{mx} = \left(H^*/3000 + 100 f_0\right)^{-1}$$

where the parameter $H^*$ is an effective Henry's Law constant, and $f_0$ is a reactivity factor. The 2 parameters represent parallel diffusion pathways to extracellular water within leaf stomata and are used to scale the uptake rates. Parameters $H^*$ and $f_0$ are also used in expressions for the resistances $r_{lux}$, $r_{clx}$, and $r_{gsx}$. The resistance $r_{lux}$ represents outer surfaces of the upper canopy. Deposition pathways to leaves and stems in the subcanopy are represented by $r_{clx}$. Deposition to the "ground" surface (e.g., leaf litter, soil) is represented by $r_{ac}$ and $r_{gsx}$. Resistances $r_{lux}$, $r_{clx}$, and $r_{gsx}$ are computed as

$$r_{lux} = r_{lu}\left(10^{-5} H^* + f_0\right)^{-1}$$

$$r_{clx} = \left[H^*/\left(10^5 r_{clS}\right) + f_0/r_{clO}\right]^{-1}$$

$$r_{gsx} = \left[H^*/\left(10^5 r_{gsS}\right) + f_0/r_{gsO}\right]^{-1}$$

where $r_{clO}$, $r_{clS}$, $r_{gsO}$, and $r_{gsS}$ are reference resistances corresponding to those for $O_3$ and $SO_2$.

Buoyant convection and slope effects in plant canopies are represented by the resistance $r_{dc}$ given by

$$r_{dc} = 100\left[1 + 1000(G + 10)^{-1}\right](1 + 1000\theta)^{-1}$$

where θ (radians) is the slope of the local terrain. In the present model, we let $\theta = 1.66 \times 10^{-3}$, representing a transect extending from a National Weather Service observing station just south of the downtown area to an air pollutant monitoring station 28.2 km (10.8 mi) to the northeast. Input parameters and resistances are listed in Table A2.

Canopy resistance for particles ($PM_{10}$) was estimated based upon an average deposition velocity minus an average $r_a$ and $r_b$. In a field experiment of particle interception by open-grown tree stands, Dochinger (1980) reported resuspension rates ranging from 20% to 80%. For trees in Sacramento, a 50% resuspension rate was chosen as a midvalue. Particle interception by evergreen trees and deciduous tree stem surfaces during fall and winter months was neglected. Hourly deposition velocities for each pollutant were calculated using estimates for $r_a$, $r_b$, and $r_c$. Deposition velocities were set equal to zero during periods of precipitation (the CDWR monitoring station registered approximately 137.2 mm (5.4 in.) of precipitation during the growing season).

**Acknowledgments**. The authors thank Coe Owen (US Environmental Protection Agency, Region 9), Mark Ott (Sacramento Metropolitan Air Quality Management District), and Jim Goodridge (California Department of Water Resources), who provided air quality and meteorological data. Thanks also to William Massman (USDA-Forest Service) and Bruce Jackson (California Air Resources Board), who reviewed earlier versions of this manuscript.

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**Table A1. Surface roughness ($z_o$) due to buildings and trees, for sectors by land use.**

| | | City | | | Suburban | | | Rural | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Bldgs only | Land area | Trees only | Selected | Land area | Trees only | Selected | Land area | Trees only | Selected |
| *Land use* | $Z_o$ *(m)* | *%* | $Z_o$ *(m)* | $Z_o$ *(m)* | *%* | $Z_o$ *(m)* | $Z_o$ *(m)* | *%* | $Z_o$ *(m)* | $Z_o$ *(m)* |
| AG | 0.02 | 10.7 | 0.00 | 0.02 | 1.5 | 0.00 | 0.02 | 42.5 | 0.00 | 0.02 |
| CI | 0.25 | 14.0 | 0.51 | 0.51 | 10.3 | 0.30 | 0.30 | 4.2 | 0.10 | 0.25 |
| IN | 0.08 | 16.0 | 1.04 | 1.04 | 15.6 | 0.35 | 0.35 | 5.5 | 2.88 | 2.88 |
| RH | 1.20 | 5.4 | 3.42 | 3.42 | 6.1 | 1.54 | 1.54 | 0.1 | 0.00 | 1.20 |
| RL | 0.36 | 38.6 | 1.98 | 1.98 | 51.2 | 0.86 | 0.86 | 6.5 | 0.25 | 0.36 |
| TR | 0.04 | 6.1 | 0.02 | 0.04 | 1.4 | 0.00 | 0.04 | 1.1 | 0.00 | 0.04 |
| VW | 0.02 | 9.3 | 0.26 | 0.26 | 13.9 | 0.94 | 0.94 | 40.1 | 0.78 | 0.78 |
| **Composite** | | | | **1.21** | | | **0.75** | | | **0.51** |

**Table A2. Input parameter values for canopy resistance.**

| (s/m ) | $r_i$ | $r_{lu}$ | $r_{ac}$ | $r_{gsS}$ | $r_{gsO}$ | $r_{clS}$ | $r_{clO}$ |
|---|---|---|---|---|---|---|---|
| Input resistances | 70 | 2000 | 2000 | 500 | 200 | 2000 | 1000 |
| | | $O_3$ | | $NO_2$ | | $SO_2$ | |
| $D_{H2O}/Dx$ | | 1.6 | | 1.6 | | 1.9 | |
| $H^*$ | | 0.01 | | 0.01 | | $1 \times 10^5$ | |
| $f_0$ | | 1 | | 0.1 | | 0 | |

$r_i$ minimum stomatal resistance for water vapor.
$r_{lu}$ upper canopy, outer surface resistance.
$r_{ac}$ resistance due to canopy height, density.
$r_{gsS}$ resistance to $SO_2$ uptake at the ground surface.
$r_{gsO}$ resistance to $O_3$ uptake at the ground surface.
$r_{clS}$ resistance to $SO_2$ uptake in lower canopy.
$r_{clO}$ resistance to $O_3$ uptake in lower canopy.
$D_{H2O}/D_x$ ratio of molecular diffusivities for water vapor and gas "x".
$H^*$ effective Henry's Law values for water with near-neutral pH.
$f_0$ reactivity factor.

**Résumé.** Un modèle de déposition des poussières a été employé pour estimer la quantité de polluants atmosphériques captés par la forêt urbaine de Sacramento. En se basant sur les concentrations de polluants atmosphériques de 1990, les simulations avec le modèle ont permis d'estimer qu'approximativement 1457 tonnes métriques de polluants sont absorbées annuellement, soit une valeur implicite de $28,7 millions. Durant la saison de croissance, il se capte quotidiennement 2,4 tonnes métriques en ozone alors que pour les poussières il est de 2,7 tonnes. Le captage quotidien en $NO_2$ et $PM_{10}$ représente 1 à 2% des émissions totales dans le comté. Les taux moyens annuels de captage des poussières durant la saison de croissance sont estimés à 10,9 kg/ha de terrain par an pour le territoire entier, à 13,9 kg/ha par an pour les zones urbaines et à 4,2 kg/ha par an pour les zones rurales. La distribution spatiale des taux de captage des polluants décroît avec la densité du couvert arboré des zones urbanisées vers les zones rurales. Les conséquences sur la gestion de l'aménagement des forêts urbaines en regard de la qualité de l'air sont discutées.

**Zusammenfassung.** Um die Aufnahme von Luftverunreinigungen zu schätzen, wurde ein Modell eingesetzt, welches die Verunreinigungen im Trockenverfahren aufnimmt. Unter Voraussetzung einer Luftverschmutzungskonzentration 1990, ergab die Modellsimulation eine jährliche Aufnahme von schätzungsweise 1,457 t mit einme Wert von ca US$28,7 Millionen. Die Tägliche Ozonaufnahme während der Wachstumsperiode betrug ca. 2,4 t pro Tag, während die Aufnahme von festen Teichen etwas größer (2,7 pro Tag) war. Die tägliche Aufnahme von $NO_2$ und $_{PM}10$ repräsentiert 1–2 % der Emissionsmessungen für den Bezirk. Die geschätzte jährliche Aufnahme von Luftverunreingungen während der Wachstumperiode betrug durchschnittlich 10,9 kg $ha^{-1}$ Landfläche $yr^{-1}$ für die ganze Studienfläche, 13,9 kg $ha^{-1}$ Landfläche $yr^{-1}$ für die bewohnten Gebiete und 4,2 kg $ha^{-1}$ Landfläche $yr^{-1}$ für ländliche Regionen. Die räumliche Verteilung der Aufnahme von Verunreiningungen nahm mit der Dichte der Baumkronen entlang des Gradienten von Stady zu Land ab. Hier werden Anforderungen bei der Planung von Stadtforsten zur Verbessserung von Luftqualität diskutiert.

**Resumen.** Se emplea un modelo de deposición seca para estimar la absorción de la polución del aire por el bosque urbano de Sacramento. Asumiendo las concentraciones de polutantes del aire de 1990, las simulaciones estiman que aproximadamente 1,457 toneladas métricas de polutantes del aire son absorbidas anualmente, con un valor implicado de US$28,7 millones. La absorción diaria en la estación de crecimiento para ozono fue aproximadamente 2.4 toneladas métricas por d'a mientras que las part'culas materiales fueron levemente mayores, en 2.7 toneladas métricas por d'a. La absorción diaria de $NO_2$ y $PM_{10}$ representó 1 a 2% de los inventarios de emisiones para el condado. Las tasas estimadas en la estación de crecimiento anual de la absorción de polutantes del aire promediaron 10.9 kg $ha^{-1}$ área de terreno $año^{-1}$ para el total del área de estudio, 13.9 kg $ha^{-1}$ área de terreno $año^{-1}$ para áreas urbanizadas y 4.2 kg $ha^{-1}$ área de terreno $año^{-1}$ para áreas rurales. La distribución espacial de las tasas de absorción de polutantes disminuyó con la densidad de la cobertura del dosel de los árboles en el gradiente urbano-rural. Se discuten las implicaciones de manejo en la planeación del bosque urbano para mejorar la calidad del aire.

**Résumé.** Les forêts urbaines affectent la consommation d'énergie pour la climatisation grâce à leur effet de modération sur le climat. Afin d'évaluer l'amplitude régionale de ces impacts, un système d'analyse à grande échelle a été développé et appliqué dans le comté de Sacramento en Californie. Les besoins en chauffage et climatisation, en périodes normales ou en périodes de pointe, résultant des modifications de la radiation solaire, de la température de l'air et de la vitesse du vent causées par la forêt urbaine environnante ont été estimés pour des édifices commerciaux et résidentiels. Ces données ont été combinées avec d'autres sur l'âge de l'édifice et ses dimensions, la surface d'ombrage créée par les arbres et la densité en arbres dans 71 quartiers différents. Les résultats ont été additionnés en terme de nombre d'unités pour ainsi obtenir une valeur totale pour le comté. Les économies annuelles en climatisation sont de 157 GWh (US$18,5 millions), soit 12% des besoins en climatisation du comté. Les effets nets sur le coût de chauffage des bâtiments sont faibles, soit 145 TJ annuellement (US$1,3 million). La diminution des besoins en périodes de pointe permet une économie de 6 millions de dollars (US). La finesse des résultats obtenus est prouvée avec des données type.

**Zusammenfassung.** Die Stadtforste wirken auf den Energieverbrauch als Ergebnis ihres moderaten Einflußes zu bewerten, wurde ein umfassendes Analysekonzept entwickelt und auf den Bezirk von Sacramento CA als Fallstrudie angewendet. Aufheizen, Abkühlen, die Änderungen der erreichbaren Grenzwerte, die aus der veränderlichen Sonneneinstrahlung herrühren, die Lufttemperatur und die Windgeschwindigkeit aus den existierden urbanen Forsten werden für private und gewerblich genutzte Gebäude geschätzt. Dieses wird verbunden mit dem Alter der Gebäude, der Größenverteilung, die Bedeckung des Bodens durch den Kronenbereich und die Baumdichte für 71 Unterbezirke. Die Ergebnisse sind inEinheiten zusammengerechnet, um ein Gesamtergebnis für den Bezirk zu erhalten. Die jährlichen Einsparungen durch Kühlung sind ca. 157 Gwh (GigaWattstunden) (US18,5 Millionen) pro Jahr, 12 % der gesamten Klimaanlagennutzung in dem Bezirk. Die Netto-effekte der Raumheizung sind gerind, mit 145 TJ (US$1,3 Millionen) jährliche Einsparung. Die Reduktion der Energie zu Spitzenzeiten verursachte Einsparungen von US$6 Millionen. Hier wird die Sensibilität der Ergebnisse gegenüber ausgewählter, eingegebener Daten demonstriert.

**Resumen.** El bosque urbano afecta el espacio condicionando el uso de energía como un resultado de su moderada influencia sobre el clima. Para evaluar la magnitud regional de estos impactos, se desarrolla y aplica un análisis estructural a gran escala al Condado de Sacramento, California, como un caso de estudio. Se estima para edificios residenciales y comerciales el calentamiento, el enfriamiento y los cambios de la capacidad pico, resultantes de la modificación de la radiación solar, la temperatura del aire y la velocidad del viento, por los bosques urbanos existentes. Esto se combina con la época y la distribución de tamaño de los edificios, el dosel y la cobertura de los árboles, y la densidad de árboles, para 71 subdivisiones del condado. Los resultados son resumidos en todas las unidades para obtener los totales. Los ahorros anuales por enfriamiento son aproximadamente 157 GWh (US$18.5 millones) por año, 12% del total de aire acondicionado en el condado. Los efectos netos sobre el espacio de calentamiento son pequeños, con 145 TJ (US$1.3 millones) ahorrados anualmente. Las reducciones de los picos de energía resultan en costos evitados de US$6 millones. Se demuestra la sensibilidad de los resultados para los datos de entrada seleccionados.



# ATMOSPHERIC CARBON DIOXIDE REDUCTION BY SACRAMENTO'S URBAN FOREST

**by E. Gregory McPherson**

**Abstract.** Sacramento County's 6 million trees store 8 million tons of $CO_2$ (31 t/ha), and annually sequester 238,000 t (0.92 t/ha). Air-conditioning (157 GWh) and space-heating (145 TJ) savings from the urban forest further reduce emissions by 75,600 t of $CO_2$ annually (0.29 t/ha). These avoided emissions are only 32% of the amount sequestered, due to a clean, hydroelectric energy supply. Annual $CO_2$ release associated with tree maintenance is estimated at 9,400 t (0.04 t/ha), or 3% of the amount sequestered and avoided. In net, the urban forest removes approximately 304,000 t (1.2 t/ha) each year, with an implied value of US$3.3 million ($0.55/tree). Carbon dioxide reduction by Sacramento's urban forest offsets the total amount of $CO_2$ emitted as a byproduct of human consumption by 1.8%. Most benefits accrue on residential lands in the city and suburban sectors, where rates of storage and sequestration are about one-half those reported for U.S. forests. Guidelines for managing urban forests to reduce atmospheric $CO_2$ are presented.

**Keywords.** Climate change; urban ecosystem, sequestration

Increasing concentrations of greenhouse gases in the atmosphere are linked with the increased risk of global climate change. This risk has prompted electric utilities and other organizations to examine alternative actions to offset emissions associated with power generation. The Climate Challenge, a partnership between the U.S. Department of Energy and electric utilities, is one initiative to voluntarily return greenhouse gases to 1990 levels. Because urban and community forests can reduce atmospheric carbon dioxide ($CO_2$)—the most important heat-trapping gas—tree planting and stewardship is recognized as one emission reduction strategy. However, adoption of urban forestry as a mitigation measure has been hampered by limited information on how the forests in which we live influence energy and $CO_2$ fluxes. The goal of this study is to increase our understanding of urban forest impacts on atmospheric $CO_2$ levels. Specific objectives are to estimate the amount of $CO_2$ 1) stored in Sacramento's existing urban forest, and 2) removed from the atmosphere over the course of a year. This study extends previous research on Chicago's urban forest (Nowak 1994) by incorporating $CO_2$ released into the atmosphere through tree care activities and including a more comprehensive accounting of emission reductions due to energy conservation (Simpson 1998). To be consistent with greenhouse gas reporting conventions, all data are reported using the full molecular weight of $CO_2$ (multiply by 0.273 to obtain atomic weight as carbon) and in terms of kilograms (kg) and metric tons (t, or 1,000 kg).

## Background

Urban forests can reduce atmospheric $CO_2$ in two ways. Trees directly sequester $CO_2$ as woody and foliar biomass while they grow. Also, trees around buildings can reduce the demand for heating and air conditioning, thereby reducing emissions associated with electric power production.

**Carbon dioxide storage and sequestration.** Carbon dioxide storage refers to the accumulation of woody biomass as trees grow over time. The amount of $CO_2$ stored at any one time by urban trees is proportional to their biomass and influenced by the amount of existing tree canopy cover, tree density, and the pattern of tree diameters within a city (McPherson 1994). For example, in heavily treed Shorewood, Wisconsin (39% tree cover), $CO_2$ storage is 119 t per ha (Dorney et al. 1984), while in more sparsely treed Oakland, California (21% tree cover), it is 40 t per ha (Nowak 1993).

Carbon dioxide sequestration refers to the annual rate of storage of $CO_2$ in above- and below-ground biomass over the course of one growing season. Sequestration depends on tree growth and mortality, which in turn depends on species composition and age structure of the urban forest. Relatively little data exist concerning sequestration by urban trees. Radial trunk growth data were used to calculate annual sequestration for major genera in Chicago (Jo and McPherson 1995; Nowak 1994). Sequestration ranged from 16 kg per year (35 lb) for trees with 8 to 15 cm (3 to 6 in.) dbh to 340 kg per year (748 lb) for trees greater than 76 cm (30 in) dbh.

**Avoided power plant emissions.** Tree shade (direct effect) reduces summer air-conditioning demand but can increase heating energy use by intercepting winter irradiance. Lowered air temperatures and wind speeds from increased tree cover (indirect effect) decrease both cooling and heating demand. A computer simulation analysis of 254 residential properties participating in a utility-sponsored tree planting program in Sacramento found than an annual cooling savings

of US$15.25 per mature tree was reduced by a heating penalty of $5.25 per tree (Simpson and McPherson 1998a). These savings are expected to double as a result of reduced neighborhood air temperature from the projected 7% increase in tree canopy cover. Windspeed reductions add savings of $4 per tree, for an estimated total savings of $24 per tree.

Regional variations in climate and the mix of fuels that produce energy to heat and cool buildings influence potential $CO_2$ emission reductions. Emission reductions from urban forestry are likely to be greatest in regions with large numbers of air-conditioned buildings and long cooling seasons. Also, savings can be substantial in areas of the country where coal is the primary fuel for electric power generation. Coal-fired power plants emit 3 to 4 times more $CO_2$ per unit of energy produced than do plants powered by cleaner fuels such as natural gas.

**Carbon dioxide release.** Little is known about the amount of $CO_2$ released through tree planting and care activities. A study of residential greenspace in Chicago found that about 60% of the $CO_2$ sequestered each year was released back to the atmosphere through landscape maintenance activities and decomposition (Jo and McPherson 1995). Woody biomass pruned from trees and shrubs each year was taken to a landfill, and the amount of $CO_2$ eventually released through decomposition was equal to 15% of the $CO_2$ sequestered. Urban trees are usually removed soon after they die and are frequently recycled as landscape mulch or sold as firewood. Burning of tree wood results in nearly complete release of stored $CO_2$, while the rate of release associated with the decomposition of mulch is much slower, depending on local climate and soil conditions (about 2 to 3 cm [0.8 to 1.2 in.] per year in California). Decomposition of urban waste wood that is disposed of in landfills can take decades. Wood salvaged for use in wood products survives 50 years on the average, before becoming landfill and gradually decomposing (Norse 1990). The combustion of gasoline and diesel fuels by vehicle fleets and by such equipment as chainsaws, chippers, stump removers, and leaf blowers is another source of $CO_2$ that has not been fully quantified.

## Methods

**Study site and tree measurements.** For an explanation of the study site and sampling units, see pages 175–177 of this issue.

Land use and land cover were interpreted from black and white aerial photographs as the first step of a two-stage sampling process (McPherson 1998). Vegetation and other surface data were collected on 675 randomly located 10 × 10 m (33 × 33 ft) plots established as a sample of grid points from the aerial photographs. Information used to calculate carbon storage and sequestration included species, trunk diameter at breast height (dbh, 1.4 m [4.6 ft]), total tree height, and tree condition. These data were collected for 445 woody plants growing in tree form (i.e., greater than 2 m [6.6 ft] tall, open grown, tree-like form).

**Carbon storage and sequestration.** Carbon stored in tree biomass was estimated using ground survey information of species, diameter, and height, as input for tree biomass equations for 28 tree species (Table 1). If no equation for a particular species existed, the biomass estimate was derived from the formula for a species within the same genus. Equations for general hardwoods, softwoods, and palms were used in cases for which genera-specific formulas were not available.

Published biomass equations used to compute total tree biomass, above-ground biomass only, or wood volume may be on a fresh- or dry-weight basis. Those used to compute above-ground biomass were divided by 0.78 to convert to total tree biomass. Equations used to compute wood volume were divided by 0.75. These conversion factors are derived from a tree biomass distribution with 3% of the biomass in foliage and 22% in the stump/root system (Husch et al. 1982; Tritton and Hornbeck 1982; Wenger 1984). Results of biomass equations used to compute fresh-weight biomass for hardwoods and softwoods were multiplied by 0.56 and 0.48, respectively, to derive dry-weight biomass based on average moisture content of the species, genus, or group (e.g., Stanek and State 1978; Phillips 1981; Husch et al. 1982). Total dry-weight biomass estimates for each individual tree were converted to total carbon storage estimates by multiplying by 0.50 (Lieth 1963; Whittaker and Likens 1973).

One limitation to the use of biomass formulas derived from forest trees is that they may not accurately reflect biomass for open-grown urban trees. A comparison of measured weight and formula-derived weights for 30 street trees in Oak Park, Illinois, found that, on average, formula-derived estimates were 20% greater than actual tree weights (Nowak 1994). Based on these results, formula-derived estimates of carbon storage were reduced by 20% in this study. Carbon storage values were converted to $CO_2$ by multiplying by 3.67, the molecular weight of carbon dioxide. Total $CO_2$ stored and $CO_2$ stored per hectare is reported for each sector, SubRAD (Sub-Regional Assessment District), and land use using statistical inference from sampled data (McPherson 1998).

To estimate the amount of $CO_2$ sequestered by the current urban forest, trees were "grown" for 1 year and total storage was recalculated. Sequestration

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To estimate the amount of $CO_2$ sequestered by the current urban forest, trees were "grown" for 1 year and total storage was recalculated. Sequestration was calculated as the difference between $CO_2$ stored in successive years. Annual tree height and diameter growth were calculated for trees in different size classes based on limited measurements of Sacramento street and yard trees with known planting dates (Table 2) (Simpson and McPherson 1995; Small 1997). To account for the fact that dead trees (condition = 0%) should not grow at all and healthy trees (condition = 90%) should grow more than trees in poor condition (condition = 20%), the appropriate annual height and diameter increments selected for each tree in the current year were multiplied by each tree's surveyed condition. These adjusted height and diameter growth increments were added to the current tree height and diameter to estimate dimensions for the next year. It is assumed that there are no changes in tree condition or numbers (no mortality or tree planting) during the hypothetical growing season.

Standard errors (se) are reported for estimates of $CO_2$ storage and sequestration (see Appendices A and B in McPherson 1998 [page 189 of this issue] for further information on statistical procedures). These standard errors report sampling error, not error of estimation. The reported sampling errors underestimate the actual standard errors. Lack of information regarding errors in the biomass equations and adjustment factors make it impossible to fully account for estimation error associated with these projections.

**Table 1. Attributes of biomass equations used to predict carbon dioxide storage (n/a = variable not used in equation or data not available).**

| Species | Dbh range (cm) | Height range (m) | Reference |
|---|---|---|---|
| Palms | n/a | n/a | Frangi and Lugo 1985 |
| General hardwoods | > 10 | n/a | Harris et al. 1973 |
| General softwoods | 2.5–55 | 5–30 | Monteith 1979 |
| Maple | 2.5–66 | n/a | Young et al. 1980 |
| Birch | 2.5–51 | n/a | Young et al. 1980 |
| Pecan | 5–51 | n/a | Brenneman et al. 1978 |
| Hackberry | n/a | n/a | Hahn 1984 |
| Camphor | 13–69 | 5–17 | Pillsbury and Thompson 1995 |
| Dogwood | < 12.7 | n/a | Phillips 1981 |
| Eucalyptus | n/a | n/a | Pillsbury and Thompson 1995 |
| Ash | 5–51 | n/a | Brenneman et al. 1978 |
| Juniper | n/a | n/a | Hahn 1984 |
| Walnut | n/a | n/a | Hahn 1984 |
| Sweetgum | 14–54 | 7–20 | Pillsbury and Thompson 1995 |
| Spruce | 2.5–66 | n/a | Young et al.1980 |
| Pine | n/a | n/a | Pillsbury and Thompson 1995 |
| London plane | n/a | n/a | Hahn 1984 |
| Poplar | 5–84 | n/a | Ker 1980 |
| Aspen | 6–35 | 5–26 | Standish et al.1985 |
| Cottonwood | 6–32 | 7–25 | Standish et al. 1985 |
| Cherry | 5–51 | n/a | Brenneman et al. 1978 |
| Blue oak | 10–70 | n/a | Pillsbury and Kirkley 1984 |
| Holly oak | 13–52 | n/a | Pillsbury and Thompson 1995 |
| California black oak | 10–110 | n/a | Pillsbury and Kirkley 1984 |
| Valley oak | 10–100 | n/a | Pillsbury and Kirkley 1984 |
| Interior live oak | 10–70 | n/a | Pillsbury and Kirkley 1984 |
| Giant redwood | 97–614 | n/a | Means et al.1994 |
| Elm | 17–56 | n/a | Pillsbury and Thompson 1995 |

**Avoided power plant emissions.** Estimates of air-conditioning and space-heating energy savings from the existing urban forest served as a basis for estimating $CO_2$ emission reductions (Simpson 1998). Carbon dioxide emission factors for electricity (400 t/GWh) and natural gas (63 t/TJ [terajoule]) were obtained from local utilities (Beebe, personal communication 3/8/96) to convert energy savings estimates to $CO_2$ emission reductions.

**Carbon dioxide release.** To estimate annual $CO_2$ release through contracted tree care activities it was necessary to identify the number, location, and sizes of trees that receive professional care and the rate of emissions per tree visited. Survey data indicate that most trees under 6 m (20 ft) tall are maintained by residents themselves (Summit and McPherson 1998). As tree height increased, the percentage of trees receiving professional care increased. Typically, large trees are contractually pruned about once every 5 years.

For this study, it is assumed that trees less than 16 cm (6 in.) dbh are pruned, sprayed, and removed by residents and no $CO_2$ is released. Also, trees in agricultural and vacant/wild land uses receive little if any care, and thus no $CO_2$ is released. The remaining trees

**Table 2. Annual tree growth increments for different tree size classes used to model carbon dioxide sequestration (units in parentheses are feet and inches).**

| Height class (m) | Height growth (m/yr) | Dbh class (cm) | Dbh growth (cm/yr) |
|---|---|---|---|
| 2–7.9 (6.6–25.9) | 0.5 (1.6) | 1–24.9 (0.4–9.8) | 1.8 (0.7) |
| 8–12.4 (26–40.7) | 0.4 (1.3) | 25–44.9 (9.9–17.7) | 1.5 (0.6) |
| 12.5–14.9 (40.8–48.9) | 0.3 (1.0) | 45–59.9 (17.8–23.6) | 1.0 (0.4) |
| 15–18.4 (49–60.4) | 0.2 (0.7) | 60+ (23.7+) | 0.3 (0.1) |
| 18.5+ (60.5+) | 0.1 (0.3) | | |

are assumed to be professionally visited on a 5-year cycle and appropriate release rates are applied to trees in each dbh class.

To estimate $CO_2$ release per tree serviced, information was obtained from the Sacramento Tree Services Division on the amount of gasoline, diesel, and oil consumed annually and the number of trees pruned, removed, inspected, and treated with pesticides. Fuel use was converted to $CO_2$ and the average release rate per tree was calculated as kg per cm dbh.

**Table 3. Carbon dioxide fluxes for sectors and the entire study area (net value assumes implied price of US$11/t).**

| Sector | City | se | Suburban | se | Rural | se | Total | se |
|---|---|---|---|---|---|---|---|---|
| No. trees (1,000s) | 1,733 | 350 | 2,371 | 254 | 1,939 | 471 | 6,043 | 639 |
| Stored (k ton) | 4,060 | 1,953 | 1,517 | 253 | 2,487 | 1,062 | 8,064 | 2,238 |
| Stored (k ton/ha) | 172 | 83 | 41 | 7 | 13 | 5 | 31 | 9 |
| Sequestered (k ton) | 74 | 16 | 96 | 12 | 68 | 18 | 238 | 27 |
| Sequestered (k ton/ha) | 3.1 | 0.7 | 2.6 | 0.3 | 0.3 | 0.1 | 0.9 | 0.1 |
| Avoided (k ton) | 33 | | 35 | | 8 | | 76 | |
| Avoided (k ton/ha) | 1.4 | | 0.9 | | 0.0 | | 0.3 | |
| Released (k ton) | 4.0 | | 3.7 | | 1.7 | | 9.4 | |
| Released (k ton/ha) | 0.2 | | 0.1 | | 0.0 | | 0.0 | |
| Net removed (k ton) | 103 | | 127 | | 74 | | 304 | |
| Net removed (k ton/ha) | 4.5 | | 3.5 | | 0.4 | | 1.2 | |
| Net value ($) | 1,132 | | 1,397 | | 817 | | 3,346 | |
| Net value ($/ha) | 48 | | 38 | | 4 | | 13 | |

**Implied costs and per capita emissions.** The value to society of reducing atmospheric $CO_2$ (e.g., sea level rise, flooding, habitat loss) is reflected in the implied cost values assigned by state energy commissions. Electric utilities are required to use these values when evaluating the environmental costs associated with different power sources. This study assumes a value of US$11 per t $CO_2$ (California Energy Commission 1992).

Because $CO_2$ is an unregulated pollutant, only a few communities have inventoried emissions. Portland, Oregon (Swift and Liebe 1995), and Austin, Texas (City of Austin 1997), estimated annual per capita $CO_2$ emissions at 23 and 15 t per capita, respectively. Because emission data are lacking for Sacramento and the climate and development pattern of Sacramento more closely resemble Austin than Portland, Sacramento emissions are assumed to be 15 t per capita. This value is used to determine the percentage of annual emissions offset by Sacramento's urban forest.

## Results And Discussion

**Carbon storage and sequestration.** Approximately 8 million t (se = 2.2 million t) of $CO_2$ (31 t/ha) have accumulated and are presently stored in Sacramento County's 6 million trees (Table 3). The city sector's 1.7 million trees store 50% of the total amount stored, or 172 t per ha. Storage per unit land area in the suburban sector is 41 t per ha. In comparison, trees in the cities of Chicago and Oakland store 52 and 40 t per ha on average, respectively (Nowak 1993, 1994). Forest systems in the United States store 202 t per ha (Birdsey 1992); urban forests in the United States are reported to store about 100 t per ha (Rowntree and Nowak 1991).

Differences in the diameter distribution of tree populations influences $CO_2$ storage. Most natural forests and some urban forests (e.g., Oakland, California) have relatively large numbers of small-sized trees, while the city of Sacramento has a higher percentage of large-diameter trees (10% with dbh of ≥ 77 cm [30 in.]). For example, the average amount of $CO_2$ stored per tree in the city of Sacramento is 2,343 kg (5,165 lb), compared to 336 kg (741 lb) in Oakland and 759 kg (1,674 lb) in the city of Chicago.

A second factor influencing $CO_2$ storage is tree density. Tree density in the rural sector of Sacramento is 10 trees per ha (McPherson 1998) and $CO_2$ storage is only 13 t per ha (Table 3). Although on average trees are larger in the rural sector than in the suburban sector, the lower tree density yields a lower storage rate. Natural forests (100s to 1,000s trees/ha) and urban forests with large wildland tree cover, such as Oakland (120/ha), tend to have higher tree densities than urban forests. In general, data from Sacramento, Chicago, and other cities indicate that urban forests have fewer, but on average, larger-sized trees per ha compared to natural forests. Although there is great variation in the amount of $CO_2$ stored by different natural forest types, overall, urban forests typically store about one-half as much $CO_2$ as natural forests.

Carbon dioxide storage by Sacramento's urban forest varies geographically, reflecting spatial differences in tree size and density (Figure 1). On a per-hectare basis, relatively low rates of storage occur in the rural sector, as well as in the Sacramento core commercial area (see the inset in Figure 1). Older, residential areas surrounding the old city center (Figure 1 inset) have the highest storage rates (100 to 167 t/ha). Storage rates range from 20 to 100 t per ha in the more recently developed suburban areas extending south and northeast from the city center. One corridor runs south following the Sacramento River and Interstate 5. A second corridor extends northeast through progressively more recent suburban development to the Folsom area (Figure 1).

are assumed to be professionally visited on a 5-year cycle and appropriate release rates are applied to trees in each dbh class.

To estimate $CO_2$ release per tree serviced, information was obtained from the Sacramento Tree Services Division on the amount of gasoline, diesel, and oil consumed annually and the number of trees pruned, removed, inspected, and treated with pesticides. Fuel use was converted to $CO_2$ and the average release rate per tree was calculated as kg per cm dbh.

**Table 3. Carbon dioxide fluxes for sectors and the entire study area (net value assumes implied price of US$11/t).**

| Sector | City | se | Suburban | se | Rural | se | Total | se |
|---|---|---|---|---|---|---|---|---|
| No. trees (1,000s) | 1,733 | 350 | 2,371 | 254 | 1,939 | 471 | 6,043 | 639 |
| Stored (k ton) | 4,060 | 1,953 | 1,517 | 253 | 2,487 | 1,062 | 8,064 | 2,238 |
| Stored (k ton/ha) | 172 | 83 | 41 | 7 | 13 | 5 | 31 | 9 |
| Sequestered (k ton) | 74 | 16 | 96 | 12 | 68 | 18 | 238 | 27 |
| Sequestered (k ton/ha) | 3.1 | 0.7 | 2.6 | 0.3 | 0.3 | 0.1 | 0.9 | 0.1 |
| Avoided (k ton) | 33 | | 35 | | 8 | | 76 | |
| Avoided (k ton/ha) | 1.4 | | 0.9 | | 0.0 | | 0.3 | |
| Released (k ton) | 4.0 | | 3.7 | | 1.7 | | 9.4 | |
| Released (k ton/ha) | 0.2 | | 0.1 | | 0.0 | | 0.0 | |
| Net removed (k ton) | 103 | | 127 | | 74 | | 304 | |
| Net removed (k ton/ha) | 4.5 | | 3.5 | | 0.4 | | 1.2 | |
| Net value ($) | 1,132 | | 1,397 | | 817 | | 3,346 | |
| Net value ($/ha) | 48 | | 38 | | 4 | | 13 | |

**Implied costs and per capita emissions.** The value to society of reducing atmospheric $CO_2$ (e.g., sea level rise, flooding, habitat loss) is reflected in the implied cost values assigned by state energy commissions. Electric utilities are required to use these values when evaluating the environmental costs associated with different power sources. This study assumes a value of US$11 per t $CO_2$ (California Energy Commission 1992).

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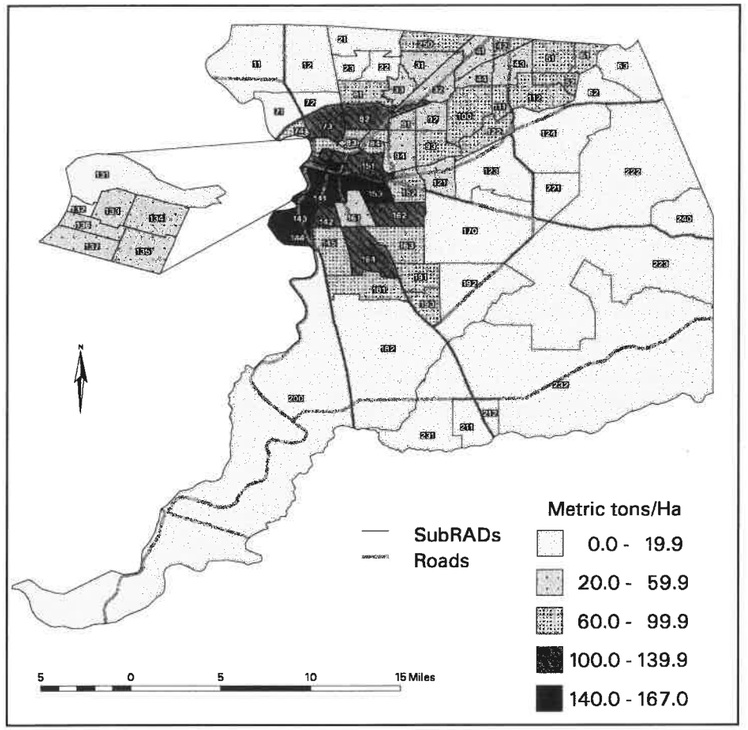


**Figure 1. Carbon dioxide stored in tree biomass per unit land area is greatest in older areas surrounding the city center (inset) and diminishes in areas of recent suburban growth to the northeast and south.**

Sacramento County's 6 million trees are estimated to sequester about 238,000 t (0.92 t/ha) of $CO_2$ over the course of a year (Table 3). While $CO_2$ is principally stored in the city sector, where the "big" trees are most plentiful, sequestration is greatest in the suburban sector (40% of total), where the largest number of trees are found (2.4 million). Carbon dioxide sequestration rates are similar for the city (3.1 t/ha) and suburban (2.6 t/ha) sectors, but substantially less for the rural sector (0.4 t/ha) due to lower tree density. This pattern is evident in Chicago as well. However, unlike Sacramento, tree density and sequestration in Chicago increase along the urban-to-rural gradient, rising from 2.4 t per ha in the city (69 trees/ha) to 3.8 t per ha in the rural sector (171 trees/ha) (Nowak 1994). Trees in natural forests sequester about twice as much $CO_2$ as urban forests per unit land area, between 4 and 8 t per ha on average (Birdsey 1992). However, because urban trees tend to grow faster than rural trees, they sequester more $CO_2$ on a per tree basis (Jo and McPherson 1995). Average annual sequestration rates ranged from 35 to 43 and 22 to 36 kg per tree for the three sectors in Sacramento and Chicago, respectively.

**Avoided power plant emissions.** Building shade, summer cooling, and wind-speed reductions attributed to the region's urban forest reduce electricity consumed annually for air conditioning by 11% (157 GWh) and natural gas heating use by 0.7% (145 TJ) (Simpson 1998). By conserving this amount of energy over the course of a year, approximately 75,600 t (0.29 t/ha) of $CO_2$ emissions are avoided (Table 3). Air-conditioning savings provide 83% (63,000 t) of the total $CO_2$ emission reductions from trees in Sacramento County. Trees in the rural sector produce only 11% of the county-wide total because relatively few trees are near buildings. The remaining $CO_2$ emission reductions are nearly evenly distributed between the city and suburban sectors. Trees in these largely urbanized sectors are responsible for average annual emission reductions of 1.4 and 0.93 t per ha, respectively (Table 3). On an average annual per tree basis, avoided $CO_2$ emissions are 19, 15, and 4 kg for the city, suburban, and rural sectors.

Avoided emissions are about one-third of the amount of $CO_2$ sequestered in trees. This finding differs from other studies that projected much higher $CO_2$ avoided:sequestered ratios of 15:1 and 4:1 for national urban tree planting programs (Akbari et al. 1989; Nowak 1993). However, a very low ratio of 1:28 was reported for Chicago (Nowak 1994). The relatively low

ratios for Sacramento and Chicago are due in part to local supplies of clean, hydroelectric and nuclear-generated electricity. Applying the average national power plant emission factor (1,300 kg/MWh, Akbari et al. 1989) in Sacramento results in a nearly 1:1 ratio, as avoided emissions would increase to 222,000 t. Also, the low ratios for urban forests in Sacramento and Chicago reflect the difference between energy savings from the frequently haphazard locations of existing trees and larger savings projected for programs designed to strategically locate trees for energy conservation purposes.

**Carbon dioxide release.** In 1996, the Sacramento Tree Services Division's vehicle fleet and fossil-fuel powered equipment released 1,720 kg of $CO_2$ while visiting approximately 55,750 street and park trees (Fitch, personal communication 6/10/97). Assuming an average dbh of 61 cm (24 in.), the $CO_2$ emission rate is 0.51 kg per cm dbh. Given the location and diameter distribution of the county's 6 million existing trees, approximately 9,422 t of $CO_2$ are released annually in their maintenance (Table 3). This amount is 3% of total $CO_2$ sequestered and avoided annually by Sacramento's urban forest.

Eighty percent of total annual $CO_2$ released by tree maintenance occurs in the city and suburban sectors, with the remaining 20% in the rural sector. In the city and suburban sectors the release rates are 0.17 and 0.10 t per ha and 2.3 and 1.6 kg per tree, respectively. Values are much lower for rural sector trees because 24% of these trees are located in vacant/wild lands where no maintenance is assumed.

**Net carbon dioxide conservation.** Net atmospheric $CO_2$ reduction by Sacramento's urban forest is approximately 304,000 t (1.2 t/ha) of atmospheric $CO_2$ over the course of a year (Table 3). The implied value of this annual benefit is about US$3.3 million dollars, or $0.55 per tree on average. Net benefits are greatest in the suburban sector ($1.4 million), where the largest number of trees are located. However, on a land area basis, the implied value of benefits are greatest in the city sector ($48/ha, $0.65/tree).

The distribution of $CO_2$ removal and release varies widely by land use, as well as by sector (Figure 2). Countywide, 61% of net $CO_2$ removal occurs in residential land uses, 20% in vacant/wild lands, and 13% in institutional lands. However, in the more urbanized city and suburban sectors, 75% of all removal takes place in residential land uses. This result coincides with the finding that within these 2 sectors, where 90% of all residents live, about 75% of total tree numbers, basal area, and leaf area occur on residential land (McPherson 1998). Relatively more $CO_2$ is removed in multifamily residential and institutional lands within the city sector than in the suburban sector. However, trees in vacant/wild lands within the suburban sector remove substantially more $CO_2$ than do the relatively small number of vacant/wild trees in the city (Figure 2). Trees in vacant/wild land uses account for 60% of all $CO_2$ removal in the rural sector.

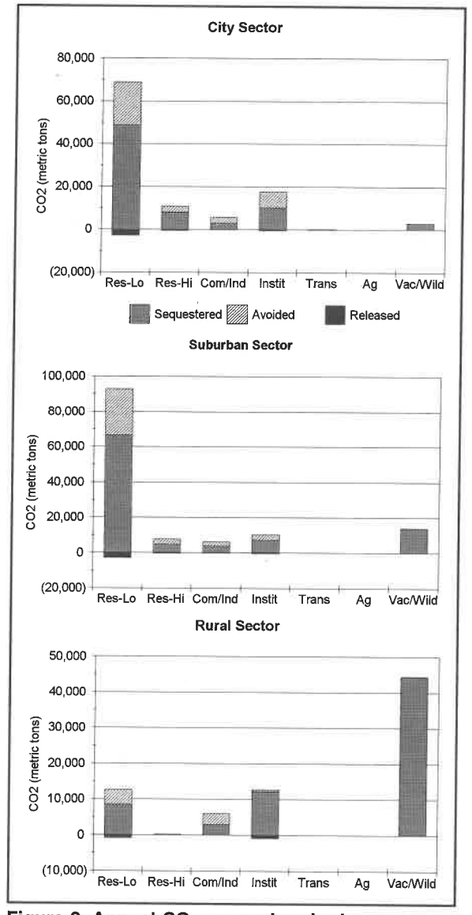


**Figure 2. Annual $CO_2$ removal and release occurs primarily in low-density residential areas (1 to 3 units per structure) within the city and suburban sectors, and in vacant/wild lands in the rural sector.**

Carbon dioxide emitted as a byproduct of Sacramento County residents' consumption (e.g., transportation, electricity and natural gas use, other

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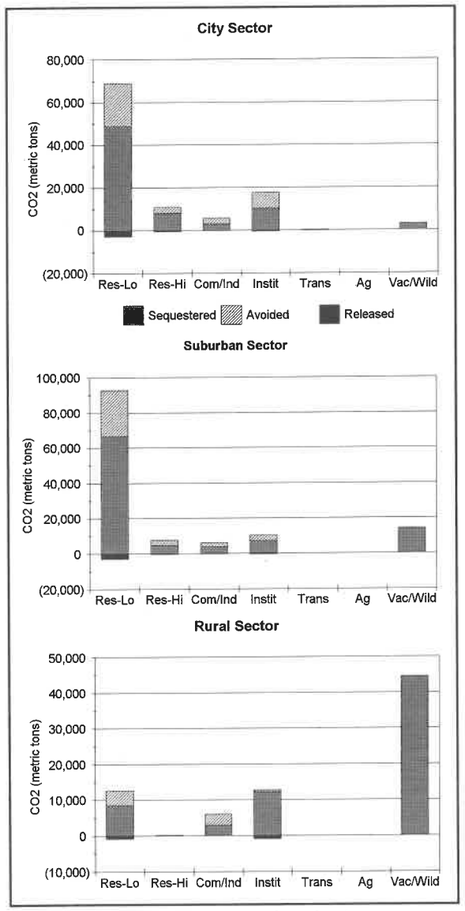


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Carbon dioxide emitted as a byproduct of Sacramento County residents' consumption (e.g., transportation, electricity and natural gas use, other gas-powered machines) is estimated to be 17 million t (17 Mt) per year. The net impact of Sacramento's urban forest on $CO_2$ removal is to offset these emissions by approximately 1.8%. The 8 Mt of $CO_2$ stored in Sacramento's trees, which has taken many years to accumulate, is equivalent to nearly 50% of the region's total annual emissions. This storage rate is relatively greater than reported for Chicago, where stored $CO_2$ in tree biomass equaled the amount released from the residential sector during a 5-month period (including transportation use) (Nowak 1994). This difference reflects regional variations in lifestyle, commuting patterns, climate, and building energy use; as well as different urban forest composition and structure.



**Managing urban forests for $CO_2$ reductions.** Ultimately, all the $CO_2$ presently stored in Sacramento's trees will be lost upon their death and removal. By maintaining the health of mature trees, the rate at which $CO_2$ is lost via tree removal and decomposition can be forestalled. By planting new trees, increasing amounts of $CO_2$ can be stored until an equilibrium is reached, with sequestration by replacement plantings offsetting decomposition from dead trees. The Sacramento Municipal Utility District (SMUD) and Sacramento Tree Foundation (STF) have pledged to plant 500,000 shade trees to achieve 200,000 t of $CO_2$ reductions per year by the year 2000 (155,000 t from sequestration and 50,000 t from energy savings) (Moy 1995). Net $CO_2$ stored as a result of planting 188,000 trees from 1991 to 1995 is estimated to be 350,000 t in the year 2030, with 60% of net benefits from sequestration (Simpson and McPherson 1998b). This reduction is equivalent to 4% of the 8 Mt of $CO_2$ currently stored in the region's urban forest.

Because trees provide the potential for longer-term storage compared to nonwoody vegetation, net $CO_2$ storage can be increased more effectively through judicious tree management than by altering other landscape components (i.e., soils, grasses, herbaceous plants). Additionally, tree maintenance appears to have a relatively minor impact on net $CO_2$ reductions. Selecting trees that are well suited to local growing conditions, proper planting and establishment, and regular maintenance to promote vigorous growth and reduce mortality are likely to have more profound impacts on long-term $CO_2$ reductions than attempts to reduce $CO_2$ release associated with tree care.

These findings suggest that trees in residential lands are the principal site of $CO_2$ storage and sequestration. Although residential landscapes are seldom designed and managed to maximize their ability to serve as $CO_2$ sinks, several design and management guidelines can be applied to increase $CO_2$ reductions:

- Maximize use of woody plants, especially trees, because they store more $CO_2$ than do herbaceous plants and grass (Jo and McPherson 1995).
- Increase tree-stocking levels where feasible and immediately replace dead trees to compensate for $CO_2$ lost through tree and stump removal.
- Create a diverse assemblage of habitats, with trees of different ages and species, to promote a continuous canopy cover over time.
- Select species that are adapted to local climate, soils, and other growing conditions. Adapted plants should thrive in the long run and consume relatively little $CO_2$ through maintenance.
- Group species with similar landscape maintenance requirements together and consider how irrigation, pruning, fertilization, weed, pest, and disease control can be minimized.
- Reduce $CO_2$ associated with landscape management by using push mowers (not gas or electric), handsaws (not chainsaws), pruners (not gas or electric shears), rakes (not leaf blowers), and employ landscape professionals who don't have to travel far to your site.
- Consider the project's lifespan when making species selection. Fast-growing species will sequester more $CO_2$ initially than slow-growing species, but may not live as long.
- Provide a generous below-ground environment for the trees in order to maximize initial $CO_2$ sequestration and longevity.
- When trees die or are removed, salvage as much wood as possible for use as furniture and other long-lasting products to forestall decomposition (Sherrill et al. 1997).
- Plant trees, shrubs, and vines in strategic locations to maximize summer shade and reduce winter shade, thereby reducing atmospheric $CO_2$ emissions associated with power production.

Although not a panacea for reducing the risks of global climate change, Sacramento's urban forest plays an important role through offsetting regional $CO_2$ emissions by nearly 2% annually. SMUD and STF's shade tree program demonstrates the potential for urban forestry to be one of many measures employed by electric utilities to offset their $CO_2$ emissions. The tree program is projected to achieve 3% of SMUD's total emission reduction target. In this new era of utility deregulation and environmental protection, an increasing number of electric utilities are likely to follow SMUD's example. Electric utilities, local communities,

and residential customers stand to benefit from cost-effective shade tree programs that attract new customers, improve quality of life, conserve energy, and offset $CO_2$ emissions.

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*Pacific Southwest Research Station*
*USDA Forest Service*
*c/o Department of Environmental Horticulture*
*University of California*
*Davis, CA 95616*

**Resumen.** Los 6 millones de árboles del Condado de Sacramento (California) almacenan 8 millones de toneladas de bióxido de carbono (31 t/ha), y retiran anualmente 238,000 toneladas (0.92 t/ha). Los ahorros de aire acondicionado (157 GWh) y espacio de calentamiento (145 TJ) del bosque urbano reducen además la emisión de 75,600 toneladas de bióxido de carbón anualmente (0.29 t/ha). Estas emisiones evitadas son solamente 32% de la cantidad retirada, debido a un suministro limpio de energía hidroeléctrica. La liberación anual de bióxido de carbono, asociada con el mantenimiento del árbol, es estimada en 9,400 toneladas (0.04 t/ha), o 3% de la cantidad retirada y evitada. En términos netos, el bosque urbano remueve aproximadamente 304,000 toneladas (1.2 t/ha) cada año, con un valor implicado de US$3.3 millones ($0.55 por árbol). La reducción del bióxido de carbono por el bosque urbano de Sacramento compensa la cantidad total de bióxido de carbono, emitido como un producto secundario del consumo humano, en 1.8%. Los mayores beneficios se acumulan en áreas residenciales en la ciudad y sectores suburbanos, donde las tasa de almacenaje y retiro son cerca de la mitad de los reportados para los bosques de los Estados Unidos. Se presentan normas para el manejo de los bosques urbanos con el fin de reducir el bióxido de carbono atmosférico.

**From:** bryan robinson <brybinson@gmail.com>
**Sent:** Sunday, May 21, 2023 10:36 AM
**To:** Bertaina, Lara E@DOT
**Subject:** Santa Cruz County RTC public comment

**EXTERNAL EMAIL.** Links/attachments may not be safe.

Hello Lara Bertaina,
As a Santa Cruz County resident, I'm writing to express my support for the Segment 12 as it is proposed, especially the Coastal Rail Trail Segment. I know a small, vocal minority of our county residents don't support keeping the rail. But our county voters made it clear with the vote on Measure D that they do support keeping the rail.
Thank you,
Bryan Robinson

**From:** Nick Arreguy <surfernick@yahoo.com>
**Sent:** Friday, May 26, 2023 9:49 AM
**To:** Bertaina, Lara E@DOT
**Subject:** #1 HWY-1 Aux Lanes, Bus on Shoulder, Coastal Rail Trail Segment (H1AL, BOS, CRTS) comment due by 6/2/2023

**EXTERNAL EMAIL.** Links/attachments may not be safe.

Hello,

1. Caltrans says Public involvement is a requirement of Section 106, and the public's views are essential for making informed decisions.

2. Unfortunately, SCCRTC has not made it easy to find the public's prior comments that were due for on Oct. 18, 2020.

3. Unfortunately, SCCRTC will continue to not make it easy to find or view the public's comments for the EIR for the hwy-1 Auxilliary Lanes, Bus-on-Shoulder, Facility (State Park Drive to Freedom Blvd), and Costal Rail Trail Segment 12.

4. Why is this? There is no link to the comments on the site.

5. I did find them once, but did not save the link and have been unable to find them since. But the following is what I found.

6. The comments were impossible to scan or search for particular comments and responses. This is because each comment was put into its own sub-directory which had to be opened first before the comment and response itself could be viewed. The identities of contributors had be scrubbed; which is a good thing.

7. This particular arrangement makes it virtually impossible for the public to review the comments submitted to or the answers provided by the SCCRTC. It's also impossible to locate your own comments and SCCRTC responses to them because there is no way to identify one's own submissions.

8. So this arrangement negates, i.e. prevents any meaningful public participation in the process.

9. My suggestion is that SCCRTC should make a visible link to the comments section for each public hearing and its subsequent comment period. A pulldown menu item should be provided so the public can easily select the comment period of interest.

10. In addition to this, the comments should be so arranged as to be easily viewable within a single document in both html and text so that it can be easily searched with a standard search engine.

11. There should be a unique numerical identifier assigned to each contributor of a comment, so any particular commenter can easily search for all self-submitted comments and responses.

12. The above is one comment I am submitting.

13.
Chapter 3 - Public Participation | Caltrans

**Chapter 3 - Public Participation | Caltrans**

State of California

Regards,
Nick

**From:** Nick Arreguy <surfernick@yahoo.com>
**Sent:** Sunday, May 28, 2023 8:01 AM
**To:** Bertaina, Lara E@DOT
**Subject:** #2 HWY-1 Aux Lanes, Bus on Shoulder, Coastal Rail Trail Segment (H1AL, BOS, CRTS) comment due by 6/2/2023
**Attachments:** 1. Hwy1AuxLanes_NES Nat env doc trees to cut p330-A6 .jpg; 3 IMG_6693 MH engineering plan modified in snagit snagit file type.jpg; 2023-05-27_11-04-081. Hwy1AuxLanes_NES Nat env doc trees to cut p331-A7.jpg

**EXTERNAL EMAIL.** Links/attachments may not be safe.

Dear Lara,

There has never been A Historic Property Survey Report for Moosehead Rd, Moosehead Rd is a significant cultural resource running along HWY1 used by the residents since early in the last century. It is a single lane road that is very pretty and is used by many neighbors as a safe, pleasant way to get to the Rio Del Mar flats by way of Moosehead Dr. without having to walk on the more heavily trafficked and dangerous for pedestrians Rio Del Mar Blvd. Moosehead Rd going up the hill alongside and above the freeway 1 has many Santa Cruz County Significant trees growing on both sides of it that rival the larges trees in Nisene Marks state park. The HPSR should be required for this historic cultural resource.

The roadway is partly on Caltrans right of way, and the plans are to relinquish it to Santa Cruz County. This Santa Cruz County will address this by removing the significant redwoods and vegetation on both sides of the existing road and will then widen it to from the current nine feet to the planned 20 feet which will require retaining walls and grading for the new road necessitated by the steep terrain. This will completely obliterate the old road. The new road if built as currently intended will create serious safety issues because of its intended width and modern design. The wider the road, the faster vehicles will travel up and down the steep terrain. Currently, the narrow road and significant redwoods growing close to both sides of the road necessitate more slow driving of vehicles.

My suggestion is to only replace the Moosehead Dr. that is currently below the freeway level and keep the road that is above the level of the freeway alone. This will save the county money and preserve a beautiful road enjoyed by many people.

==========
Examination of the documentation provided in the EIR with an engineering drawing for Moosehead Dr. work, leads one to think that funding to move and rebuild Moosehead Dr. is likely shifted from the fwy-1 project onto Santa Cruz County taxpayers and Soquel Creek Water customers; see more discussion below.

There are plenty of other roads that should be repaired rather than destroying a perfectly good road and rebuilding it.

See the attached "Engineering Drawing Moosehead Dr." and figures A6 an A7 related to of the "Highway 1 Auxiliary Lanes, Bus on Shoulder, and Coastal Rail Trail Segment 12 Project (HBC-12)".

Moosehead Dr. will be shifted from Caltrans property onto Santa Cruz Co. property as a consequence of the fwy-1 HBC-12 project.

Santa Cruz County Significant redwood trees to be cut down outside of the Caltrans right-of-way are not in the EIR. See figures A6 and A7, attached.

Over a year ago, an SCCRTC official said that the Caltrans right-of-way encompassed both sides of Moosehead DR and all trees in the Moosehead redwood grove were to be removed even on both sides of Moosehead Dr. down to the freeway all the way to the southmost trestle. I hope this does not happen.

In the "Engineering Drawing Moosehead Dr." attached, the Caltrans right-of-way exists on only on the freeway side of the road.

Has the Caltrans right-of-way been modified within the last few years?

There are 56 redwood Santa Cruz County Significant Trees (SCCST) identified in the EIR in the Moosehead redwood grove extending to the southmost trestle; see figures A6 and A7. I can say that at least 30 of these have diameters of 4+ feet and several adjacent to the last property on Moosehead are in this last category. These are located in the pullout just before the height limit sign of the last trestle as you travel southbound.

There are at least 13 more SCCST on the Santa Cruz Co. side of Moosehead Dr. that will have to be cut down to make way for the road; see figures A6 and A7. Several of these are in the 4' diameter category.

The Soquel Creek Water water line is not shown on the engineering drawing even though it must be replaced at the same time as the sewer line; doing so after the road is built will cause trenching of the new road and increased expenditures for the water company.

==========
Boundaries for Caltrans and Santa Cruz Co. rights-of-way are delineated.

Expenditures for Moosehead Dr. work should be taken from the HBC-12 budget and not from Santa Cruz Co. taxpayers, since the fwy project is the cause.

Santa Cruz Co will upgrade Moosehead DR to current road standards necessitating the need to remove even more redwood trees, but these trees are not shown on the EIR because they are on Santa Cruz right-of-way.

These trees are to be cut down as a consequence of the HBC-12 construction and should be considered in the EIR.

There is a supposition that funds allocated will only be spent for the Highway 1 Auxiliary Lanes, Bus on Shoulder, and Coastal Rail Trail Segment 12 Project (HBC-12) and not on Santa Cruz county projects.

If this supposition is correct, then any work or improvements done in Santa Cruz Co. will be paid for by the tax payers of Santa Cruz Co. even if the work is caused by the HBC-12 project.

This would shift costs of the HBC-12 project to the Santa Cruz Co thus cloaking the fact.

==========
Not only will the entire Moosehead redwood forest on Caltrans land be cut down, but additional forest along the existing Moosehead Dr. will be cut down, too. These are not accounted for in the HBC-12 EIR.

==========
The sewer, water, widening, grading, retaining walls, paving must all be done.

Likely the water line will be paid for by Soquel Creek Water (SCW) rate payers; sewer line replacement by the SCC Sewer Dept.; the new road by the Santa Cruz Road Dept.; and other misc. by SCC.

Costs most likely will be paid for by Santa Cruz Co. (SCC) Sewer, Roads accounts and Soquel Creek Water District rate payers.

HBC-12 funds should be used to cover the costs of the work necessitated on the Santa Cruz Co right-of-way.

==========
1. SCCRTC has identified 56 Coastal Redwoods (CR) which are Santa Cruz County Significant Trees (SCCST) that will be cut down for the Highway 1 Auxiliary Lanes, Bus on Shoulder segment running along southbound hwy-1 between the two trestles and also along Moosehead Rd. See attached: Highway 1 Aux Lanes, Tree Survey Map Pages 6 & 7 of 13 (HWY1 ALTSM) see attached

2. The surveys map hides the large number of additional CR SCCST trees that will be cut down as a consequence of Santa Cruz Co. doing the work to realign and widen Moosehead Rd. See Pages 6 & 7 of 13 (HWY1 ALTSM) see attached.

Santa Cruz County realign and widen Moosehead Dr seems to allow the SCCRTC to hide the fact and to reduce the count of SCCST trees that will will be destroyed.

Moosehead Dr (at or below the existing fwy surface) will be moved approximately 40 feet into the hillside necessitating removal of CR SCCST trees and the installation of very tall retaining walls.

Those parts of Moosehead Dr (at or above the surface of the existing fwy surface) will be widened from a single 9 foot wide single lane road to a SCC mandated road of 20 feet wide. This will necessitate removal of additional number of CR SCCST trees.

==========
Suggestions and questions:

The EIR should address the feasibility of not removing the forest along the freeway from Moosehead to the south most trestle. All of the other improvements will be sufficient to keep the traffic moving. Metered ramps will also help.

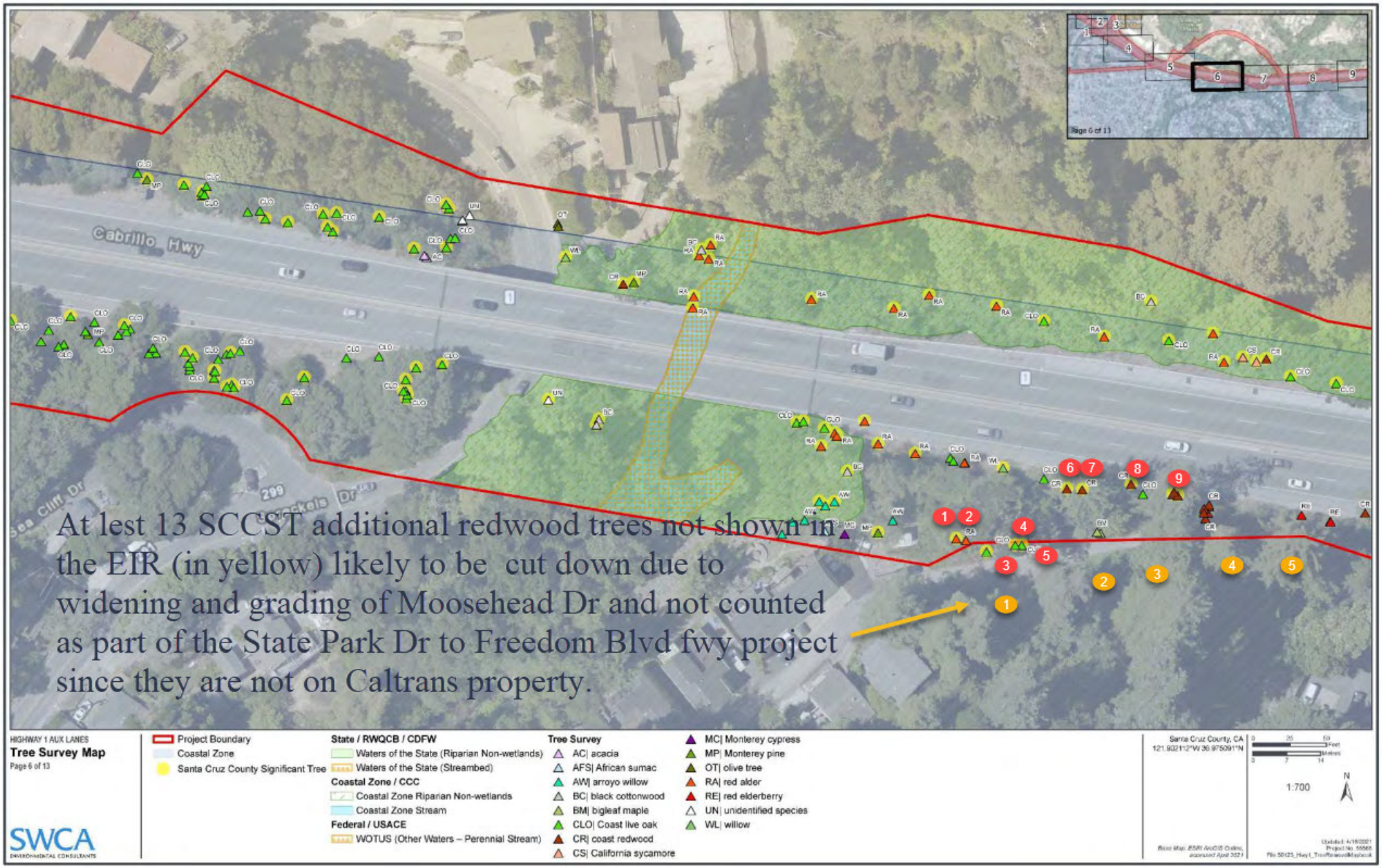
The EIR should address using metered ramps. Why haven't this most-basic congestion reducing strategy already been deployed? Why isn't in the plans? The lack thereof has only contributed to the congestion.

Why hasn't a Movable Median Barrier similar to that used on the Golden Gate Bridge been considered? This works well on freeways when the congestion occurs in different directions at different times of the day. Congestion is in the northbound direction in the morning and in the southbound direction in the evening on workdays. This solution will be ideal for the freeway.

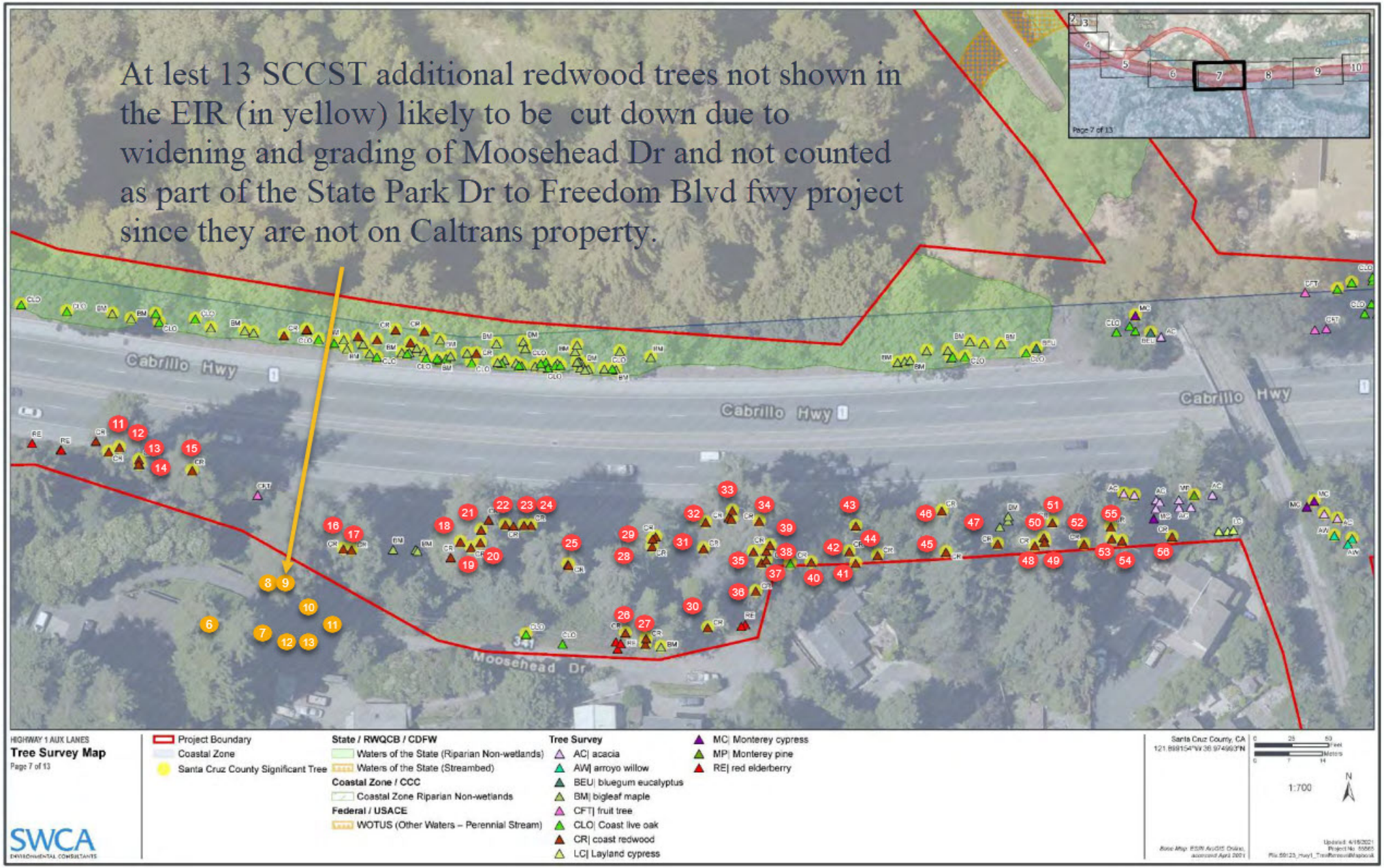
The current forest filters rainwater and cleanses it before it reaches the endangered salamander habitat on the northbound side of the freeway. When the forest is removed, the rainwater will flow into the salamander habitat at an increased rate and with more pollutants from the roads endangering the salamanders. The EIR should have studied this possible effect of the freeway expansion.

Regards,
Nick

# Figure A-6


Cabrillo Hwy
Sea Cliff Dr
Moosehead Dr
299
At lest 13 SCCST additional redwood trees not shown in the EIR (in yellow) likely to be cut down due to widening and grading of Moosehead Dr and not counted as part of the State Park Dr to Freedom Blvd fwy project since they are not on Caltrans property.
HIGHWAY 1 AUX LANES
Tree Survey Map
Page 6 of 13
SWCA
ENVIRONMENTAL CONSULTANTS
Project Boundary
Coastal Zone
Santa Cruz County Significant Tree
State / RWQCB / CDFW
Waters of the State (Riparian Non-wetlands)
Waters of the State (Streambed)
Coastal Zone / CCC
Coastal Zone Riparian Non-wetlands
Coastal Zone Stream
Federal / USACE
WOTUS (Other Waters – Perennial Stream)
Tree Survey
AC| acacia
AFS| African sumac
AW| arroyo willow
BC| black cottonwood
BM| bigleaf maple
CLO| Coast live oak
CR| coast redwood
CS| California sycamore
MC| Monterey cypress
MP| Monterey pine
OT| olive tree
RA| red alder
RE| red elderberry
UN| unidentified species
WL| willow
Santa Cruz County, CA
121.902112°W 36.975091°N
1:700
N

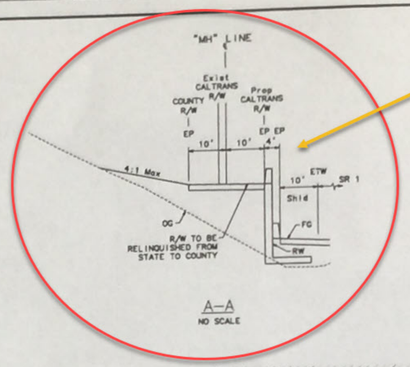
# Figure A-7


At lest 13 SCCST additional redwood trees not shown in the EIR (in yellow) likely to be cut down due to widening and grading of Moosehead Dr and not counted as part of the State Park Dr to Freedom Blvd fwy project since they are not on Caltrans property.
Cabrillo Hwy
Moosehead Dr
HIGHWAY 1 AUX LANES
Tree Survey Map
Page 7 of 13
SWCA
Project Boundary
Coastal Zone
Santa Cruz County Significant Tree
State / RWQCB / CDFW
Waters of the State (Riparian Non-wetlands)
Waters of the State (Streambed)
Coastal Zone / CCC
Coastal Zone Riparian Non-wetlands
Federal / USACE
WOTUS (Other Waters – Perennial Stream)
Tree Survey
AC| acacia
AW| arroyo willow
BEU| bluegum eucalyptus
BM| bigleaf maple
CFT| fruit tree
CLO| Coast live oak
CR| coast redwood
LC| Layland cypress
MC| Monterey cypress
MP| Monterey pine
RE| red elderberry
1:700

Engineering Drawing, Moosehead Dr.

LEGEND
- Exist R/W
- Prop R/W
- Exist MOOSEHEAD Dr
- R/W ACQUISITION
- CALTRANS R/W RELINQUISHMENT AREA

| IMPACTED PROPERTY | APN(S) | PROPERTY OWNER | EXISTING LOT AREA | REMAINING LOT AREA |
|---|---|---|---|---|
| | 042-071-03, 042-071-02 042-071-01, 042-067-18 | Owner 1 | 20,403 SF | 19,274 SF |
| | 042-067-17 | Owner 2 | 4,110 SF | 3,375 SF |
| | 042-067-16 | Owner 1 | 3,858 SF | 3,315 SF |




Upper Moosehead Dr. as this engineering drawing shows is to be widened from the current 9 feet to 20 feet. All redwoods and vegetation are to be cut down, and be replaced by retaining walls or sloping on the uphill and downhill sides of the new road. This beautiful and pleasant historic road currently enjoyed by many nearby residents to safely get to Sea Cliff State Beach park will be destroyed and the new one that is designed to replace it will encourage vehicles to travel at unsafe speeds putting pedestrians at risk.

Widening the road from 9' to 20' and grading of the steep hillside will result in very large SCCST redwood trees being cut down on both sides of the existing Moosehead Dr. - not shown in the EIR.

proposed 20' wide moosehead Dr. shown between green and orange lines

Current Moosehead Dr. shown in gray

Caltrans property line - orange line

PLAN
SCALE: 1" = 10'

HWY 1 (FREEDOM/STATE PARK)
MOOSEHEAD Dr
2/23/23
MARK THOMAS

Land to be purchased from property owners shown in red

**From:** Nick Arreguy <surfernick@yahoo.com>
**Sent:** Sunday, May 28, 2023 8:52 AM
**To:** Bertaina, Lara E@DOT
**Subject:** #3 HWY-1 Aux Lanes, Bus on Shoulder, Coastal Rail Trail Segment (H1AL, BOS, CRTS) comment due by 6/2/2023

**EXTERNAL EMAIL.** Links/attachments may not be safe.

Hello Lara,

This is a very personal appeal from me. I live at 361 Moosehead Dr. and three or four of the largest redwoods are right next to my property. Your tree survey will show they are the rivals of most any tree in Nisene Marks State Park. They mean so much to me and my wife. Each time we look out any of our back windows or wander around in our yard, we see them and love them. They speak to us. We can't just destroy this beautiful forest and these beautiful trees for the automobile. Removal of these trees will be devastating for us. These trees are far away from the freeway in the turnout area and can be saved. We purchased this home based on the redwood trees here and because of the beautiful Moosehead Dr. We used to live in the Los Gatos mountains, and this area where we live now in the heart of Aptos reminded us so much of our loved home in the mountains. We love to see the fog come in at night and in the mornings look out of our bedroom window and see the fog among the redwood trees. Please save these trees.

This "Moosehead Redwood Grove" are the last remnants of the Nisene Marks forest that people can see each drive by.

This redwood forest will never, ever grow back. No one living today will ever again see another redwood tree standing here once the trees are gone. If a human generation is 20 years, many of the smaller trees have been around for at least three to four generations. Even if new ones were to be planted again, it would take another 3 to 4 generations to see trees like the smaller ones we see today. The larger trees are likely 10 to 15 generations old. These can never be replaced.

I have not seen any soil testing rigs for any of this area. These proposed work may cause landslides or change the soil conditions thereby threatening the protected salamanders on the other side of the freeway. What testing and or analysis has been done along these lines.

How sad that this area will just become another desert of freeway.

Everything must be done to save the trees. You must be able to think of a way to do this.

What about global warming? Removal of so many trees associated with this project could likely impact the heat density in the area and cause a negative effects on the ecosystem of the area. The trees to be removed will help keep our area more livable now and in the future. These trees absorb atmospheric carbon and lock it up. The EIR should consider the locked up carbon contained in these trees.

What will cutting the trees do to the amount of fog in our area?

The Scenic Highway designation now applied to the freeway will seem like a mirage when the freeway work is done to make this area look like just another freeway running past just another town. Even in the EIR that is explicitly declared.

Regards,
Nick

**From:** terry dowell <eleveneleven501@hotmail.com>
**Sent:** Sunday, May 28, 2023 9:34 AM
**To:** Bertaina, Lara E@DOT
**Subject:** Old growth redwoods

EXTERNAL EMAIL. Links/attachments may not be safe.

Please don't cut the beautiful old growth redwoods down for the sake of a freeway. When I drive through the East Bay on I680 all that I see is 6 lanes of traffic on both sides of the freeway and cement sound walls. I am always so glad that I don't live in a community that is choking and suffering from making the same mistakes that we are about to make. Some of the redwood trees were just sprouts during our revolution for independence and we need to keep them alive now for environmental reasons as well.

These trees are environmentally important, they are historically important, they are beautiful and they prove that our focus is not about getting someplace faster but about a commitment to the conservation of our planet.

There's always another way to solve issues….can you do your best to save these trees?

Terry Dowell
503 St. Andrews Drive
Aptos, Ca 95003

(Sent from my iPhone please forgive the typos)

**From:** Cheryl Feintech <cfeintech@comcast.net>
**Sent:** Sunday, May 28, 2023 10:07 AM
**To:** Bertaina, Lara E@DOT
**Subject:** Redwoods

**EXTERNAL EMAIL.** Links/attachments may not be safe.

Please do not cut down redwoods adjacent to Nisene

**From:** Caroline Frier <ckatfr@gmail.com>
**Sent:** Sunday, May 28, 2023 9:31 AM
**To:** Bertaina, Lara E@DOT
**Cc:** ckatfr@gmail.com
**Subject:** Hwy 1 expansion project

EXTERNAL EMAIL. Links/attachments may not be safe.

Dear Ms. Bertaina,
I am writing to express my opposition to the current Highway 1 expansion plan with auxiliary lanes from Freedom Blvd to State Park Drive in Santa Cruz County. I understand that this plan will remove many trees and clear the land, thereby negatively impacting the ecosystem, plants and wildlife in the immediate and surrounding areas as well as wildlife movement in and out of that area. It has not been proven that the widening of the freeway and auxiliary lanes will reduce traffic congestion. I live in Aptos and commute daily to Santa Cruz. The traffic congestion is actually lighter in the 2.6 miles slated for expansion compared to south and north of this targeted area. I have been commuting for 18 years so I am very aware of the traffic flow. I have read the biological impact section of the report and am very concerned about the negative impact to the ecosystem.
In addition, in my reading of the report there are no other solutions offered, merely "build" or "no build" plans. This is highly shortsighted. It is wrong to negatively impact the natural ecosystem along the 2.6 mile corridor because of traffic congestion. I strongly oppose this project. It will not solve traffic congestion and will adversely impact trees, plants and wildlife that live in this area.
It does not appear other solutions have been considered such as metering lights, moveable center barrier or utilizing the highway shoulder.
Thank you for your consideration of my concerns.
Please direct me to where I can track the status of the HWY 1 widening project after the public comment period. Thank you.
Sincerely,
Caroline Frier
2020 Huntington Drive
Aptos, CA 95003
831-566-8261

Sent from my iPhone

**From:** JULIA LOMPA <jlompa88@gmail.com>
**Sent:** Sunday, May 28, 2023 3:15 PM
**To:** Bertaina, Lara E@DOT
**Subject:** Candelabra Redwood Trees on Moosehead

**EXTERNAL EMAIL.** Links/attachments may not be safe.

Can we put a hard 'hold' on cutting the heritage Redwood trees on Moosehead in Aptos, CA, until we have a town hall with the locals? This community has lost thousands of trees in the last few years between fire & flood. This county is changing quickly due to encroachment from Santa Clara County. It would be nice, as a long-time resident, to hit the brakes on this improvement as it seems excessive and environmentally unfriendly. We residents have lost control of the development in this county which we worked many years to limit growth, unwisely in some areas. But please, give us respite on Moosehead Road, call a locals meeting with Caltrans & county supervisors invited, too.

Those trees germinated when we were signing the Declaration of Independence. Let's honor that document by having a democratic decision regarding the trees fate.

Thanks, sincerely,
Julia Lompa
Soquel CA

**From:** K. McGuire <kmcguire3@gmail.com>
**Sent:** Sunday, May 28, 2023 9:54 PM
**To:** Bertaina, Lara E@DOT
**Subject:** Trees along Hwy 1 in Aptos, Ca

**EXTERNAL EMAIL.** Links/attachments may not be safe.

To whom it may concern:

I am extremely disappointed about the project to remove a substantial number of trees in order to widen the freeway. While I understand the concerns about congestion, I challenge the belief that destroying these trees is the best option. I'm sure it is the cheapest option, but the visual affect (along with the ecological impact) will surely have negative results among residents and tourists.

I left the Bay Area a year ago precisely because of issues such as this. I don't want a commute that is empty of life and of color. Ripping out redwoods, adding asphalt, and then landscaping with non-natives is precisely why so much of the area has already been visually ruined.

Surely the team behind these plans can do better.

Regards,
Kathryn McGuire
Watsonville, Ca

**From:** Maria Gitin <msgitin@mariagitin.com>
**Sent:** Sunday, May 28, 2023 12:56 PM
**To:** Bertaina, Lara E@DOT
**Subject:** Segment 12 RTC Hearing Input

**EXTERNAL EMAIL.** Links/attachments may not be safe.

**From:** Maria Gitin <msgitin@mariagitin.com>
**Subject: Segment 12 RTC Hearing Input**
**Date:** May 28, 2023 at 12:52:04 PM PDT
**To:** lara.Bertaina@ca.gov
**Cc:** bruce.mcpherson@santacruzcounty.us, Supervisor Zach Friend <zach.friend@santacruzcounty.us>, Justin Cummings <cummingsj831@gmail.com>

Daer Ms. Bertaina and Regional Transportation Commission Members,
We live and vote at 159 Danube Drive, Aptos and receive our mail including ballots at the Capitola P.O. Box below my signature. I am a 37 year resident of mid and South County. I have attended virtual meetings, read the reports and studied the maps. This is my perspective on Segment 12 of the proposed plan:

First, I heartily endorse auxiliary lanes. The majority of workers drive cars because do not work regular hours, make more than one stop, and are not interested in public transit due to the sacrifice of safety, comfort, and security required to take public transit. Cars are more comfortable, sanitary and convenient. With electric cars soon to be the majority, pollution will be reduced and safety controls will be built in. An increase in electric vans for workers in the few large businesses will be helpful in reducing congestion.

Second, I appreciate the ongoing effort to create a pedestrian and bicycle trail throughout the county. Our section of the trail is home to an avid biking community as well as teens who would bike to school if they could avoid dangerous Soquel Avenue. So, yes to trails in whatever format.

Third, despite voters approval of a county wide rail system, it is infeasible, particularly through Segment 12. The expense of creating two safe crossings that will accommodate both a trail and rail line over Aptos Creek is exorbitant. It would be nearly impossible to build in a way that eases not increases congestion through

Aptos Village. Traffic and bike lanes through the Village urgently need to be reconfigured for safety, especially for children on bicycles and on foot. Segment 12 tracks cross an entrance to Nisene Marks State Park, the heavily used Aptos Park, two dense condominium developments, a major grocery store and an increasing number of small businesses. The tracks already restrict expansion of the road, the much needed completion of Parade Street and development of safe sidewalks, bike lanes and easy access to businesses. Widening the trail to accommodate rail will add to congestion as will the need to stop all traffic if the rail line is used by motorized vehicles.

I'm particularly saddened to see this being framed as a socio-economic issue. I have lived and worked in South County and remain involved in Watsonville civic matters. Everyone I know, especially young families want to be able to drive in their own vehicle - hopefully soon to be all-electric in California - on a widened highway. They do not feel comfortable on public transportation with strangers; even school bus ridership is declining since the pandemic. A large percentage of the workforce are small business owners and employees, independent contractors, landscapers, trades people, teachers and others who carry supplies and equipment in their vehicles. Even County and UCSC employees no longer work regular hours.

Despite the Measure D vote, it is clear that there is no viable option for passenger-freight rail in this county. Voters for the rail were influenced by romantic 20th Century notions, and further swayed by the much-loved Roaring Camp campaign to retain their rail access. There have been hearings and votes, but no actual studies on the number of people who plan to rely on any type of public transit to get to work, school or healthcare services.

I hope that the RTC will use data and facts in your decision making process, and allocate funds for projects that are feasible and needed. It is the job of leaders to lead, to plan for the next fifty to one hundred years. I'm counting on your collective wisdom.

Respectfully,

Maria Gitin Torres

P.O. Box 216
Capitola, CA 95010

*This Bright Light of Ours: Stories from the Voting Rights Fight*

www.thisbrightlightofours.com

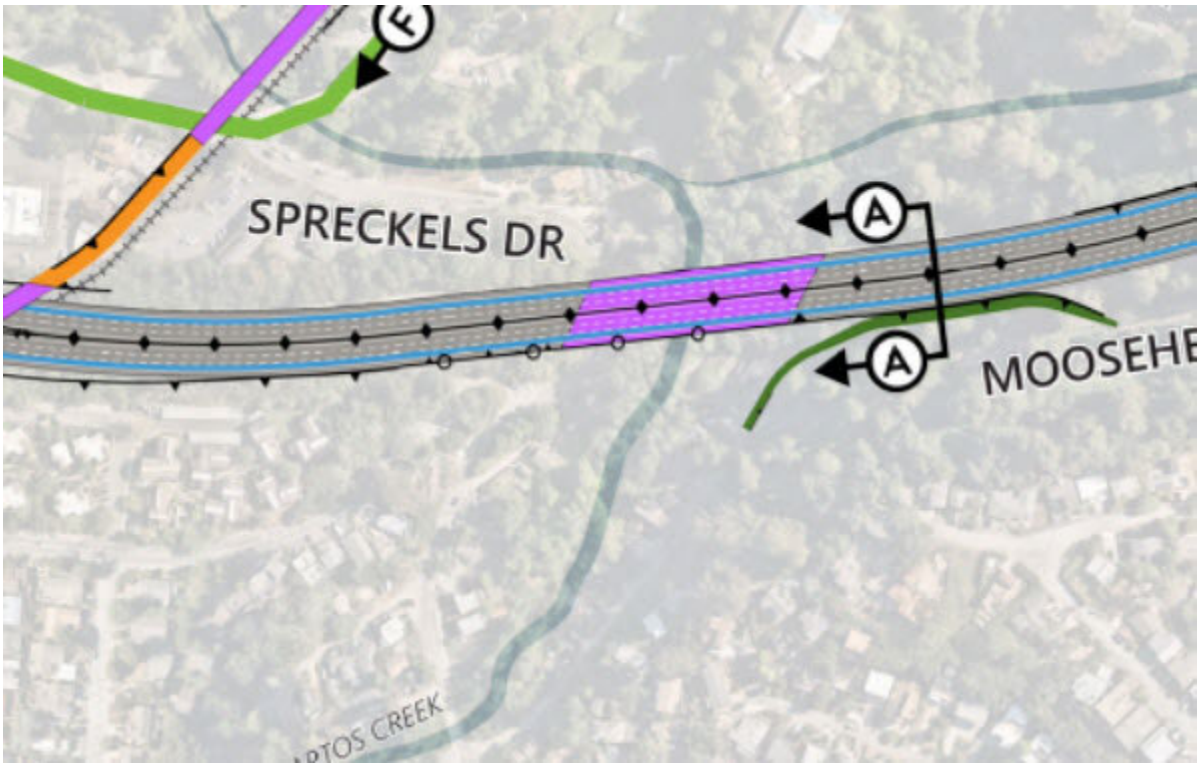
**Subject:** FW: State Park Dr. To Freedom Blvd Aux Lanes

-------- Original message --------
From: Derek L <derekleffers@gmail.com>
Date: 5/31/23 8:24 PM (GMT-08:00)
To: lara.bertaina@dot.ca.gov
Cc: Sarah Christensen <schristensen@sccrtc.org>, Derek L <derekleffers@gmail.com>
Subject: State Park Dr. To Freedom Blvd Aux Lanes

Hello,

My name is Derek Leffers and I live at 324 Moosehead Dr. Aptos, CA 95003. I would like to send in my below comments:

**Comment #1:** There is a discrepancy in the maps that are posted for where the sound wall will be installed. The first image shows a sound wall spanning over half of the bride and across the creek, as indicated by the line with the empty circles, per the legend. The second image show the sound wall not on the bridge and not across the creek as indicated per the purple line. The residents are receiving mixed messages for what will and will not have sound protection and visual improvement. We would like the sound wall to extend because the houses are very close to the highway, and several are at the same elevation as the highway.



**Comment #2:** The Focused Noise Abatement Decision Report states that:

"As part of the public review period for the project, the property owners and nonowner occupants will be sent a noise barrier survey letter to request each owner's or occupant's opinion on whether or not they would prefer a noise barrier and what height they would prefer the barrier to be based on the range of feasible and reasonable heights listed in Table 3.1."

No such survey has been sent out to the property owners for completion.

**Comment #3:** The Focused Noise Abatement Decision Report states that noise barrier S-89 meets all the federal requirements to build a 14 ft high noise barrier. If the noise study confirmed that S-89 meets the minimum noise abatement requirements, meets the minimum number of benefited receptors, and is less than the total reasonable allowance cost, then S-89 is reasonable. The residents do want to move forward with installing the S89 noise barrier per the noise study and modeled sound barrier map. The noise study also does not state any secondary effects of abatement for S89, therefore the residents would expect it to be installed, because it is being recommended.

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| NB-S89 | ROW | 8 | 885 | 10 | 9 | $963,000 | $776,400 |
| | | 10 | | 10 | 10 | $1,070,000 | $873,750 |
| | | 12 | | 11 | 10 | $1,070,000 | $964,020 |
| | | 14 | | 11 | 10 | $1,070,000 | $1,052,520 |
| | | 16 | | 12 | 10 | $1,070,000 | $1,130,400 |

**Comment #4:** The noise study was conducted in March of 2021 and 2022. These dates were during the COVID pandemic. During the COVID pandemic a significant number of employers were allowing staff to work from home. During that time there was a significant decrease in the number of vehicles on the road and driving across highway 1. Less vehicles on the road means less highway noise, but more significantly it means that the data collected during this time does not accurately reflect both past and current noise levels. Several residents are recommending either moving forward with the proposed sound wall S89 like the noise report recommends or having a second noise study done. We believe a second noise study will more accurately reflect true highway 1 noise and furthermore show the necessity of the sound barrier walls.

**Comment #5:** The Visual Impact Assessment states that view #2 “A sound wall would also be placed along the southbound shoulder, adjacent to the South Aptos Rail Bridge, to minimize traffic noise for residents along Carrera Circle and the eastern end of Moosehead Drive. The retaining wall and sound wall would introduce new vertical surfaces along this segment of highway, but aesthetic treatments would ensure that they blend with the natural landscape and do not detract from views.” but proposed maps are not showing the sound wall in design and when residents met with the design team, they stated no sound wall is being proposed.

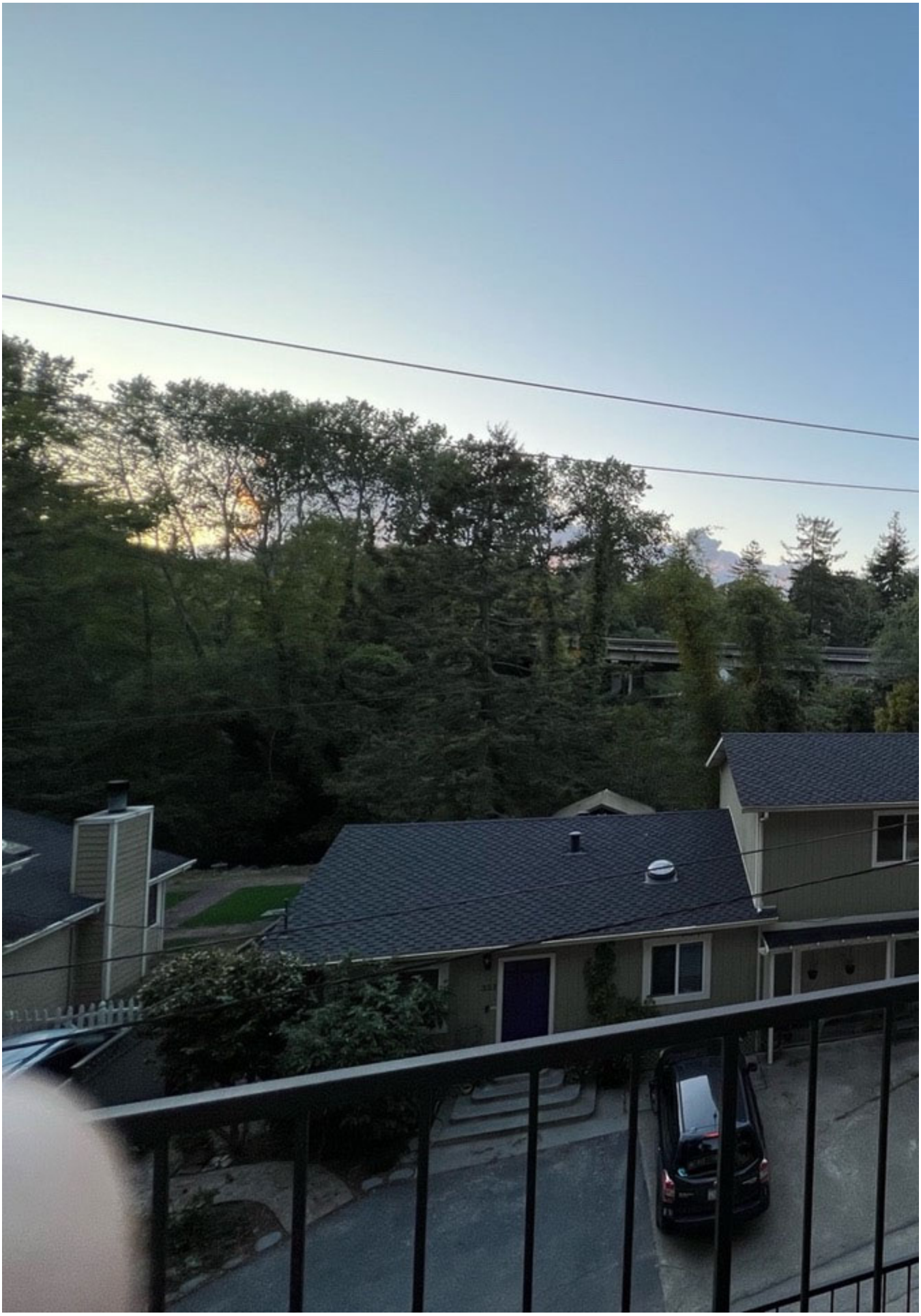
**Comment #6:** Residents do not understand why both the Focused Noise study report and the Visual Impact Assessment are stating that the design will include an aesthetically pleasing sound wall (S89) but preliminary designs are not showing the sound wall included.

**Comment #7:** In Chapter 1 Proposed Project, figure 1-3a states soundwall (S89 – indicated in purple) will be installed as part of the project. There are so many discrepancies in all the different reports. The information residents are being told, vs documentation on the website. None of it matches. The

residents want soundwall (S89) installed per this plan, per the noise study report, and per the visual impact assessment.

**Figure 1-3a. Project Components, Sheet 1 of 3**

**Comment #8:** My home at 324 Moosehead Dr. sits at a higher elevation than most other residential homes. It is important to me that the sound barrier and aesthetic treatments get installed per the plan on the south side of the bridge because my living room looks directly out to the highway. As you can see in the image below, most of my view currently is vegetation that will be cut away. I am deeply concerned that if the sound barrier doesn't get installed then my property value will decrease drastically. For some of us, our homes are our life savings, and we don't want to see decreases of hundreds of thousands of dollars.



**Comment #9:** Moosehead Dr. (east of Spreckels) is a resident-maintained rd. The residents have called the county several times requesting pot holes be filled and repairs, only to be told that we have to perform the repairs ourselves at our own expense. This project will require several heavy vehicles traveling back and forth down our drive that will further damage the road. We have been told that vehicles will be accessing the area via the highway, but PG&E and several other companies will go down our road. We ask that you don't place the burden of repairing it on us as homeowners. You are already moving the road in a portion of the area; it wouldn't be that much more to just rip up and repave the rest of the road at the conclusion of the project. Several of us homeowners would be more than willing to let the contractors drive on the road and use it to access hard to reach areas if the project will repave it at the end. This seems like a win win for all.

**Comment #10:** Since there seem to be so many different maps, designs, and general concepts for what this project will and will not include, residents would like time to review and comment on the final approved plans. Currently (as seen in the email) there are several errors and discrepancies. We don't know what to expect and what is actually happening. Can an official final design be created and then sent to residents for review and comment on?

State Route 1 Auxiliary Lanes and Coastal Rail Trail Segment 12 Project DEIR/EA
Comments submitted by
Michael Lewis and Jean Brocklebank
31 May 2023

## What's wrong with the DEIR?

Our concerns are centered on the lack of sufficient analysis of one very important component of the Proposed project; that is Segment 12 of the rail trail.

**First** and foremost, Segment 12 of the rail trail is **insufficiently analyzed**, being inappropriately incorporated in the greater State Route 1 Proposed Project that is the subject of the DEIR. Segment 12, including its two crossings over Highway 1 should have had its own DEIR.

**Second**, throughout the document, descriptions of the separate Rail Trail component and the Auxiliary Lanes component of the project are interspersed with **insufficient separation and identification**.

- All identified purposes do not apply to both projects.
- All identified needs do not apply to both projects.
- Federal Highway Administration 23 Code of Federal Regulations 771.111(f) do not apply to the Segment 12 component.
- The DEIR does not include objectives for the Segment 12 component consistent with objectives and policies in the adopted MBSST Network Master Plan.

**Third**, while the Purpose and Needs section (1.2) did include access for bicyclists and pedestrians "across State Route 1," the scope of the Proposed Project is clearly traffic congestion mitigation for State Route 1. Therefore, Segment 12 of the rail trail, including its two crossings over Highway 1 should have had its own DEIR. Segment 12 and its environmental impacts got lost in the shuffle.

**Fourth**, it is clear that there are ***two separate projects*** described in the DEIR, 1) "to widen State Route 1 to include auxiliary lanes, accommodate Bus-on-Shoulder operations between the Freedom Boulevard and State Park Drive interchanges," and, 2) "construct Coastal Rail Trail Segment 12." However, the only connections between the two projects are the two railroad crossings over Highway 1 which must be widened to accommodate the widening of the Highway, which will have to be accomplished regardless of the construction plans for Rail Trail Segment 12.

**Fifth,** we list the following **10** DEIR **deficiencies** with regard to **Segment 12:**

**1.** There are **no alternatives other than No Build identified or analyzed,** even though alternatives were suggested at the 2020 Scoping Sessions (DEIR/EA Summary, page S-11). Quoting from the Scoping Session summary:

"An online scoping open house was open from September 17, 2020 through October 18, 2020. The purpose of the online open house was to present to the public factors to be considered in the draft environmental document and to receive comments. The online scoping open house was announced in the Notice of Preparation. Sixty-two comment letters were received, and comments included:

"Recommendations for alternatives, including a trail-only project, bus-only lanes instead of auxiliary lanes, increased bus service, construction of a trail without rail service, and consider the project elements separately rather than combining them."

**2.** Throughout the DEIR, the project is improperly identified as the "Build Alternative," instead of the "Proposed Project." This makes it appear that there are two alternatives, when, in fact, there is only one alternative to the Proposed Project, the "No Build Alternative."

At the beginning of Chapter 1, the Proposed Project is correctly identified "to widen State Route 1 to include auxiliary lanes, accommodate Bus-on-Shoulder operations between the Freedom Boulevard and State Park Drive interchanges, and construct Coastal Rail Trail Segment 12." However, in the next paragraph, the Project is identified as the "Build Alternative." **A project cannot be an alternative to itself**. There is only one Alternative to the Proposed Project, the "No Build Alternative."

**3.** There is no alternative identified to reduce the number of trees that must be removed for the Proposed Project. Therefore, there is no basis for selection of an environmentally preferred Alternative to the Proposed Project.

**4.** There are **no plans or** detailed **descriptions** of the Segment 12 project, identifying extent of the railroad right of way, path widths, locations, height and length of retaining walls, and trees to be removed.

**5.** The Segment 12 "Optional First Phase" is in reality an Alternative to the Segment 12 component of the Proposed Project, but it does not apply to the Highway 1 component, yet another reason why the two projects should be addressed in separate EIRs.

**6.** The description of the "Optional First Phase" assumes an Optional Second Phase, which is not included in the Proposed Project and would require its own environmental assessment: the removal of the First Phase trail, rebuilding of the railroad tracks and building the Ultimate Trail beside the tracks. (DEIR, Chapter 1, page 11)

**7.** Under Biological Environment (Tree Removal) the only tree survey in the DEIR materials was conducted on the Highway 1 component of the Proposed Project (February and March of 2021).

**8.** There is no tree survey nor are there tree impact maps for the Segment 12 portion of the Proposed Project, yet the Tree Removal section states that 527 trees will be removed in the Segment 12 portion, without explaining how that number was determined. There are no plans or tree inventory for the Optional First Phase

Segment 12 component, therefore, there is no way to evaluate it as an environmentally preferred alternative to the Proposed Project.

**9.** The 3.2.4 Biological Resources section (p. 395-396) of the CEQA Evaluation does not address the County's Significant Tree Ordinance (County Code 16.34). Since this is a major component indicative of environmental impacts in an EIR, this is an unacceptable deficiency.

**10.** On page 22 of the Natural Environment Study there is a section called Limitations That May Influence Results ("*The biological survey efforts were limited by the lack of access to certain portions of the BSA")*. This is followed by an unsubstantiated conclusion that "*these limitations are not expected to have substantially affected the results of this document"* (page 24). Since this was a one day survey, ***with limitations***, how can decision-makers or the public have confidence in the the opinion of the author(s) of the DEIR?

In conclusion, the DEIR is insufficient for the following reasons:

- There is a lack of rigorous analysis of Segment 12 of the rail trail.
- There are no reasonable alternatives to the Proposed Project other than the No Build alternative.
- The Biological Survey is limited in scope due to access and does not identify which part is for SR 1 and which part is for Segment 12.

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## Appendix - DEIR Citations

Section 1.2 Purpose and Need

- Reduce delay and improve system reliability and safety along State Route 1.
- Improve traffic operational movements, local circulation, and transit operations
- Enhance bicycle and pedestrian connectivity and safety, including access across State Route 1 within the project limits.
- Promote the use of alternative transportation modes to increase transportation system capacity and reliability, improve health and reduce mortality, as well as to reduce vehicle miles of travel and vehicular emissions." (DEIR, Chapter 1, Page 1-2

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Tree Surveys (Chapter 2, page 288)

"Tree surveys were conducted in the project area in 2021 for both the highway component and the trail component.

- Approximately 1,112 trees would be removed along the highway alignment, including 182 county significant trees.

- Approximately 527 trees would be removed along the Coastal Rail Trail, including 121 county significant trees.

Tree removal estimates are conservative for the purposes of this analysis and will be further refined during the final design phase."

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CEQA Significance Determinations for Biological Resources

Would the project:

*e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?*

Less Than Significant With Mitigation Incorporated—The County of Santa Cruz has a Riparian Corridor and Wetlands Protection Ordinance that aims to minimize and eliminate any development activities in the riparian corridor. The project would be potentially inconsistent with this ordinance. Potentially jurisdictional U.S. Army Corps of Engineers waters of the U.S. (other waters), RegionalWater Quality Control Board waters of the State (streambed and riparian non-wetlands), California Department of Fish and Wildlife streams and riparian areas, and Coastal Zone/California Coastal Commission streams and riparian non-wetlands were identified within the project corridor, associated with creeks or drainages. The project has the potential to result in temporary and permanent impacts on riparian and wetland resources and be inconsistent with buffers established by this ordinance. Implementation of avoidance and minimization measures AMM-BIO-1 through AMM-BIO-16 and Mitigation Measure BIO-17, identified in Section 2.3.1, Natural Communities, and implementation of Best Management Practices, would reduce this impact to less-than-significant?

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**Natural Environment Study**

"A general wildlife survey of the BSA was conducted on February 10, 2021, by Eric Christensen and Ryan Johnson of Horizon. This survey was conducted on-foot in accessible areas and by vehicle in less-accessible areas (along SR 1 between on- and off-ramps). Wildlife and habitat types observed within the BSA were documented during the survey.**"(**Natural Environment Study, page 22**)**

*"Limitations That May Influence Results*

***The biological survey efforts were limited by the lack of access to certain portions of the BSA.*** *Access to some roadside portions of SR 1 and the Coastal Rail Trail was restricted due to safety hazards (e.g., constant traffic and steep slopes) and physical barriers (e.g., fences, private property, and locked gates). In such situations, the field investigation was limited to visual (windshield and distant) observations for these areas from accessible locations. These limitations are not expected to have substantially affected the results of this document."* (Natural Environment Study, page 24)

**Subject:** FW: 9081 and 9083 Soquel dr. aptos,ca-highway 1 widening

---

**From:** Dragan Daich <dragandevelop@icloud.com>
**Sent:** Thursday, June 1, 2023 10:51 AM
**To:** Bertaina, Lara E@DOT <lara.bertaina@dot.ca.gov>
**Cc:** Dragan Daich <dragandevelop@icloud.com>
**Subject:** 9081 and 9083 Soquel dr. aptos,ca-highway 1 widening

**EXTERNAL EMAIL.** Links/attachments may not be safe.

Department of Transportation,
Lara Bertaina
50 Higuera Street,
San Luis Obispo, CA, email lara.bertaina@dot.ca.gov.

Hi Lara,

Like to inform your department and fallow-up on comments and concerns that I have raised at public hearings May 04 2023 in Aptos Ca, about impact that will be generated by widening highway 1 south of Rio Delmar Blvd. As of now no one has reached out to me and it's of great concern that is not being addressed.

Existing water flow is already eroding my property and aded pavement will provide additional unsustainable erosion and landslide.
Will you please inform me wit whom and wen will I be able to have discussion on subject concern.
Please keep me updated and informed.

Best regards,

Dragan Daich 831-688-2111

Sent from my iPad

**From:** Joe Foster <josephfoster12@gmail.com>
**Sent:** Thursday, June 1, 2023 10:18 PM
**To:** Bertaina, Lara E@DOT
**Cc:** Schristensen@sccrtc.org
**Subject:** Public Comment dEIR- Highway 1 State Park Dr to Freedom Blvd Aux Lanes, Bus-on-Shoulder & Coastal Rail Trail Segment 12 Project

EXTERNAL EMAIL. Links/attachments may not be safe.

Good evening, Ms. Bertaina.

I have had the opportunity to review the findings presented in the draft Environmental Impact Report and feel they adequately address the concerns I have about the environmental impact, particularly sound, of this much needed project.

I especially want to call attention to the construction of an 800+ foot sound wall from southbound mile post 9.95-10.1. This sound wall will provide much needed noise abatement for the many residents and wildlife that live throughout the area leading down to the Rio Del Mar Esplanade. Figure 1-3a of the Proposed Project document, clearly outlines the plans for this noise abatement feature and makes it easy to understand where it will be constructed. Appendix G (geometric maps) is a little unclear, but the drawing does show a sound wall on the southbound Aptos Creek Bridge extension.

Thank you for the opportunity to comment on this very important and exciting project for Santa Cruz County.

Sincerely,

Joe Foster
315 Moosehead Drive, Aptos

**From:** Caroline Frier <ckatfr@gmail.com>
**Sent:** Thursday, June 1, 2023 10:41 AM
**To:** Bertaina, Lara E@DOT
**Subject:** Re: Hwy 1 expansion project

EXTERNAL EMAIL. Links/attachments may not be safe.

Dear Ms. Bertaina,
After attending the public hearing, I would like to comment on the draft EIR. I would like to request that impacts from tree removal be specified beyond this comment from today's hearing from Zach Siviglia, Project Manager, "to mitigate impact (to trees and environment) as much as possible". The environmental impact to the land, trees, plants, animals of the project needs to be determined specifically, not in general terms. The protected status of the trees, animals and plants needs to be considered, addressed and specified in the EIR as well.
Thank you.
Sincerely,
Caroline Frier
Aptos, CA resident

Sent from my iPhone

> On May 28, 2023, at 9:31 AM, Caroline Frier <ckatfr@gmail.com> wrote:
>
> Dear Ms. Bertaina,
> I am writing to express my opposition to the current Highway 1 expansion plan with auxiliary lanes from Freedom Blvd to State Park Drive in Santa Cruz County. I understand that this plan will remove many trees and clear the land, thereby negatively impacting the ecosystem, plants and wildlife in the immediate and surrounding areas as well as wildlife movement in and out of that area. It has not been proven that the widening of the freeway and auxiliary lanes will reduce traffic congestion. I live in Aptos and commute daily to Santa Cruz. The traffic congestion is actually lighter in the 2.6 miles slated for expansion compared to south and north of this targeted area. I have been commuting for 18 years so I am very aware of the traffic flow. I have read the biological impact section of the report and am very concerned about the negative impact to the ecosystem.
> In addition, in my reading of the report there are no other solutions offered, merely "build" or "no build" plans. This is highly shortsighted. It is wrong to negatively impact the natural ecosystem along the 2.6 mile corridor because of traffic congestion. I strongly oppose this project. It will not solve traffic congestion and will adversely impact trees, plants and wildlife that live in this area.
> It does not appear other solutions have been considered such as metering lights, moveable center barrier or utilizing the highway shoulder.
> Thank you for your consideration of my concerns.
> Please direct me to where I can track the status of the HWY 1 widening project after the public comment period.
Thank you.
> Sincerely,
> Caroline Frier
> 2020 Huntington Drive
> Aptos, CA 95003
> 831-566-8261
>
> Sent from my iPhone

**From:** Kelley Howard <kelley31kat@yahoo.com>
**Sent:** Thursday, June 1, 2023 3:21 PM
**To:** Bertaina, Lara E@DOT
**Subject:** RTS Road Safety (DEIR/EA)

**EXTERNAL EMAIL.** Links/attachments may not be safe.

Good afternoon,

I just wanted to voice my thoughts as to public safety. I hope to see RTC work more strongly with State and County concerning public safety. I hope to see a strong stance and unification between all government agencies that agree the public concerns are important to look into and respond to in a timely manner before more of our children are taken from us.

Kelley Howard
Josh Howard' mom (hwy 9 death 2019)
510.828.5402

**From:** Dennis Stanton <dls248@yahoo.com>
**Sent:** Thursday, June 1, 2023 1:45 PM
**To:** Bertaina, Lara E@DOT
**Subject:** Highway one widening

**EXTERNAL EMAIL.** Links/attachments may not be safe.

Hello, my name is Dennis Stanton and I live at 319 Moosehead Drive, Aptos, California 95003. I'm submitting the following comments in reference to the expansion of highway 1. These comments are in reference to the bridge over Aptos Creek and southbound highway 1.

There needs to be a sound abatement treatment on the bridge over Aptos Creek. The bridge will be widened, resulting in 24 feet closer to the homes. This will definitely increase noise. Sound barriers need to be installed.

Since the freeway will be 24 feet closer to the homes. The sound wall of the bridge needs to be extended beyond the bridge past the homes on Moosehead Drive. It is also important to realize that by removing the vegetation, the noise will be increased, since the vegetation does absorb some of the freeway noise.

Since the beauty of the natural vegetation is being removed, it is important that the sound walls be aesthetically pleasing .

All of these points, mentioned above, were referenced in the email submitted by Derek Leffers. As I understand it, all of these requests were provided in the documents referenced by Derek. They were approved and recommended.

Due to the wear and tear that will result from the use of Moosehead Drive by vehicles in completing this project, we feel that it is only reasonable that Moosehead Drive be paved at the completion of the project.

Homeowners should be reimbursed for any loss of value of their homes, due to any negative effects of the project. This, I suspect, this will cause home value depreciation. In order to determine the loss of values of the homes, this may require a current assessment and a post assessment.

During the on-site meeting that we had on May 31st, 2023, we were told that a study had indicated that there would be no increase of water in the Aptos Creek,due to the expansion of the freeway. I have not been able to find that in the report. I would appreciate it if you would just send that part of the report to me. We were informed that neither detention nor retention would not be required nor recommended. I would really like to have that reference on file, should there be any problems.

Thank you, I look forward to hearing from you.

Dennis Stanton
319 Moosehead Drive
Aptos, California 95003

dls248@yahoo.com

415-368-9515

Sent fromfrom Yahoo Mail on Android

**From:** Ray Welch <rnckwelch@sbcglobal.net>
**Sent:** Thursday, June 1, 2023 4:46 PM
**To:** Bertaina, Lara E@DOT
**Cc:** Sarah Christensen; gpreston@sccrtc.org
**Subject:** Santa Cruz Route 1 Auxiliary Lane Project

**EXTERNAL EMAIL.** Links/attachments may not be safe.

Dear Ms. Bertaina,

I am writing to provide input regarding the Santa Cruz Route 1 Auxiliary Lane Project, Federal Project ID #05-1800-0116.

My property is located at 2611 Estates Drive in Aptos, APN #03915133, and it is adjacent to Hwy 1. My home is approximately 60 feet from the highway and spans 170 feet along the highway. A Noise Study Report (NADR) was conducted and it was determined that my property will be severally impacted by the Route 1 Auxiliary Lane Project with a 74 dBA noise level. Last year, I was informed by Sarah Christensen that my home does not qualify for sound wall S109 because the impacted receptors (R93) do not generate enough funds to receive approval for a sound wall.

Since then, in preparation for the Auxiliary Lane Project, Caltrans has removed 90%+ of the trees that visually shielded my home from the highway. The removal of the trees has created a direct line of sight to the highway and has caused additional noise, dust, and fumes disturbing the continued use of my backyard. For the above reasons, I would like to request that the Santa Cruz County Regional Transportation Commission grant approval for a reasonable amount of project funds to replant county approved native trees or hedges, directly behind my home/property, that will resolve and restore my home from having a direct line of sight to the highway. .

Thank you for your consideration,

Ray Welch
2611 Estates Drive
Aptos, CA 95003
831-234-5714

**From:** Nick Arreguy <surfernick@yahoo.com>
**Sent:** Friday, June 2, 2023 2:47 PM
**To:** Bertaina, Lara E@DOT
**Subject:** #5 HWY-1 Aux Lanes, Bus on Shoulder, Coastal Rail Trail Segment (H1AL, BOS, CRTS) comment due by 6/2/2023

**EXTERNAL EMAIL.** Links/attachments may not be safe.

Hello,
I have good news. We can save the Moosehead Redwoods Grove and Moosehead Dr.

All that is needed is a change in perspective and insight into traffic engineering principals.

There will be little negative impact to the traffic flow by making the change.

Traffic will continue as planned and the bus auxiliary lanes can still work as intended and small business merchants and the Aptos.

There will be no trauma to the residents of Moosehead Dr. because their neighborhood will not be uprooted and destroyed.

The two lanes of traffic in each direction will continue with no widening as planned while still benefiting from the upgrades.

The economic prosperity of Aptos will be enhanced by saving these magnificent redwoods at the very entryway to Aptos.

What a cultural resource the redwood trees are between State Park Dr. and Rio Del Mar between the two trestles especially from Spreckels and Aptos creek to the second trestle towards Rio Del Mar. This magnificent redwood grove is the introduction and is at the entryway to Aptos. Carmel in the 1800's had to plant the Monterey Pines for which it is synonymous and famous for. But Aptos has these beautiful redwood trees that were a part of the extant forest that now in Nisene Marks State Park.

The Golden Gate and Bay Bridges introduce San Francisco to the world; what a sight the glimmering bay is to behold, what curb appeal. Imagine what San Francisco would be like without the bay. Aptos' new trestles will serve to introduce everyone to the Aptos area. Imagine the ugly retaining walls and sound walls with graded hillsides residents, commuters, and visitors will see if the project cuts those trees. Imagine the approach to Freedom Blvd. from the south and the approach from the north. Now imagine the curb appeal of the redwood grove between the two trestles. What a remarkable and beautiful sight to see.

If we allow these Aptos gateway redwoods to perish, Aptos will be known as just another city you drive by on freeway on the way to Santa Cruz or Monterey. Neither one of these cities have both the redwoods and sea. Once these trees are gone, they will never return again.

The Moosehead Redwoods can be the signature of Aptos on the freeway to pique the interest of vacationers and commuters driving by in what Aptos is famous for both the redwoods and the sea.

There at the side of Aptos' scenic highway, these old growth-like redwoods provide a taste of what is to be found in the redwoods of Nisene Marks State Park. The trees themselves advertise to passersby the Aptos Redwoods and Sea.

What would San Francisco be without its bay between its two bridges; what would Aptos be without its redwood grove between its two signature bridges? Parts of the rest of the freeway will look flat, undramatic, and unappealing in comparison to the dramatic Aptos redwood grove beside the freeway.

In fact, there will still be redwoods on both sides, since the northbound side will not have to be impacted.

Why go inland to Scott's Valley and Felton and HWY 9 area when the Redwoods and the sea can all be enjoyed in a single day right here in Aptos in what is to become the Redwoods to the Sea Trail.

Start your day hiking in the Nisene Marks Redwoods state park next to the stream and in the afternoon walk down to the beach to surf, enjoy the beach and watch the sun set.

The right campaign can boost businesses in the Rio Del Mar beach area, such as the restaurants and accommodations. What an opportunity for the business interests to capitalize on and promote. The Moosehead Redwood Grove can help guarantee the success of the small businesses and other enterprises in Aptos.

The Aptos Village might bill itself as the Entryway to the Redwoods and Sea. Dining and shopping. The merchants along Soquel Dr. can benefit as well as people walk the Redwoods to the Sea trail and browse, window shop, buy, dine and fix their cars and coiffeurs on their way to and froe on the trail. The redwood grove alongside of the freeway will distinguish from Santa Cruz the Surf City.

Long term positive economic and social impact will accrue.

Costs for building the freeway enhancements should be expected to rise. Cost overruns and delays can be projected. The purchase power of the original allocated budget will continue to dwindle. By not implementing the extensive modifications for the auxiliary lanes in-between the two trestles, tremendous cost savings are available to the public with no degradation in the expected highway flow.

Meeting construction schedules will be enhanced. The busses will have plenty of room to adequately merge in and out of the traffic lanes and would not impact the traffic. The traffic itself would have all the benefits of the freeway enhancements along the entire breadth of the freeway with beneficial impact on traffic flow between the trestles.

Ten years out into the future, the rail, walkway, and bikeway will all be there. All necessary improvements will all be installed. How can anyone contemplate when approaching the precipice of success, the cutting down and destroying of the most iconic symbol of Aptos right on the side of the road between the two Aptos interchanges? It makes no sense at all.

Aptos merchants and boosters please consider this alternative rather than to let perish the redwood grove that which has taken a millennium to gift to Aptos.

My suggestion:

The US Department of Transportation, Federal Highway Administration has written a Freeway Management Handbook covering the basics of freeway design. In Chapter 5 - Roadway Improvements to enhance safety and freeway performance, the following is found in chapter 5.4.1. Auxiliary Lanes:

- When interchanges are widely spaced, it might not be practical or necessary to extend the auxiliary lane from one interchange to the next. In such cases, the auxiliary lane originating at a two-lane entrance should be carried along the freeway for an effective distance beyond the merging point. An auxiliary lane introduced for a two-lane exit should be carried along the freeway for an effective distance in advance for the exit.

There will be negligible impact and, in our case, would not be practical or necessary to extend from one interchange to the next.

Please implement ramp metering.

## 7.2 CURRENT PRACTICES, METHODS, STRATEGIES & TECHNOLOGIES

### 7.2.2 Benefits

Before and after evaluations of ramp management strategies offer strong evidence that ramps, freeways, and even adjacent arterials operate better once strategies are implemented. Typical benefits of ramp management strategies include:

- **Safety** - Ramp management strategies, such as ramp metering, reduce stop-and-go driving behavior, resulting in fewer rear-end collisions. Ramp metering also breaks up platoons entering a freeway, resulting in fewer side-swipe and merge-related collisions. During periods of severe weather, ramps may be closed to prevent motorists from accessing freeways that are impassable. Ramp-arterial treatments (e.g., signal timing improvements, canalization, widening, and striping) may also improve safety by containing vehicle queues to the ramp, preventing queues from spilling back onto the freeway or adjacent arterial. Safety benefits from ramp metering programs across the county are presented in Table 7-2.
- **Mobility and Productivity** - Ramp management strategies may increase travel speeds while reducing travel time and delay. Freeways that have metered entrance ramps usually carry more traffic than they did before metering began, while attaining the improvements mentioned previously. A ramp metering study in Minneapolis showed a 25-percent increase in peak period traffic volumes while increasing average speeds by 5 km/h (3 mi/h) ( 2 ).

- **Environmental Effects** - The improved speeds, reduced stop-and-go traffic, and reduced delays that result from ramp management strategies also result in reduced emissions and fuel consumption. An evaluation of ramp meters in Minneapolis identified a net annual saving of 1,160 tons of emissions ( 3 ).
- **Traveler Perception and Satisfaction** - Ramp management and improved operations on freeways demonstrate to the public that agencies responsible for transportation facilities are doing something about congestion and safety problems. As a result, travelers and the public in general will be more satisfied with transportation agencies and the job they are doing. Higher public satisfaction makes it easier for agencies to acquire the needed resources to develop, implement, operate and maintain transportation improvements.
- **Promotion of Multi-modal Operation** - Ramp management promotes the use of transit, carpools, vanpools, and other multi-occupant modes of transportation by giving preferential treatment to these modes.

You can do it. It can be done!

Contact your representatives today.

P.S.

email confirmation of receipt of suggestion.

easy access to comments and responses on the website.

Otherwise how can anyone be certain their comments were registered and responded to.

easy access to the dimensions of the trees as taken by the arborists.

Link to handbook:

https://ops.fhwa.dot.gov/freewaymgmt/publications/frwy_mgmt_handbook/chapter5.htm

Regards,
Nick

**From:** Jerry Cannella <jcannella@aljers.com>
**Sent:** Saturday, June 3, 2023 12:13 PM
**To:** Bertaina, Lara E@DOT
**Cc:** Alice Cannella; Derek Leffers; Joe Foster
**Subject:** Fwd: Comments on RTC - Highway 1 Auxiliary Lanes

**EXTERNAL EMAIL.** Links/attachments may not be safe.

Lara,
Resending this since it bounced back.
Best,
Jerry Cannella

Begin forwarded message:

**From:** Jerome Cannella <jcannella@aljers.com>
**Subject: Comments on RTC - Highway 1 Auxiliary Lanes**
**Date:** June 1, 2023 at 7:04:33 PM PDT
**To:** lara.bertaina@dot.ca.gov
**Cc:** Derek Leffers <dereklees@gmail.com>

Lara,
As directed these are some of our main concerns on the proposed Highway 1 work and it's impact on Moosehead Drive in Aptos.

1. PGEE Utility Work:
a. Loss of power due to pole changes.
b. PG&E Utility vehicles impact on our privately maintained road.
c. Who will be responsible for the repair to the roadway as the current road will not withstand the heavy equipment required.

2. Soquel Creek Water District Work.
a. Current Temporary Main which was run from Carrera Circle to 5 homeowners at the top of Moosehead Drive.
1. Replacement of temporary to permanent piping and the impact on the residential homes and roadway.
a. Has Soquel Creek Water District been consulted and will they be making the main line upgrade at the same time as the work on the road.
b. Who will be responsible for the repair to the roadway as the current road will not withstand the heavy equipment required.
c. Placement of Fire Hydrant placement on Moosehead Drive.
d. Water interruption during construction.

3. Will Santa Cruz County be responsible for the maintenance of the new road area since Caltrans will be relinquishing control to Santa Cruz County.

4. Drainage on the new roadway of Moosehead Dr.

5. Retaining walls on Moosehead Drive and the Project Overview Section A-A does not show the existing elevation and proposed elevation.

Respectfully Submitted,
Jerome Cannella

305 Moosehead Drive
Aptos, CA 95003

831-662-3139 h
831-251-5061 c

**From:** bradclausen@aol.com
**Sent:** Friday, June 2, 2023 12:23 PM
**To:** Bertaina, Lara E@DOT
**Subject:** Rail Trail Project
**Attachments:** ditch 1.jpg; ditch 2.jpg; ditch 3.jpg; ditch 4.jpg; ditch 5.jpg

**EXTERNAL EMAIL.** Links/attachments may not be safe.

Lara,

I first want to say that as a small business owner in Santa Cruz County, I'm in total support of the Rail Trail. This is the most exciting thing to happen to Santa Cruz County in many years! My wife and I own Seacliff Center RV Park in Aptos, and The Rail Trail will go right by to my park. We have been the owners for the past 24 years. We have been trying to work with the County to resolve a major drainage problem that affects many of the properties in the Seacliff area. There is a drainage pipe that carriers the drain water for 140 plus acres above my property. The drainpipe is a 60-inch pipe that has totally failed and is destroying 4 properties. I've included photos of the damage to my property. We have had several meetings with Matt from planning and Peter from administrative analyst for the county. The County has told us they have no funds to make a repair like this and that we need to find another way to fix the problem. My biggest concern is that with additional pavement from the Highway 1 project and The Rail Trail, the increased drainage water will destroy what left of the downstream properties. We have come up with a better solution for the drainage to allow more development of the Seacliff area, and the future development of the Par 3 property as well as Poor Clare's property. There is a hotel and other plans for other projects in the Seacliff area but none of the will be done unless the drainage can be resolved. We even have plans for the renovation of our property, but this can't be done until the counties drainage is addressed.

I'm the owner of the Broadway St and I'm willing to have the drainage moved to my street and donate the street to the county if the drainage is moved there. With all the upstream construction over the past several years, the water flow has increased substantially.

We love Aptos and the Seacliff area, and this is a perfect opportunity to move some of the funds from the Highway One and Rail Trail projects to fix a drainage problem that has been plaguing the Aptos area for many years. PLEASE HELP!!

Thank You,

Warm Regards,

Brad and Annette Clausen
Seacliff Center RV Park
408.8381574

**From:** Temujin Kuechle <temujinkuechle@mac.com>
**Sent:** Friday, June 2, 2023 7:23 PM
**To:** Bertaina, Lara E@DOT
**Subject:** Santa Cruz RTC and development of the ongoing development of the Rail Trail project.

EXTERNAL EMAIL. Links/attachments may not be safe.

Hi!
I finally found this link in regards to submitting comments about the ongoing Rial Trail project in Santa Cruz County.
I think it's very important for the residents of and visitors to Santa Cruz County to have as many ways to get around as possible. This is why it is crucial to have differ t modes of public transportation available for people to use to get around Santa Cruz County.
The current rail trail project is supported by about 75% of voting country residents and this project has already received state and federal grants to continue with creating the Ultimate Rail and trail project for Santa Cruz County. A light rail system will be a very helpful addition to public Transit options for both residents and visitors alike. We look forward to your continued support on this project.

Thank you for your time and support,

Temujin Kuechle

Santa Cruz, California

Sent from a mobile location.

**From:** Derek Leffers <derekleffers@gmail.com>
**Sent:** Friday, June 2, 2023 1:51 PM
**To:** Bertaina, Lara E@DOT
**Subject:** Highway 1 Aptos

EXTERNAL EMAIL. Links/attachments may not be safe.

Hello,

After speaking with both Sarah and Zach on the southbound sound wall it is my understanding that sound walls follow Federal regulations and guidelines. It appears that the 885 ft. long and 14 ft. high sound wall across the Aptos creek bridge is both reasonable and feasible and therefor required per federal regulation. I would like this comment documented for legal purposes because if this soundwall is not constructed or modified per the specs specified in these reports, we can expect several residents requesting large sum compensation for property value loss or legal reconciliation.

Of the ten sound
Build Alternative e
at the following lo
1-3). See Append
numbers. See Ch
requirements for s

| Direction |
| --- |
| Northbound |
| Southbound |

## *Bus-on-Shoulde*

The proposed pro
lanes within intere

Derek Leffers

Sent from my iPhone

**From:** J Lighthill <jjmmlight@comcast.net>
**Sent:** Friday, June 2, 2023 10:55 AM
**To:** Bertaina, Lara E@DOT
**Subject:** Public comment related to Hwy 1, BOS and Trail Segment 12

**EXTERNAL EMAIL.** Links/attachments may not be safe.

Dear Lara Bertaina,

Thank you for considering my comments related to the Highway 1 State Park to Freedom Blvd Aux lanes, Bus-on-shoulder and Coastal Rail Trail Segment 12:

-Environmental impacts associated with SR1 Aux lane project are distinctly different from those associated with Segment 12 Trail project and would best be discussed in two separate EIRS. My comments relate to highway and trail projects separately.

**-Transportation-Trail**
This EIR explains that the SCBRL is an active rail line, but does not address potential user conflicts between trail users and freight operation. The MBSST FEIR addresses this impact: "Impact T-4 Potential conflicts between trail users and railroad traffic could occur at any of the trail railway crossings. These conflicts could result in hazardous conditions for both trail users and rail operators and passengers." Potential conflicts of trail users with auto or rail traffic at Aptos Creek Rd, Parade St. and Trout Gulch Rd. are not discussed.

**-Land Use Planning-Trail**
This EIR states "…the project would not physically divide an established community." "Both the highway and rail line are linear features that already divide the community." 3.2.11 Land Use Planning, Chapter 3, p20

Despite having no improvements, the Segment 12 corridor serves as an *existing* bike and pedestrian transportation corridor. Fencing and retaining walls included with the proposed project would deny existing access by neighbors near and adjacent to the trail. Those who currently access the trail through gates, streets, parking lots will be denied access and will be impacted by extensive detours to locations that include heavy auto traffic: RDM Blvd,

Aptos Village and State Park Dr. (Photo: existing trail access near Tennis Club of RDM).

**-Noise-SR1**

Please expand noise analyses to include areas surrounding SR1 crossing at Aptos Creek, including the riparian corridor that includes 3 converging creeks, wildlife habitat and crossing, and residents living in RDM flats and on surrounding hillsides.

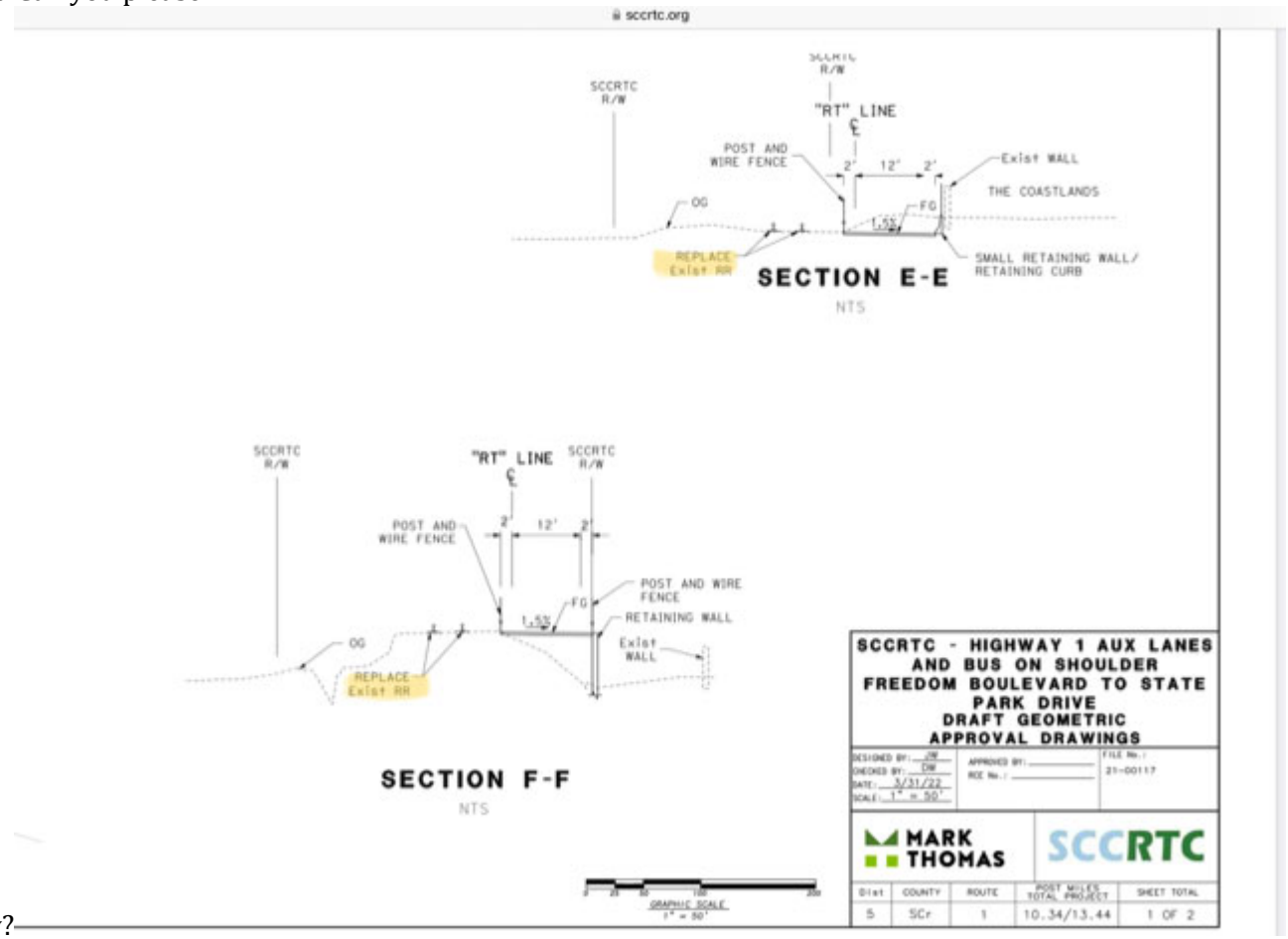
Consider how increased noise impacts wildlife. "Several lines of evidence suggest that traffic noise is a major factor explaining declines in populations of wildlife near roads." https://royalsocietypublishing.org/doi/10.1098/rspb.2013.2290

Please explore alternatives to sound walls:
"Walls are not a very effective solution," said Robert Bernhard, vice president for research at the University of Notre Dame and an expert on noise control. "At highway speeds, the predominant sound for cars is that of tire-pavement." https://undark.org/2017/12/27/highway-noise-barrier-science/

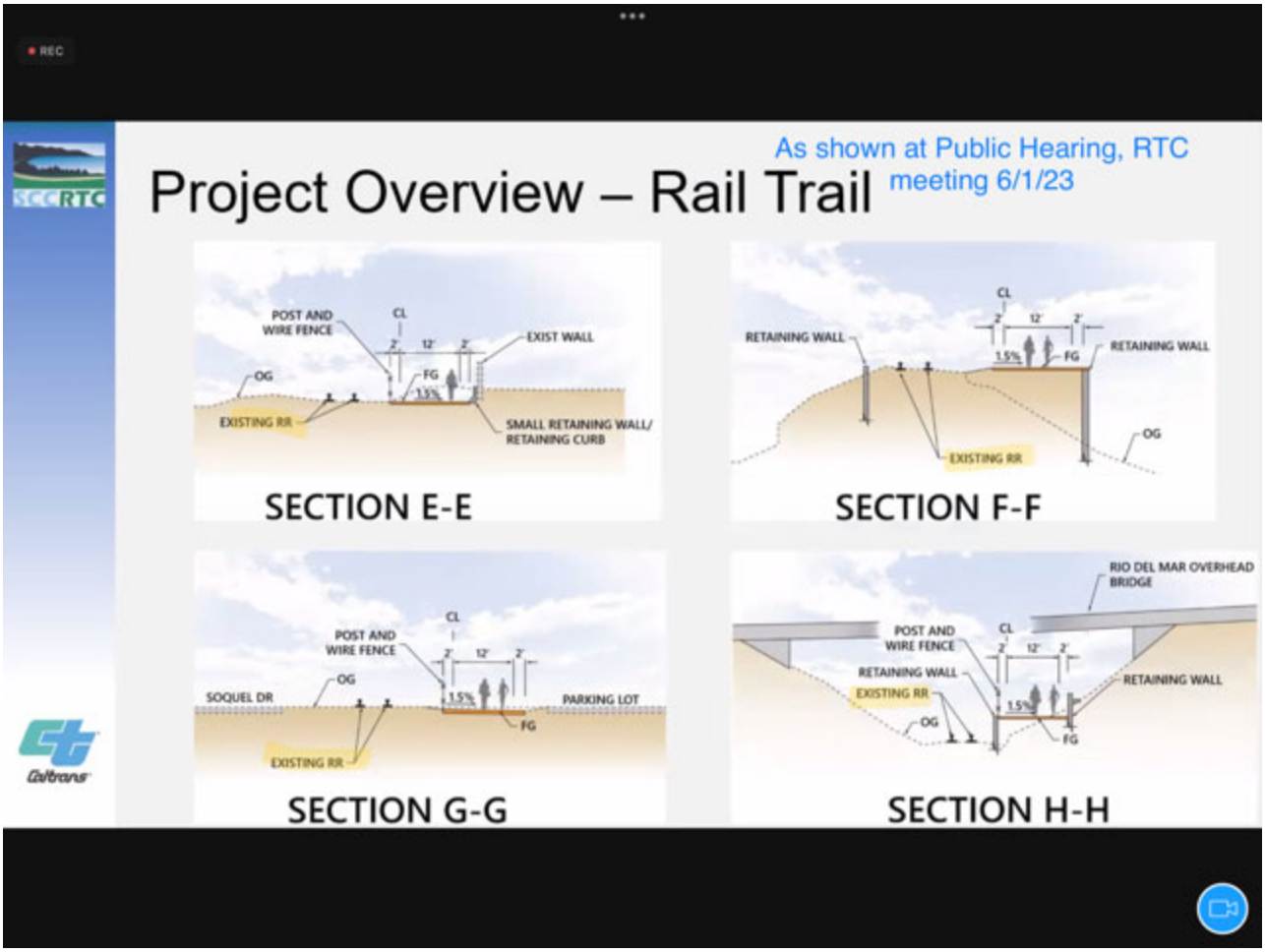
Quiet Pavement
As The Atlantic has reported – " Arizona, California, and other states have begun experimenting with something called quiet pavement, a rubberized asphalt or smooth concrete mix designed to lessen sound. In Phoenix, it cut traffic noise by 6 to 12 decibels, according to Robert Bernhard, the vice president for research at the University of Notre Dame."https://resonics.co.uk/7-ways-future-quiet-soundproof-technology/

Noise Barriers
Sound absorptive, solar https://www.prnewswire.com/news-releases/sustainable-roads-of-the-futurecanada-is-home-to-worlds-first-sound-absorptive-solar-highway-noise-barrier-301565164.html

**-Draft Geometric Approval Drawings-Trail**
Drawings on RTC website include "replace existing RR" and differ from drawings displayed at public hearing (RTC meeting 6/10/23). EIR does not discuss replacement of rail as part of the Ultimate trail, nor impacts associated with it. Can you please




clarify?




Thank you for your consideration.

Johanna Lighthill
Aptos resident

**Debie and Brad Macdonald**
**255 Shoreview Drive, Aptos, CA 95003**
**831-228-2684**
**djchirco@gmail.com**

Lara Bertaina, Senior Environmental Planner
Central Regional Environmental, Caltrans District 5
50 Higuera Street, San Luis Obispo, CA 93401
lara.bertaina@dot.ca.gov

**RE:** SCCRTC EIR/EA comments on Hwy 1 State Park Drive to Freedom Blvd. Aux Lanes, Bus on Shoulder & Coastal Rail Trail Segment 12 Project
Specifically: Moosehead Drive, Aptos "Vegetation Removal" and roadway widening

Dear Ms. Bertaina:

On behalf of ourselves and numerous neighbors we are opposed to the proposed coastal redwood (Sequoia sempervirens) and oak tree cutting along Moosehead Drive and the widening of Moosehead Drive, which lies between the State Park Drive and Rio Del Mar exits along Highway 1 in Aptos. We have learned that there are plans to cut 25-35 significant trees along Moosehead Drive in order to move and then widen the roadway from its existing nine feet to 20 feet.

Numerous significant trees have been identified along Moosehead Drive (56 redwood Santa Cruz County Significant Trees (SCCST) were identified in the EIR/EA by the SCCRTC in the Moosehead redwood grove extending to the southmost trestle. Many of these are likely 4+ feet in diameter); additionally, many of these trees occur in sensitive habitat (Santa Cruz County Significant Tree definition as stated in Appendix L, pages 323-324 of the SCCRTC's 'Tree Survey Memorandum for the Highway 1 Auxiliary Lanes Project Freedom Boulevard to State Park Drive' document; county code 16.34.030 (A) for significant trees and county code 16.32.040 (10) for sensitive habitat).

We understand that Caltrans plans to relinquish their right-of-way on a portion of Moosehead Drive to the County of Santa Cruz, who then plan to cut these significant trees.

Additionally, our understanding is that there has never been a Historic Property Survey Report (HPSR) done by Caltrans for Moosehead Drive, which is a significant cultural resource used by residents for more than 100 years. It's a single lane roadway – which ensures cars drive slowly – that is beautiful to walk along because of the numerous coastal redwoods that grow there. For many years we have observed wildlife in this area – ranging from Great Horned Owls, barn owls, deer, coyote, raccoon, skunk, fox, red-tailed hawks, red-shouldered hawks, and numerous other bird species. We believe a HPSR should be required before any decisions are made regarding tree cutting and road widening on Moosehead Drive.

We suggest minimal work along Moosehead Drive – only replacing the lower section below the freeway level and keeping the road above the level of the freeway alone. This would:

- Save time and money,
- Preserve numerous significant trees on both sides of the roadway,
- Maintain the natural buffer along our busy highway, and
- Protect sensitive habitat.

We have lived on Shoreview Drive for 27 years and my husband grew up on Shoreview Drive; many of our neighbors (including several who have also signed this letter) have lived on Shoreview Drive for

decades. Shoreview Drive is located above Moosehead and many of these trees are visible from the end of our street. Part of the charm of Aptos are the coastal redwoods in and around our town, along the highway, and Nisene Marks State Park. Removing dozens of these significant trees along Highway 1 not only removes that charm but also removes natural buffers and creates a "sterile" look with sound and retaining walls lining the highway.

Moosehead Drive and the surrounding area going up the hillside toward Shoreview Drive is an amazingly beautiful habitat, an ecosystem that thrives amidst housing and a highway. Many of redwoods are hundreds of years old and are candelabra-type redwoods (which inspired the road name). Moosehead Drive also acts as a wildlife corridor connector from Aptos and Valencia Creeks. Additionally, the forest filters rainwater and cleanses it during the infiltration process before reaching salamander habitat on the northbound side of the freeway. If the forest is removed 1) the wildlife corridor becomes either fragmented or non-existent and 2) rainwater becomes stormwater runoff due to increased impermeable surfaces – thereby decreasing infiltration and threatening the salamander habitat with road pollutants. The environmental impacts from road widening and cutting of 25-35 significant trees would be devastating and irreversible.

Please help to protect these redwoods and make the most cost-effective choice that also preserves natural buffers by:

- Completing a HPSR,
- Not relinquishing the Caltrans right-of-way to the County of Santa Cruz,
- Not realigning/moving Moosehead Drive 40 feet into a steep hillside,
- Not widening Moosehead Drive from nine feet to 20 feet,
- Not cutting 25-35 significant trees.

Additionally, the EIR should address the following:

- Using metered ramps on the highway as a congestion reducing strategy,
- Considering a movable median barrier (like on the Golden Gate Bridge) to reduce northbound morning congestion and southbound evening congestion on workdays,
- Salamander studies on the northbound side of the highway,
- Stormwater runoff issues if the forest were to be removed.

We all thank you for your time and attention to this

matter. Sincerely,

Debie and Brad Macdonald 255 Shoreview Drive

Judy and Scott Campbell
250 Shoreview Drive

Pat and JJ Kapp
199 Shoreview Drive

Jenifer Renzel and Nancy Merritt 214 Shoreview Drive

Matt and Lauren Wall
205 Shoreview Drive

Maura Mounts 241 Shoreview Drive

Darla Mick
251 Shoreview Drive

Margaret Walker
198 Shoreview Drive

**From:** Becky Steinbruner <ki6tkb@yahoo.com>
**Sent:** Friday, June 2, 2023 8:40 AM
**To:** Bertaina, Lara E@DOT
**Cc:** Becky Steinbruner
**Subject:** Fw: Requesting Legal Description of RTC Right-of-Way for Railroad in Front of Bayview Hotel, Aptos Village Area

**EXTERNAL EMAIL.** Links/attachments may not be safe.

Dear Ms. Bertaina,
I am forwarding this correspondence as comment related to the Segment 12 Auxiliary Lanes and Rail Trail in Aptos, CA.

The Rail Trail, as planned would remove roughly 50% of the parking area in front of the historic Bayview Hotel. This taking would alter the historic context of the Hotel, because Jose Arano built the Anchor Hotel (now the Bayview Hotel) so as to be near the railroad passenger station that existed nearby. The Bayview Hotel is on the National Historic Registry as **National Register #92000259.**

The deed makes it clear that no structure can be built on the Hotel property without written consent of the owner. Although the ROW Maps provided in the Draft EIR show the Santa Cruz County Regional Transportation Commission (SCCRTC)will need to acquire the property in front of the Bayview Hotel adn adjacetn Trout Gulch Crossing commercial property, Mr. Mendez and Ms. Christensen recently informed the owner of the Bayview Hotel, Ms. Cristina Locke, during a meeting at which I attended, that the SCCRTC owns the property as part of the railroad line.

This is not accurate.

The altered map that Mr. Mendez and Ms. Christensen had removed any need for a ROW acquisition on the Bayview Hotel property, as the contiguous line of proposed ROW acquisition no longer reflected the true property boundaries of the private rail crossing that is shared by Ms. Locke and Ms. Laurie Negro, who owns the Trout Gulch Crossing property. The 1877 agreement between Mr. Jose Arano and the Santa Cruz Railroad described this crossing; the crossing property was split much later when the Trout Crossing commercial property sale was made. The ROW remains the same for the two properties relative to the railroad line.

The commercial value of the Bayview Hotel will be significantly and adversely affected. The Conditional Use Permit for the Hotel restricts special events, such as weddings, to no more than 50 guests, due to limited parking available. The Segment 12 Rail Trail will reduce the existing parking in front of the Hotel by 50%, thereby removing any real ability of the Hotel owner to host lucrative special events in the future.

I do not feel it is in the best interest of preserving the important historic and cultural resources of Santa Cruz County to take the land in front of the Bayview Hotel for this Project as it is proposed. I feel that reducing the width of the Rail Trail as it traverses Aptos Village is reasonable because Soquel Drive has a bike lane on both eastbound and westbound lanes and offers cyclists that option with traffic lights for safety at the intersections.

I feel that constructing only a sidewalk adjacent to the railroad tracks, with a width of four feet (4') would provide adequate space for pedestrians and would be in keeping with historic context of the Bayview Hotel property as well as the adjacent Trout Gulch Crossing property. It would require less taking of land for ROW, if any at all, and would better serve the real needs of the public and area businesses.

Therefore, I protest the current proposed 14'-16'-wide Rail Trail in Aptos Village because it would significantly and adversely affect the historic character of the Village properties, especially the Bayview Hotel and Trout Gulch Crossing, would adversely affect important cultural and historic resources of the County, and would signficantly and adversely impact the commercial value of the historic properties such that owners could not operate their businesses and thrive economically to serve the public.

Please add reducing the Rail Trail through Aptos Village to direct bicycle traffic to Soquel Drive at Trout Gulch Road and Aptos Creek Road, both of which are signalized for pedestrian and bicycle traffic, and to construct a sidewalk only in the aforementioned area as an Project Alternative and take no land for ROW from the area property owners.

Sincerely,
Becky Steinbruner
3441 Redwood Drive
Aptos, CA 95003

----- Forwarded Message -----
**From:** Becky Steinbruner <ki6tkb@yahoo.com>
**To:** Luis Mendez <lmendez@sccrtc.org>
**Cc:** Sarah Christensen <schristensen@sccrtc.org>
**Sent:** Thursday, June 1, 2023, 05:48:19 PM PDT
**Subject:** Re: Requesting Legal Description of RTC Right-of-Way for Railroad in Front of Bayview Hotel, Aptos Village Area

Dear Mr. Mendez,
Thank you for this information. I do not agree that it describes the railroad right-of-way including the area to the south of the railroad tracks or into what is now the Bayview Hotel parking lot.

While Ms. Locke did agree, under duress, to settle with Barry Swenson Builders to allow her her half of the private railroad crossing to be closed and allow the new Parade Street crossing to open, she did not relinquish the ownership of the land adjacent to the crossing or areas of the parking lot next to the railroad tracks.

Sincerely,
Becky Steinbruner

On Tuesday, May 30, 2023, 12:03:51 PM PDT, Luis Mendez <lmendez@sccrtc.org> wrote:

Hello Ms. Steinbruner,

The legal description that we have is in the deed that was provided to the RTC by First American Title Company after completing their title report. The deed is attached and the title report is located on the RTC website at https://sccrtc.org/wp-content/uploads/2011/07/090901-FinalTitleReport.pdf.

. . . . . .

Luis Pavel Mendez, Deputy Director

Regional Transportation Commission

831.460.3212 | 408.838.2392

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**From:** Becky Steinbruner <ki6tkb@yahoo.com>
**Sent:** Sunday, May 14, 2023 6:49 PM
**To:** Sarah Christensen <schristensen@sccrtc.org>
**Cc:** Luis Mendez <lmendez@sccrtc.org>; Becky Steinbruner <ki6tkb@yahoo.com>
**Subject:** Requesting Legal Description of RTC Right-of-Way for Railroad in Front of Bayview Hotel, Aptos Village Area

Dear Ms. Christensen,

Thank you again for meeting with Ms. Cristina Locke, owner of the Bayview Hotel,  and me last week.

I wonder if you have been able to locate the legal description of the railroad property  specific to 8041 Soquel Drive in the Aptos Village that was purchased by the RTC, and that we discussed in our meeting?

Bridgette Land Surveyors established and recorded all property boundary corners for the Bayview Hotel in 2018, and affirmed the earlier surveys recorded by Larry Palm that the parcel  boundary line extend under the railroad tracks and into the existing bike lane on westbound Soquel Drive.  The parcel map you and Mr. Mendez showed us indicated a new line drawn parallel to the railroad tracks and well within Ms. Locke's property that was never apparent in Mr. Bridgette's survey work and never presented to Ms. Locke  until now.

Please send the legal description of the railroad purchased right-of-way in the Aptos Village area that includes what is now APN 041-011-55 (formerly APN 041-011-34).

Thank you.

Sincerely,

Becky Steinbruner

**From:** leeseve <leeseve@aol.com>
**Sent:** Friday, June 2, 2023 5:00 PM
**To:** Bertaina, Lara E@DOT
**Subject:** SC Co Draft EIR
**Attachments:** Draft EIR notes.docx

**EXTERNAL EMAIL.** Links/attachments may not be safe.

Please see attached.
Thank you.

June 2, 2023

Lara Bertaina

California Dept. of Transportation

Ms Bertaina,

I am writing in response to the Draft EIR for the Santa Cruz County Highway 1 State Park Dr to Freedom Blvd Aux Lanes, Bus-on-Shoulder & Coastal Rail Trail Segment 12 Project.

The overall problem with this project – especially aux lanes and bus-on-shoulder -- is that the reality will not live up to the idealized picture painted by the SCCRTC and CalTans.

The website states that the purpose of this project is to “Reduce delay and improve system reliability and safety along State Route 1.”

Various questions arise about this:

I do not see true evidence of improved safety, that fewer collisions will occur. In fact, higher speeds, if

they actually occur, will cause more collisions than current conditions. Also, as stated below, actual use of aux lanes could result  in increased collisions.

Also ,the notion that “Some of these [current] types of collisions [rear end and side swipe] may be attributed to the lack of auxiliary lanes,” as stated by the consultant, is pure conjecture and thus meaningless.

I don’t see any true evidence that the auxiliary lanes will mitigate traffic delay.

This is at least partly because there appears to be an idealized view of the auxiliary lanes, that they will be used for smooth on-and-off traffic flow.  However, the reality is that because traffic on the main highway will remain heavy, drivers will attempt to use the aux lanes as bypasses to the congestion, weaving in and out of the aux lanes at will. This in turn will cause more collisions.

Further, using the auxiliary lanes as part of the bus-on-shoulder plan defeats the purpose of bus-on-shoulder. Buses having to use aux lanes will be subject to the vagaries of traffic instead of escaping

it. At peak hours, the lanes will fill up, causing the buses to slow down, undermining their efficiency.

.

Also, it is a lovely idea that the buses will be more appealing to residents; however, this falls into the wishful thinking category. Few drivers will be willing to give up the autonomy and privacy of their cars. I would hope for major educational, informative campaigns to increase transit ridership. However, ridership will not increase enough to make a significant difference in reducing individual cars.

The ultimate savings in greenhouse gases (negligible) and smooth traffic flow (not significant, especially by horizon year 2045, when minutes saved revert back to current times) hardly seem worth all the devastation that will occur to the trees, land, water, air, sensitive animal species, and human sanity. I appreciate all the avoidance and mitigation measures that will be put in place, or at least attempted.  However, there is ideal science, and there is reality.  We can be sure that accidents and mistakes of construction will happen that will not necessarily be remediable. There are also areas

where not enough consideration has been given, despite the many AMM's outlined. An example of this is the Santa Cruz long-toed salamander, a fully protected species. I appreciate that avoidance is being attempted, including mending the fence along the highway and Valencia Lagoon.  However, it is likely that the salamanders' health will be adversely affected by all the ongoing nearby noise, vibration, and lights for nighttime construction.

"Potential long-term noise impacts due to traffic noise [will occur]. Polling of the benefitted receptors would be required."  Traffic noise already prevails in this area, disrupting outside activities for residents. Increased noise is unacceptable. Also, while the draft does not go into detail about induced traffic, this is implied here: increased noise signifies increased traffic. Ultimately, increased traffic will negate any benefits possibly accrued from this project.

I am also quite concerned about water, especially the increase in impermeable surfaces for the Soquel Creek Water District's aquifers. " An increase in

impervious surfaces would result in a loss in volume or amount of water that may have previously recharged localized aquifers and thereby reduce regional groundwater volumes." Also, "Permanent impacts from runoff from the increased impervious surface area could increase pollutants to the receiving waterbodies." These aquifers are so threatened by seawater intrusion that the District has embarked on a project using wastewater to back-fill, in order to cushion aquifers against seawater. So it is a teeth-clenching notion that these aquifers, dependent on rain and ground water, will have even less surface from which to absorb groundwater.

As a Rio Del Mar resident who lives between the Rio Del Mar and Freedom Blvd on/off-ramps, I am heartsick, as are my neighbors, at the prospect of losing beautiful redwoods, coastal oaks, pines, and other evergreens that make this stretch of highway uniquely lovely: "The context and extent of the project's contribution to this cumulative impact were considered, noting the distribution of visual impacts of the project, including the loss of mature trees

along the project corridor, the length of time required for replacement trees to reach maturity, and the inability to fully mitigate the visual impacts of the proposed project. These factors suggest that the incremental contribution of the proposed project to the cumulative visual impact may be considerable."

By the way, the draft states elsewhere that "skyline trees" would be planted, implying the planting of mature trees, as opposed to what is stated above, that trees would need to grow to maturity.

I am equally concerned about local species of plants, animals, and birds losing habitat and generally being disrupted, disturbed, possibly killed. This is the cost of progress and improvement, you might counter. And I would reply that, again, the projected improvements in traffic speed and safety are unrealistic and therefore not worth the years of disruptive construction, dollars, tree, plant and animal lives lost.

By the way, for the Least Bell's Vireo and Southern Willow Flycatcher, they forgot to say. "These factors indicate that the incremental contribution of the proposed project to the cumulative impact on [these

species] would not be considerable." What does it mean that this was left out?

There is also the sense in the draft EIR that, because past human encroachment has compromised various ecosystems and habitats, like the various woodlands, then it is in essence acceptable for further degradation of these habitats and ecosystems, that AMMs would help: For example, "These factors indicate that the incremental contribution of the proposed project to the cumulative impact on the coast live oak woodland natural community would not be considerable." Again, this is assuming that the AMMs would actually be put in place and would be adequate or better.

The draft states, "Following completion of the project, State Route 1 may be more attractive for existing and potential future freeway users compared to the current condition," *There it is again: unacknowledged induced travel.*

“but proposed improvements would occur along a short section of an existing freeway corridor, addressing projected traffic volumes,” *This has not been proven, especially in the light of induced travel.*

“and encouraging drivers to use public transit or non-motorized transportation” *This is yet another statement of wishful thinking, unproven..*

Another question arises: If this project were to go ahead, why can’t <u>all</u> the widening be done in the median strip, as between Rio Del Mar and Freedom Blvds.?  That would cut out a lot of the tree, plants, and animal disruptions.

The tables from pp 70-71 show barely any improvement of Build over No Build, and what improvement there is, is negated by horizon year 2045.

In conclusion, I cannot accept that the minimal, if any, benefits from widening the highway are worth the major, possibly catastrophic, disruptions caused by this project.

Sincerely,

Elissa Wagner

528 Encino Drive

Aptos, CA 95003

| | |
|---|---|
| **From:** | Linda Wilshusen |
| **To:** | Bertaina, Lara E@DOT; Regional Transportation Commission |
| **Cc:** | Habib, Naveen@CATC |
| **Subject:** | Comments from Linda Wilshusen re: DEIR/EA for Santa Cruz County State Route Highway 1 Auxiliary Lanes and Bus-on-Shoulder Improvements Freedom Blvd. to State Park Dr. and Coastal Rail Trail Segment 12 Project |
| **Date:** | Friday, June 2, 2023 12:14:51 PM |
| **Attachments:** | 20230602 Wilshusen Comments on Caltrans DEIR EA Hwy 1 SP-Freedom.docx |

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**EXTERNAL EMAIL.** Links/attachments may not be safe.

Thank you for the opportunity to comment on this draft environmental document. My comment letter is attached. Please confirm receipt, thank you.

- Linda Wilshusen

June 2, 2023 VIA EMAIL

Lara Bertaina
Department of Transportation
50 Higuera Street
San Luis Obispo, CA 93401

Santa Cruz County Regional Transportation Commission
1101 Pacific Avenue, Suite 250
Santa Cruz, CA 95060

RE: DEIR/EA for Santa Cruz County State Route 1 Auxiliary Lanes and Bus-on-Shoulder Improvements Freedom Blvd. to State Park Dr. and Coastal Rail Trail Segment 12, prepared for Caltrans and the Santa Cruz County Regional Transportation Commission (RTC) EA 05-0C734

Dear Ms. Bertaina and Members of the Regional Transportation Commission -

Thank you for the opportunity to comment on the *Draft Environmental Impact Report and Environmental Assessment* (DEIR/EA) for Santa Cruz County State Route 1 Auxiliary Lanes and Bus-on-Shoulder Improvements Freedom Blvd. to State Park Dr. and Coastal Rail Trail Segment 12 (Project).

**Comments**

This DEIR/EA should be determined to be inadequate, significantly revised, and recirculated for the following reasons:

**1. The Vehicle Miles Traveled (VMT) analysis is inadequate. Key elements of the highway widening aspect of the Project - four new Auxiliary Lanes and new Bus-on-Shoulder Operations - are omitted from the VMT analysis.** The proposed Auxiliary Lanes between State Park Drive and Rio Del Mar Blvd. are effectively 1 mile in length and should be analyzed for VMT impacts in the DEIR/EA. In the DEIR/EA and related traffic studies, the stated length of the proposed Project auxiliary lanes between State Park Drive and Rio Del Mar Blvd. is .99 miles Northbound (about 25 feet short of the 'required analysis' length at each ramp) and .98 miles Southbound (about 50 feet at each ramp). For the VMT analysis, these apparent measurements are used to justify completely ignoring the traffic impacts and functionality of the primary rationale for the Project, namely the auxiliary lanes and BOS operations. This is not a rational approach in light of the primary, highway-related stated purpose of the DEIR/EA: *"Reduce delay and improve system reliability and safety along State Route 1; Improve traffic operational movements, local circulation, and transit operations.*" The draft environmental documents and associated traffic studies must be corrected and revised to include a full and adequate VMT analysis of the Project.

**2. The Vehicle Miles Traveled (VMT) Summary is inaccurate and misleading.** Current assertions in the DEIR/EA and associated traffic studies that the Project will "slightly reduce" Vehicle Miles Traveled in the horizon year are not justified. The stated difference between the model-produced current and future VMT is .1%: in other words, a difference of 1/one-thousandth. On the other hand, traffic volumes on Highway 1 on in this segment are projected to increase between 17-21% by the "horizon" year 2045. Together with concerns about the VMT analysis noted in Comment #1, please remove all references to "slight reduction" or "slightly reduced" 2045 VMT throughout the DEIR/EA and in all traffic studies, text, Project Summary and figures.

**3. The experimental Bus-On-Shoulder Project benefit is negligible.** To quote RTC staff at the Project DEIR/EA public hearing yesterday (June 1, 2023), "It wasn't easy getting approvals." The 2021 *Traffic Operations Analysis Report* states that Bus-on-Shoulder (BOS) would result in "a reduction of 240 vehicles/day on the freeway, on average," out of a total estimated current daily traffic volume of about 100,000. The 2023 *Additional Traffic Analysis Memorandum* doubles this estimated reduction to 510 vehicles/day. A 2019 *State Route 1 Auxiliary Lane Bus-on-Shoulder Concept of Operations* study predates both this DEIR/EA and the amendment of this Project into the 2016 Measure D local sales tax transportation funding program (February 2020). The DEIR/EA states that the new lanes ("shoulders") traversing the underside of the interchanges will only be used "under congested mainline conditions" and that buses will not exit the freeway anywhere in this Project segment to pick up or drop of passengers. The "ConOps" report - the 2019 *Concept Study* - and both DEIR/EA traffic reports neglect to describe how buses weaving in and out of auxiliary lanes, shoulders, and on-ramps will contribute toward accomplishing the stated Project Purpose and Need; the data, however, tells the story that there's essentially no benefit at all.

**4. The DEIR/EA Transportation Demand Modeling results in an inaccurate picture of future travel**. 2012, 2016 and 2019 data were used to modify the AMBAG Regional Transportation Demand Model as described in this DEIR/EA; this data pre-dates the COVID-19 pandemic. The DEIR/EA must include a discussion and analysis of the significant, observable changes to regional traffic patterns and peak periods resulting from highly-altered pandemic-related remote work, communications, and commerce options. Also, land use designations in the DEIR/EA transportation model do not include current State Regional Housing Needs Allocations (RHNA); the location and nature of future housing both inside and outside of Santa Cruz County will affect future travel patterns considerably. Transportation modeling experts noted in 2020 that most transportation demand models are off by an average of +/- 17% (a range of about 35%). The *Traffic Operations Analysis Report* and associated regional transportation demand model runs need to be updated at least to current conditions and assumptions prior to recirculating the revised DEIR/EA.

**5. Blaming a "Downstream Bottleneck North of the Soquel Avenue Interchange" for minimal NB Project improvement is mysterious.** I'm confused by frequent references in the 2021 *Traffic Operations Analysis Report* to "northbound downstream bottleneck" at the Soquel Ave. interchange. The persistent bottleneck is in the *southbound* direction where the westernmost (northernmost) SB Highway 1 auxiliary lane ends at the SB Soquel Drive/Avenue exit. Northbound, traffic consistently speeds up after the Soquel Drive/Ave. interchange as it moves toward the improved Highway 1/17 interchange. Please correct or more fully document this "downstream bottleneck" in the Northbound direction at this location.

**6. References in the DEIR/EA to the Highway 1 HOV "Tier I" project and this current Project as a "Tier II" Project misrepresent the current status of the Tier I EIR**. The Tier I documents are referenced throughout the DEIR/EA and technical studies, including in the *Traffic Operations Analysis Report* and the *Cumulative Impact Analysis*. The August 2022 Sacramento County Superior Court decision requires a Revised DEIR for the Tier I High Occupancy Vehicle (HOV) Lanes Project; this has not yet been made available or approved. Therefore, references to the Tier I project and environmental document should be deleted throughout the DEIR/EA and technical appendices. This Project cannot be characterized as a Tier II project because there is currently no approved Tier I project EIR/EA.

**7. The DEIR/EA *Cumulative Impact Analysis* does not address the eventuality that Project auxiliary lanes, shoulders and experimental BOS lanes could become through lanes in the future.** As stated in DEIR/EA, this Project is unlikely to result in any traffic improvements at all, thereby likely increasing public frustration (after years of construction) and increasing public pressure (after it's clear things aren't working) to convert the exclusive BOS lanes, the auxiliary lanes, and shoulders to though lanes. In fact, this was discussed by members of the public and the RTC during yesterday's public hearing. The *Cumulative Impact Analysis* of the DEIR/EA states that "The existing two-span Santa Cruz Branch Line railroad bridges (underpass structures) are proposed to be replaced with longer spans to accommodate the planned SR 1 ultimate improvements that are a six-through-lane concept plus an auxiliary lane in each direction between interchanges." Pertinent to Comment #6 above, this section goes on to say that the "ultimate configuration" is derived from the (now Court-rejected) *Tier I Final Environmental Impact Report/Environmental Assessment with a Finding of No Significant Impact for the Tier I High Occupancy Vehicle (HOV) Lanes and Tier II 41st Avenue to Soquel Avenue/Drive Auxiliary Lanes Project (Tier I/Tier II Final EA/EIR/FONSI).* There is currently no approved Tier I project EIR/EA/FONSI; therefore, there is no approved "six-through-lane concept plus auxiliary lane". This calls into question key aspects of the current project design, in addition to necessitating not-insignificant revisions to this DEIR/EA.

**8. The Project Purpose and Need is not accomplished by the Project.** Although the EIR/EA states that "The project would improve travel times and reduce traffic delay on State Route 1 [and] the Bus-on-Shoulder feature would increase the use of public transit…", the data in the DEIR/EA itself demonstrates no sustained traffic-relief benefit from this Project. The Project does not accomplish the stated Purpose and Need.

**9. Public involvement in this Project has been consistently curtailed.** Traffic studies, benefit-cost analyses, and other information related to RTC and Caltrans grant funding applications to State and Federal agencies for this Project, referenced in the DEIR/EA, have not been made available for public review and are not included in DEIR/EA documentation. Public information requests for some of this information have been denied. No public hearings have been held about this Project prior to yesterday's required public hearing on the DEIR/EA.

**10. Finally, geography is still geography.** Soquel Creek and the hill to the south between Bay Avenue/Porter Street and Park Avenue will always slow down Mid-county traffic, whether it's climbing uphill southbound from Capitola, braking downhill northbound toward the highly proximate Bay Avenue and 41$^{st}$ Avenue interchanges, or taking the scenic route through Soquel Village. None of the vast volumes of climate-unfriendly concrete required by this Project will change that fact.

Thank you very much for your consideration of my comments.

Sincerely,

Linda Wilshusen, Live Oak
SCCRTC Executive Director 1985-2005

cc: California Transportation Commission

**From:** Susan Wright <spwright@umich.edu>
**Sent:** Friday, June 2, 2023 11:13 PM
**To:** Bertaina, Lara E@DOT
**Subject:** Draft Environmental Impact Report/Environmental Assessment Coastal Rail Trail Segment 12

**EXTERNAL EMAIL.** Links/attachments may not be safe.

Lara Bertaina
Department of Transportation
50 Higuera Street
San Luis Obispo, CA

June 2, 2023

Re: Draft Environmental Impact Report/ Environmental Assessment for Coastal Rail Trail Segment 12, for the proposed Rail Trail, Santa Cruz to Watsonville

The procedure for this EIR/EA is highly irregular and should be rejected for the following reasons:

First, the environmental impact of the proposed Rail/Trail has been broken up into many small segments. This is completely misleading. The Rail/Trail in its entirely will remove many acres of woodland, meadows, and wetland and the environmental impact is severe—essentially running the equivalent of a new road through what is now green space. Because the public only sees the impact of one small segment at a time, it is denied its right to understand the impact of the whole project and its implications for the south of Santa Cruz County.

Second, the EIR/EA for Segment 12 of the proposed Rail/Trail has been combined with an EIR/EA for a completely different project, concerning construction of auxiliary lanes on Highway 1. The two projects are in different places, have different impacts, and require two separate assessments.

Third, consideration of these two environmental impacts, blended together as if they are for one project, is being rushed through, with insufficient time provided to the public for informed comment.

Therefore I request that separate environmental impact assessments are carried out for the two projects.

Furthermore, I request that the irregular procedure of breaking up the environmental impact of the Coastal Rail/Trail into small segments is halted and is replaced with an assessment of the environmental impact of the entire Coastal Rail/Trail project. Unless an environmental assessment of the whole project is completed, with the required, well-publicized public comment period, it would appear that the assessment is not in compliance with the National Environmental Policy Act.

Sincerely,
Susan Wright, Ph.D.
631 Bayview Drive
Aptos, CA 95003

# COMMENT CARD

**SR 1 Auxiliary Lanes Freedom Blvd. to State Park Drive, Bus-on-Shoulder Improvements, and Coastal Rail Trail Segment 12 Project**

**Name:** JOE MARTINEZ

**Affiliation:** 25 YEAR RESIDENT of APTOS

**Address:** 112 VIA TRINITA

**Email:** JOEXMART@COMCAST.NET

**Comments (use other side if necessary):**

I SUPPORT THE BUILDING of AUXILIARY LANES AND BUS ON SHOULDER.

I DO NOT SUPPORT THE CURRENT COASTAL RAIL TRAIL PROJECT.

REMOVE TRACKS AND BUILD A TRAIL ON TOP of THE TRACKS

**PROJECT INFORMATION:**

The Draft Environmental Impact Report/Environmental Assessment and other project information are available for review and copying at the Caltrans District 5 Office at 50 Higuera Street in San Luis Obispo on weekdays from 8:00 a.m. to 5:00 p.m. The document is also available at the Capitola Branch Library at 2005 Wharf Road in Capitola, the Live Oak Library at 2380 Portola Drive in Santa Cruz, the Watsonville Public Library at 275 Main Street Ste. 100 in Watsonville, and County of Santa Cruz Public Works at 701 Ocean Street, 4th Floor in Santa Cruz, and online at the Caltrans District 5 website: https://dot.ca.gov/caltrans-near-me/district-5. Electronic copies are also available at Santa Cruz County Regional Transportation Commission's website: https://bit.ly/StatePark-FreedomBlvd.

**COMMENTS MAY BE SUBMITTED TO:**

Please submit your comments in writing no later than June 2, 2023 to Lara Bertaina, Department of Transportation, 50 Higuera Street, San Luis Obispo, CA 93401, or emailed to lara.bertaina@dot.ca.gov.

**Comment Deadline: June 2, 2023**

# COMMENT CARD

**SR 1 Auxiliary Lanes Freedom Blvd. to State Park Drive, Bus-on-Shoulder Improvements, and Coastal Rail Trail Segment 12 Project**

**Name:** Ellen Martinez

**Affiliation:** Aptos Resident for 25+ years

**~~Address:~~** 118 Via Trinita, Aptos

**Email:** ellen@ellenmartinez.com

**Comments (use other side if necessary):**

Please stop wasting time + money doing studies for a train that will never materialize.

Please implement the Interim Trail and focus on the Metro. It's terrific that Metro has awarded funding from the government.

It's great that we are widening Highway 1. Let's accelerate the plan.

**PROJECT INFORMATION:**

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**Comment Deadline: June 2, 2023**

# COMMENT CARD

**SR 1 Auxiliary Lanes Freedom Blvd. to State Park Drive, Bus-on-Shoulder Improvements, and Coastal Rail Trail Segment 12 Project**

**Name:** Dianne Dryer

**Affiliation:**

**Address:**

**Email:**

**Comments (use other side if necessary):**

The "Interim Trail" complicates the process, confuses the public, has high costs for staff (to evaluate, design, etc.), delays construction substantially, 4 years AND has no funding possibility!!

The public wants the trail and rail transit ASAP!

Please stop wasting time and public money on the "Interim Trail".

**PROJECT INFORMATION:**

~~The Draft Environmental Impact Report/Environmen~~tal Assessment and other project information are available for review and copying at the Caltrans District 5 Office at 50 Higuera Street in San Luis Obispo on weekdays from 8:00 a.m. to 5:00 p.m. The document is also available at the Capitola Branch Library at 2005 Wharf Road in Capitola, the Live Oak Library at 2380 Portola Drive in Santa Cruz, the Watsonville Public Library at 275 Main Street Ste. 100 in Watsonville, and County of Santa Cruz Public Works at 701 Ocean Street, 4th Floor in Santa Cruz, and online at the Caltrans District 5 website: https://dot.ca.gov/caltrans-near-me/district-5. Electronic copies are also available at Santa Cruz County Regional Transportation Commission's website: https://bit.ly/StatePark-FreedomBlvd.

**COMMENTS MAY BE SUBMITTED TO:**

Please submit your comments in writing no later than June 2, 2023 to Lara Bertaina, Department of Transportation, 50 Higuera Street, San Luis Obispo, CA 93401, or emailed to lara.bertaina@dot.ca.gov.

**Comment Deadline: June 2, 2023**

# COMMENT CARD

**SR 1 Auxiliary Lanes Freedom Blvd. to State Park Drive, Bus-on-Shoulder Improvements, and Coastal Rail Trail Segment 12 Project**


**Name:** MICHEAL SAINT / RICK LONGINOTTI (CHAIR)

**Affiliation:** CAMPAIGN FOR SUSTAINABLE TRANSPORTATION

**Address:** 516 SANTA MARGUARITA DR.
APTOS, CA.

**Email:** solarevsaint@gmail.com


**Comments (use other side if necessary):**

## Campaign for Sustainable Transportation

# DID YOU KNOW?

### DRAFT EIR SEGMENT 12

1. The DRAFT EIR is not valid since it is tiered from a Tier I EIR that was invalidated in court.
2. The DRAFT falsely claims the Project is exempt from VMT analysis mandated by SB 743.
3. The DRAFT fails to substantiate claims of safety benefits of the auxiliary lanes.
4. The DRAFT's partial analysis of vehicle miles traveled is not compliant with SB 743.
5. The DRAFT fails to analyze a project alternative
6. The DRAFT unjustifiably eliminates Bus-on-Shoulder Only from further study
7. The Project Objectives are inadequately drawn.
8. The Project does not substantially meet the Project Objectives.
9. The DRAFT's conclusion that the Project would result in countywide reduction in VMT is invalid.
10. The Climate Change analysis is flawed and inadequate
11. The Project conflicts with state climate legislation

Rick Longinotti, Chair

FreedomBlvd.

**COMMENTS MAY BE SUBMITTED TO:**

Please submit your comments in writing no later than June 2, 2023 to Lara Bertaina, Department of Transportation, 50 Higuera Street, San Luis Obispo, CA 93401, or emailed to lara.bertaina@dot.ca.gov.

**Comment Deadline: June 2, 2023**

# COMMENT CARD

**SR 1 Auxiliary Lanes Freedom Blvd. to State Park Drive, Bus-on-Shoulder Improvements, and Coastal Rail Trail Segment 12 Project**


**Name:** MIKE SAINT

**Affiliation:** CAMPAIGN FOR SUSTAINABLE TRANSPORTATION

**Address:** 516 SANTA MARGARITA DR.
APTOS CA. 95003

**Email:** solarsaint@gmail.com


**Comments (use other side if necessary):**

I AM REALLY DISAPPOINTED THAT THE BUS IS PLANNED TO RUN IN THE AUX LANES WITH CARS AND TRAFFIC.

WHY NOT A DEDICATED BUS ON SHOULDER PROJECT CHECK OUT BOS IN SAN DIEGO, THEY ARE DOING IT CORRECTLY.

BUILDING INFRASTRUCTURE FOR SINGLE OCCUPANCY VEHICLES IS OLD SCHOOL AND WILL INCREASE VMT & GREEN HOUSE GAS EMISSIONS.

* OTHER PARTS OF THE MULTI MODAL ARE GREAT. BIKE LANES, PEDESTRIAN PROJECTS, TRANSIT IMPROVEMENTS ON SOQUEL.

ALSO SUPPORT THE RAIL CORRIDOR PLAN BUT FEEL A MORE TECHNICALLY ADVANCED & SMALLER SYSTEM WOULD BE BETTER FOR SANTA CRUZ COUNTY I.E. PRT (PERSONAL RAPID TRANSIT), A LOT MORE RIDERSHIP POSSIBILITY AND FLEXIBLE IN EXPANDING THE SYSTEM.

THANK YOU, MIKE

**PROJECT INFORMATION:**

The Draft Environmental Impact Report/Environmental Assessment and other project information are available for review and copying at the Caltrans District 5 Office at 50 Higuera Street in San Luis Obispo on weekdays from 8:00 a.m. to 5:00 p.m. The document is also available at the Capitola Branch Library at 2005 Wharf Road in Capitola, the Live Oak Library at 2380 Portola Drive in Santa Cruz, the Watsonville Public Library at 275 Main Street Ste. 100 in Watsonville, and County of Santa Cruz Public Works at 701 Ocean Street, 4th Floor in Santa Cruz, and online at the Caltrans District 5 website: https://dot.ca.gov/caltrans-near-me/district-5. Electronic copies are also available at Santa Cruz County Regional Transportation Commission's website: https://bit.ly/StatePark-FreedomBlvd.

**COMMENTS MAY BE SUBMITTED TO:**

Please submit your comments in writing no later than June 2, 2023 to Lara Bertaina, Department of Transportation, 50 Higuera Street, San Luis Obispo, CA 93401, or emailed to lara.bertaina@dot.ca.gov.

**Comment Deadline: June 2, 2023**

# COMMENT CARD

**SR 1 Auxiliary Lanes Freedom Blvd. to State Park Drive, Bus-on-Shoulder Improvements, and Coastal Rail Trail Segment 12 Project**


**Name:** Elizabeth Saint

**Affiliation:**

**Address:** 516 Santa Marguarita
Aptos, CA

**Email:** solarevsaint@gmail.com


**Comments (use other side if necessary):** I think that toll type camera monitors should be used when freeway transitions from aux lanes that cars can use to shoulder lanes that only buses can use. I understand that there will be signs and police can ticket cars in shoulder lanes but I don't think this burden should fall on police. A simple toll camera (in addition to signs) will be able to capture and then mail fines to cars that ignore the signs. We need to make buses more efficient if we want to entice use.

I like the posts protecting bike lanes and think we should use them everywhere.

I am excited about the prospect of the pedestrian/bike trail and pleased we are preserving the rail for future transportation needs.

I think the bus frequency times need to be increased AHEAD OF demand in order to stimulate demand for bus usage. this means a cost to County for several years until demand catches up. We should compare cost for freeway expansion and maintenance and use those funds to subsidize bus fares to make bus travel cheap, convenient and attractive.

**PROJECT INFORMATION:**

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**Comment Deadline: June 2, 2023**

# COMMENT CARD

**SR 1 Auxiliary Lanes Freedom Blvd. to State Park Drive, Bus-on-Shoulder Improvements, and Coastal Rail Trail Segment 12 Project**

**Name:** BARRY SCOTT

**Affiliation:** FORT COAST FUTURA

**Address:** 260 RIO DEL MAR BLVD #23, APTOS, CA 95003

**Email:** barry@coastalrail.org

**Comments (use other side if necessary):**

Thank you for creating the rail + trail plans. Together, these provide the greatest return on our investments.

Please include new, longer rail bridges with attached or separate new trail bridges

Do not risk loss of the rail line by attempting railbanking or adverse abandonment

Thank you

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# COMMENT CARD

**SR 1 Auxiliary Lanes Freedom Blvd. to State Park Drive, Bus-on-Shoulder Improvements, and Coastal Rail Trail Segment 12 Project**


**Name:** Sarah Ringler

**Affiliation:**

**Address:** 814 Cynthia Dr
Watsonville CA 95076

**Email:** sring@cruzio.com


**Comments (use other side if necessary):** Santa Cruz County traffic is horrible unless you are driving at a small speed a certain hours of the day.

We need to get people off the road and offer alternative transportation.

A light rail using existing tracks would be a wonderful & efficient way to offer some people a way to get from South County to North County.

I live in South county and am excited about some of the plans for increased + more frequent bus routes.

I also support the auxiliary lanes although worry about traffic during construction. Can't the trains come first?

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# COMMENT CARD

**SR 1 Auxiliary Lanes Freedom Blvd. to State Park Drive, Bus-on-Shoulder Improvements, and Coastal Rail Trail Segment 12 Project**

**Name:** LO FREITAS

**Affiliation:** FORT

**Address:** 522 Harriet Ave Aptos

**Email:** SC_SHARKSCOVE@PEOPLEPC.COM

**Comments (use other side if necessary):**

We need public transportation, much more of it. I rode the TIGER in Oct. 2021. Great ride! I could see it would work on the branch lines & hook up with longer route trains at Pajaro Junction.

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# COMMENT CARD

**SR 1 Auxiliary Lanes Freedom Blvd. to State Park Drive, Bus-on-Shoulder Improvements, and Coastal Rail Trail Segment 12 Project**


**Name:** Pauline Seales

**Affiliation:** Santa Cruz Climate Action Network

**Address:** 328 Getchell Street, Santa Cruz 95060

**Email:** pauline.seales120@gmail.com


**Comments (use other side if necessary):**

Many good features including
2 new rail bridges with trail at one side
better street layout for bikes/pedestrians in Soquel

Problems :-
planned set up with buses using "Aux lanes" will minimize the increased wait the bus as it will still be slowed by cars.
Metered on ramps could increase the safety where buses and cars need to cross

Pan L. Seales

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# COMMENT CARD

**SR 1 Auxiliary Lanes Freedom Blvd. to State Park Drive, Bus-on-Shoulder Improvements, and Coastal Rail Trail Segment 12 Project**


**Name:** Trink Praxel

**Affiliation:**

**Address:** 158 Provincetown Ct.
Aptos, CA 95003

**Email:** trinkpraxel@gmail.com


**Comments (use other side if necessary):**

I strongly support this project — all elements. We have planned it for years and I'm glad to see it starting. It is sad to lose trees, but we need the extra highway widening more. — with more trees planted elsewhere.
I fully support the potential rail & trail which will get more cars off the highway & make it work even better.

Thank you!

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# COMMENT CARD

**SR 1 Auxiliary Lanes Freedom Blvd. to State Park Drive, Bus-on-Shoulder Improvements, and Coastal Rail Trail Segment 12 Project**

**Name:** Angelina Medina

**Affiliation:** Resident

**Address:** 1000 Inland Rd
Capitola, 95010

**Email:**

**Comments (use other side if necessary):**

I support leaving in the coastal rail fully.
we need it to mitigate future growth.
It would be costly (& foolish) to rip
out the coastal rail then later pay to implement
new ones. Let's work w/ what we have
and keep Both Rail & trail for
future generation. Let's think forward!

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# COMMENT CARD

**SR 1 Auxiliary Lanes Freedom Blvd. to State Park Drive, Bus-on-Shoulder Improvements, and Coastal Rail Trail Segment 12 Project**

**Name:** Paula Bradley

**Affiliation:**

**Address:** PO Box 1146 Capitola CA 95010

**Email:** pbradley2004@sbcglobal.net

**Comments (use other side if necessary):**

The RTC has done an incredible job for the last 20 years getting this project a reality. The preservation of the rail for a transit corridor is critical as well as the trail for a multi modal transportation system in our county. Connecting @ Pajaro to Monterey Co: and the state rail system is future thinking. Widening the highway is a tempory ~~fix~~ relief but the only way to avoid gridlock is public transit and a clean passenger rail accessible to all county residents, equity in transit is the goal among many others. I have walked segments 10 & 11 and asked questions previously I am concerned of delays with segment 12 with the Caltrans bridges. If seperate bike bridges are the best alternative to get the trail faster that would be great. Do not stop working towards the rail and bridge proct.
The auxiliary lanes should be dedicated. Once the bus gets to the aux lane they will be stuck in traffic so not much faster than without it. Bus on shoulder instead of dedicated is disappointing
Keep on getting the rail and trail ultimate approved project done!

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# COMMENT CARD

**SR 1 Auxiliary Lanes Freedom Blvd. to State Park Drive, Bus-on-Shoulder Improvements, and Coastal Rail Trail Segment 12 Project**


**Name:** DAVID RAYBOULD

**Affiliation:**

**Address:** 409 TOWNSEND DRIVE
APTOS CA 95003

**Email:** JSHRAYBOULD@MAC.COM


**Comments (use other side if necessary):**

WITH REGARD TO RAIL/TRAIL

ESTIMATED COST OF RAIL RENOVATIONS ?

WHERE WOULD STATIONS BE LOCATED ?

HOW WOULD PEOPLE ARRIVE/DISPERSE from STATIONS ?

HOW NOISY WOULD TRAINS BE FOR RESIDENTS CLOSE TO TRACK ?

WHEN IS FEASABILITY STUDY DUE ?

My comment is that cost would be prohibitive and would require significant change in people's attitude to public transport.

David Ray

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# COMMENT CARD

**SR 1 Auxiliary Lanes Freedom Blvd. to State Park Drive, Bus-on-Shoulder Improvements, and Coastal Rail Trail Segment 12 Project**

**Name:** DAVID Lieby

**Affiliation:** Friend of the RAIL TRAIL

**Address:** 310 EVERSON DR SANTA CRUZ CA 95060

**Email:** dlieby@gmail.com

**Comments (use other side if necessary):** Over the years I have voted to have rail service and a bicycle path along side with the rail. I have ~~voted~~ voted time and again for funds ~~and~~ to get this done. Every time some ~~crazy~~ tries to stop the Rail & Trail it has FAILED.

To be creating the interem trail would be a grave ecological mistake. Placing pavement over the rail ROW, then removing it is a waste

Government agencies both Federal and State are pushing for rail availability and willing to put out the funds. to delay would cost a lot of money.

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# COMMENT CARD

**SR 1 Auxiliary Lanes Freedom Blvd. to State Park Drive, Bus-on-Shoulder Improvements, and Coastal Rail Trail Segment 12 Project**

**Name:** GERI LIEBY

**Affiliation:** N/A

**Address:** 310 EVERSON DR
SANTA CRUZ, CA 95060

**Email:**

**Comments (use other side if necessary):**

IT IS HISTORICALLY FOOLISH TO REMOVE TRACKS

- ARE YOU LEGALLY ALLOWED TO REMOVE TRACKS?
- HOW LONG WOULD IT TAKE TO MY FOR PERMISSION?
- HOW LONG A DELAY AND WHAT FINANCIAL COST WOULD THIS MAKE?
- HOW COULD IF THE RAIL REMOVAL BE WERE APPROVED HOW WOULD THIS IMPACT THE TRAIL CONSTRUCTION?

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# SR 1 AUXILIARY LANES FREEDOM BLVD. TO STATE PARK DRIVE, BUS-ON-SHOULDER IMPROVEMENTS, AND COASTAL RAIL TRAIL SEGMENT 12 PROJECT

PUBLIC COMMENTS

(Held at Rio Sands Hotel, Aptos, CA)

REPORTER'S TRANSCRIPT OF PROCEEDINGS

May 4, 2023

Electronically signed by Lisa McMillan (001-119-058-5332) 2ab22aef-52a1-40e6-b465-9e229b4b4aa1

BARRY SCOTT: I live right around the corner, and I have been excited about the rail line and the trail since 2014. And I belong to three organizations that support this. The biggest one and the oldest one is called Friends of the Rail and Trail or FORT. And the other is Coastal Rail Santa Cruz. And finally, Coast Futura, which brought a streetcar demonstration here in 2021, and that was a battery electric streetcar demonstration that ran on our tracks in Watsonville for three days, and then between Santa Cruz Boardwalk and Capitola for four days, every hour. People rode free.

We're excited about the trail because people need safe ways, away from traffic, to go from place to place. And the rail corridor provides enough space for the tracks to provide transit and for a trail to be built for pedestrians and cyclists. Better still, people can use bikes. If they're train passengers, they can use bikes to get to the train, and then when they get to their destination, they can use that bike to go where they need to go. That's called "The First Mile-Last Mile Problem." And when you combine bikes with buses or trains, you solve that problem.

That's my pitch. And if I were to send anyone to a website, it would be coastfutura.org. Thank you.



Electronically signed by Lisa McMillan (001-119-058-5332) 2ab22aef-52a1-40e6-b465-9e229b4b4aa1

L.D. FREITAS: First off, we're not going to ever defeat global warming without having much more public transportation. Electric cars are fine; I have one, but we can't rely on just having electric cars. There's still a lot of cars on the road. So instead of burning gasoline, they're just going to be taking up space on freeways. It's very expensive to widen freeways.

We have a rail line here that use to be used for passenger rail. Before 1940, it went over and through the Santa Cruz Mountains to Santa Clara and San Jose. After 1940, after World War II, they rerouted the Suntan Special, so that would go through Gilroy, Pajaro, and then up to the Boardwalk. It was 15 minutes slower than the other way. That's all, 15 minutes slower.

Anyway, that's in the past. My dad rode it way back when. When I was a kid, I rode the Del Monte Express, again, we used to have the Del Monte Express from Pacific Grove up to San Francisco. So that disappeared in 1971. We haven't had a real passenger rail since then in this county. We had a few demonstration trains in the '70s and the '80s and '90s, like the bicentennial one in 1976.

And lately, of course, we have the Coast Futura. I rode that. I thought it was great. I really



Electronically signed by Lisa McMillan (001-119-058-5332) 2ab22aef-52a1-40e6-b465-9e229b4b4aa1

saw that, you know, this is electric. It's hydrogen. It's clean. No pollution. It's not like a diesel electric like Caltrain. I love Caltrain, actually, but you know, it's an old-fashion technology. To them, it's state-of-the-art. So I can see that being used between Pajaro Junction and the west side of Santa Cruz and help get some of the cars off the road and relieve the congestion.

So I know it's going to take some work. And it's going to take some money to fix the tracks, but without having to do overhead wires, like the Muni in San Francisco, or the VTA in San Jose, that cost is gone with TIG/m, the Coast Futura train, because they are self-propelled. They don't need the overhead wires. So that cost of billions is out the window. It wouldn't be incurred. The only cost is going to be building the trail and fixing up the tracks. So what does it cost to fix up tracks? We're really talking about an upgrade of up to Grade 2, 25-mile per hour limit. That's not going to be very expensive, overall. It's not like you're changing the tracks so a train could go 80 miles an hour like Amtrak, like the tracks that go through Pajaro Junction and Elkhorn and up to Gilroy. Those are tracks built for faster trains. So we don't need that. We need a slower speed. And I think it would be great if



Electronically signed by Lisa McMillan (001-119-058-5332) 2ab22aef-52a1-40e6-b465-9e229b4b4aa1

we had that Coast Futura, also known as the TIG/m.

One last thing I'll talk about. I'm watching this thing here with the bike and watch trail next to the tracks. I saw something like that in Massachusetts this past summer near Boston, near the town of Milton. They have something like that. It's an old trolley system that goes for about 10 miles, and it hooks up one town to where the main Bart-type of train goes into Boston itself.

Another trip, I was in the UK last month in March. You can imagine, I never got behind the wheel of a car. I took trains, mostly trains, buses, to get around. And one thing I would say is my girlfriend and I, we stayed down in Plymouth, near Cornwall and Devon. Plymouth is the about the size of Monterey. We took a train there to a coastal town in Cornwall about 15 miles up the coast. So we took the train to a town called Lyskeard, got off the train there, got another one that went down to Loee. Loee is about the size of Capitola Village. And I'm thinking like, they have all this stuff in the UK, where's our train.

Anyway, that's all I have to say.

ROSEMARY SARKA: So I am so in favor of the trail as it goes through in this area. I think people



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don't realize what a boon it will be. They're so afraid that it's in their backyard, but it actually is going to be a tremendous asset. I am less excited about widening Highway 1, because I think it will only add to more congestion. If they build it, they will come. So I think that will be a problem.

But I'm very much appreciate the trail, and I am so looking forward to a passenger rail going through here. Aptos traffic going to Santa Cruz is horrible, every hour, every season, every day, it doesn't matter, the weekend, 3:00 in the afternoon inbound still is just awful.

I think the passenger rail would really help us out a lot. And I have to dream big, and I would like to see a freightliner on that line, too. Electric, efficient, economical freight, we can bring in all kinds of things and get trucks off the road. We can have a freightliner come in from Salinas into Pajaro. We can do it at night. We can do it quietly. We can do it efficiently. We can take care of cars. And especially, the big trucks going over 17, which are a danger, as well as an issue of congestion.

So that's my dream, is to get passenger rail, a freightliner, trail. Highway 1 not so much. That's all.



Electronically signed by Lisa McMillan (001-119-058-5332) 2ab22aef-52a1-40e6-b465-9e229b4b4aa1

DRAGAN DIACH: So I need to address my property and the concerns that I have. So I am Dragan Diach, and I'm a property owner of 9081 and 9083 Soquel Drive in Aptos. It is located on the northeast side of Rio Del Mar Boulevard and Highway 1 intersection. Currently, there is water being released, drainage water being released that is collected on the southwest side of the Rio Del Mar Boulevard, referred to as Valencia Lagoon and Rob Roy Junction, that's right by Freedom Boulevard. Water that's being released is severely eroding my property, and it has been a going concern for years. The County of Santa Cruz did some improvements to mitigate the problem, however, current increase in a paved surface and expansion on Highway 1 from State Park Drive to Freedom Boulevard will increase and add to the drainage issues. Currently, the flow line has been lowered in the neighborhood of 10 to 15 feet from discharge to inlet point, which is at Valencia Creek, and that creates an adverse condition which promotes landslides. And there is a landslide currently in place at 9081 Soquel Drive that happened in January 2023.

So the current drainage and the other drainage, the current water outlets are not able to hold the water without damaging my property and adjacent properties. So in going forward and in the design or the expansion



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of the highway, I would appreciate it if you create a stable flowline so that it won't erode the property further. And it should be the responsibility of the state and county together. I am not sure who is responsible for it. However, it's not fair to have one single landowner burdened with the drainage concerns for the whole county, or Santa Cruz, that encompasses the development.

So adding additional pavement, which is close to 4 acres of the paved surface will add to the current problem, because it increases the drainage of the water flow, because there is no area to absorb the current -- it can't absorb the water because there is no permeable surface left.

I really would appreciate it if somebody would get in touch with me so that I can be informed as to how they'll be mitigating the drainage problem. Please contact me at 831-688-2111 and/or e-mail me at dragandevelop@icloud.com. Thank you.

ANGELINA MEDINA: I fully support the coast rail trail. We need it to mitigate future growth, and it would be costly and foolish to rip out the rail and then later pay to implement for new ones. Let's work together with what we have and keep both rail and trail



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for future generations. Let's think forward!!!

BECKY STEINBRUNER: I would like to begin with the archeological and cultural resources. I want to have mapping and analysis of an archeological site that I'm aware of along Highway 1 near Aptos Creek. I have seen documents Caltrans owns from when Highway 1 was put in, and there were actually burial sites there, Native American burial sites there. The state archeologist that showed me this document was upset that the highway had been put in, and there was no real protection of these resources, but they were mapped. So I reviewed this with the man, Rich, and he wasn't aware of that site.

He showed me in the EIR, the one in Aptos Village, which I'm aware of, and another one nearby. There was also a burial site there near Aptos Village Park. So the Native American people definitely need to be involved in this. And I feel there should be no ground disturbance, at all, until they are brought on site and consulted with.

I'm concerned about the construction impacts on the almost 100-year old concrete Aptos Creek Bridge that was built in 1929, and there would be, I'm assuming, a lot of heavy construction traffic and vibration, and I



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think the impacts of that construction work need to be analyzed and any reinforcement to the 1929 bridge, Aptos Creek Bridge, should be done before construction begins.

I am really worried that in seeing the trail planned in Aptos Village area will go into the parking lots of the historic Bay View Hotel, as well as the businesses next door. The Bay View Hotel is on the national historic registry, and the context of its area cannot be changed without getting the approval of the owner and going through the proper processes with the state historic registry. It's on the national historic registry. So that needs to be analyzed.

There are other artifacts in the Aptos Village area along the train tracks that I am aware of and have personally seen when the County of Santa Cruz put in the Trout Gulch -- new railroad crossing at Trout Gulch and Soquel. I was standing by watching, and the tracker operator found a glass bottle that dated back to the early Chinese history time. It was the Chinese that built that railroad in the 1800s and he unearthed a bottle. I believe I gave that to the Aptos History Museum, John Hibble, but -- yes, I did. I gave it to Mr. John Hibble. So there are Asian artifacts, historic artifacts from the 1800s in that area as well. And so I think that the Asian community should be consulted, and



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should be there to collect anything that is pertinent to their culture as well.

Now, jumping to my concerns about hazardous materials. Railroad track beds are known for their high contamination in their soil. And I am aware that the County of Santa Cruz Environmental Health, Mr. John Gerbrandt, he and another fellow did a lot of work with the Aptos Village Project developers because the soils there are very contaminated, very high in lead, arsenic, and also petrol chemicals. The soils I think at No. 15, either 10 and 15 Parade Street, those new buildings in the Aptos Village Project had to be excavated and hauled off to a place in Santa Clara County because they were so contaminated. So that needs to be carefully monitored and more extensively tested for signs of contamination. That whole area in Aptos Village near Parade Street used to be a turntable, an old turnaround table for the trains, so there is likely high contamination there. The developers destroyed the turntable when they did their construction. But the soils are still very contaminated in that site and should be very carefully sampled and monitored. And I would like to see Mr. John Gerbrandt from the County of Santa Cruz run on to consult directly -- or whoever his follow-up person is. I can't remember his name right



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now. But he has someone that works with him. I'm very concerned about the soil disturbance near Aptos Creek and also Valencia Creek, because of the potential contamination from any uncontrolled silt runoff during construction but also postconstruction as the soils settle in. So I want to see all construction areas near the creeks, when there is drainage, have soil fabric that will -- and planting that will maximize erosion control into those creeks. Aptos Creek is a known for salamander and the coho salmon area, mostly the coho and salmon creeks, and we really have to protect it. So I want extra mitigations for silt control during construction, and also for a period of five years, that would be effective for five years after construction is completed.

I'm concerned about the increased stormwater runoff from the Highway 1 increase impervious areas, and also the impervious areas of the trail, as they may affect Aptos Creek and Valencia Creek, and I want to see those -- stormwater runoff from those areas captured and piped to another area nearby for groundwater recharge rather than just dumping them in the creek. If that is not feasible, I want to see some type of charcoal canisters, filters for the stormwater coming from these areas that would help remove some of the petrol chemical



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contamination from the freeway. And certainly trash collectors, that would prevent more trash from going into the creeks, and that those be maintained on a regular basis by the RTC.

I'm very concerned about the removal of several large redwood trees next to the freeway. It just shouldn't happen. It just shouldn't happen. And I know they're saying that it has to, but no matter how many small trees you plant, those trees have been there for hundreds of years. They should not be removed.

For any trees that are removed, I want the replacement trees planted as close to the corridor as possible, not any further away than a half a mile from the corridor. I'm aware that in Segment 2 of this project, you are planting the replacement trees miles away in a place where they'll not get any water. And it's ridiculous. In Anna Jean Cummings Park, really, to replace trees cut out of Arana Gulch, that's ridiculous. So I want all replacement trees planted within a half mile of the corridor. And if that's not feasible, I want to know why.

I'm concerned about what the gentleman told me, that the culverts for the creeks will be changed to improve fish traffic through the creeks in the construction area. I want to know how that will be



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done. I want to see the designs of those culverts. Some of them are actually historic themselves in design, and I want to know how that will be done and how that will affect the stream flows during construction, migration of the fish and of the aquatic insects, and how it will affect the riparian animals, the raccoons, deer, all of the things that come to those creeks, and how that would be mitigated.

I have seen plans for the Aptos Village Project, the way they mitigated is they'll just fence it off so the animals can't come there, but I do not feel that is an effective mitigation to just expect the animals to not go where the fence is. They will try, and probably go up on the freeway.

I think these are the main things. I'll read the document and do my best to submit written comments, but I appreciate you taking my comments. These are my thoughts after talking with the people at the stations and reading little bits and pieces that they have pointed out to me. Thank you.

My name is Becky Steinbruner. My telephone number is 831-685-2915. I would be interested in getting any further information and response to my comments. E-mail works too. It's ki6tkb@yahoo.com. Thank you.



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One more comment. Close to Freedom Boulevard exit there's a salamander preserve there on the south side of the freeway, how will that be affected? There will be increased stormwater drainage in there that's toxic. How will that stormwater be managed in the area of the preserve. It's a preserve, but it's fenced to keep the salamanders there, safe or something, but the water quality of the stormwater drainage needs to be filtered with charcoal in that area to preserve the water quality for that salamander preserve. And that's near the Freedom Boulevard off-ramp, Highway 1, southbound side. Thank you.

(End of public comments.)



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CERTIFICATION

I, LISA M. McMILLAN, a Certified Shorthand Reporter, License No. 10383, in and for the State of California, do hereby certify:

That said proceedings were taken down by me in shorthand at the time and place therein named and were thereafter transcribed by means of computer-aided transcription; and the same is a true, correct and complete transcript of said proceedings.

I further certify that I am not of counsel or attorney for any of the parties hereto, or in any way interested in the events of this cause, and that I am not related to any party hereto.

IN WITNESS WHEREOF, I have hereunto subscribed my name this 5th day of May 2023.

Certified Shorthand Reporter



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# SR 1 AUXILIARY LANES FREEDOM BLVD. TO STATE PARK DRIVE, BUS-ON-SHOULDER IMPROVEMENTS, AND COASTAL RAIL TRAIL SEGMENT 12 PROJECT

SANTA CRUZ COUNTY REGIONAL TRANSPORTATION COMMISSION

COMMENTS AND PUBLIC COMMENTS

REPORTER'S TRANSCRIPT OF PROCEEDINGS

June 1, 2023

BOARD OF SUPERVISORS CHAMBERS

701 Ocean Street, Room 525

Santa Cruz, CA 95060

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APPEARANCES:

| | |
|---|---|
| Commission Membership: | Alexander Pedersen |
| | Andy Schiffrin |
| | Sandy Brown |
| | Kristen Brown |
| | Manu Koenig |
| | Felipe Hernandez |
| | Jack Dilles |
| | Mike Rotkin |
| | Eduardo Montesino |
| | Bruce McPherson (Via Zoom) |
| Also Present: | Sarah Christensen |
| | Zach Siviglia |
| | Guy Preston |
| | Luis Mendez |
| | Kelly McClendon |
| | Steve Mattas |
| | Yesenia Parra |
| Public Comments: | Charlie Wilcox |
| | Matt Farrell |
| | Sally Arnold |
| | Susan Cavalieri |
| | Dan Holdren |
| | Saladin Sale |
| | Brian Peoples |
| | Jack Nelson |
| | Michael Saint |
| | Jean Brocklebank |
| | Michael Lewis |
| | Rick Longinotti |
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| | Paula Bradley |
| | Sean |
| | Diana D. |



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Santa Cruz, California June 1, 2023

MR. KOENIG: And now we will proceed with the staff report by Senior Transportation Planner, Sarah Christensen.

(Presentation by Sarah Christensen not reported.)

MR. ROTKIN: Can I ask a question on that last slide you just had?

So there's a lot of parking there right now, so that's going to have to be removed, I'm assuming, on the right-hand side as we're looking into this photograph, correct?

MS. CHRISTENSEN: Overall, there are some proposed improvements that require parking removal, and that is in the environmental document. It's a little bit more complicated here because the RTC owns this property, and there's actually an encroachment there right now with parking. But that's not really considered official parking. So the parking removal -- there's going to be some parking removal just, I guess, behind where this is looking on that parallel road, Aptos Street. But yeah, there's a (inaudible).

MR. ROTKIN: That answers my second question.

MS. CHRISTENSEN: Okay. Thank you.



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I also wanted to add that the project is carrying forward and analyzing the optional first phase, which is the interim trail. And the reason that we are continuing to include that is because we are managing the delivery risks for the project, so obviously there's the ultimate trail, which is the trail off to the side, which is all of the visuals that we showed today, but that requires acquisition of right-of-way and more involved permitting and environmental mitigation. And so in order to manage those risks, we have this optional first phase that would not require any right-of-way and would have less of an environmental impact.

However, it still has -- because there are tree removals required for the optional first phase, it still is a significant, unavoidable impact overall for the project. I just want to make sure that that's clear, that's included in the environmental analysis.

Back to you, Zach.

(Presentation by Zach Siviglia not reported.)

MR. ROTKIN: Does that appear on your website, that e-mail?

MS. CHRISTENSEN: Yes, it's on the project website.

(Continued presentation by Zach Siviglia.)

MS. CHRISTENSEN: That concludes our



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presentation today. And just know, we have some project information for those in person, the project boards and some information about the environmental process over on the right side of the room here.

So with that, we also have quite a robust team of professionals who are working on this project who are available online if you have questions about technical topics. Thank you.

MR. KOENIG: Thank you for the presentation.

Just to clarify, you mentioned that comments should be submitted in writing. But my understanding is we do have a court reporter here today, so any comments made verbally by members of the public or the commission will be written down and submitted in writing, correct?

MS. CHRISTENSEN: That is correct.

MR. KOENIG: Great. We can begin with comments or questions from the commission.

MR. SCHIFFRIN: I just have a question about the process. Normally in these kinds of EIR -- draft EIR hearings, there isn't responses to questions by consultants; it's just, this is the time for members of the public or the commission to submit comments. So how does that work if there's a question and a consultant replies? Are those replies also part of the final EIR? Because I think it's normally, as I remember, that's



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really not the case.

MS. CHRISTENSEN: Thank you, Commissioner Schiffrin. That is a really good point. And the verbal comments made today will be recorded. We, as a project team, will do our best to clarify or answer questions, to provide that information to the commission and to the public. However, responses will be officially in writing in the final EIR. So our verbal answers, I guess, aren't necessarily going to be exactly verbatim but the written response in the final EIR.

MR. SCHIFFRIN: I just wonder if there is any concern about having differences between what is said today and what's said in the final EIR in response to comments, causing confusion in terms of the public's understanding of responses. You're talking as the project team, the project team ultimately is not the environmental consultants I would think, and also the project team isn't Caltrans, which would be the agency that is responsible for the EIR. So I'm just a little concerned about having different participants who really don't have a role in -- at least at this stage, determining the EIR, as opposed to the Caltrans and the project and consultants.

So my point is really based on trying to avoid confusion so that members of the public will not think,



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oh, well that doesn't answer my questions, and (inaudible) the fact, not really answers the question because the question legally needs to be answered in the final EIR or responded to.

So I don't know, maybe Mr. Siviglia can speak to this. I want to avoid confusion.

MR. MATTAS: So the consultants that are online are available to answer questions, but the record itself and the final EIR will have formal responses to all of the comments that are identified through this public hearing process. So there may be additional information that would be included in the final EIR, but (inaudible) -- sorry. So I think if the commission has clarifying questions, which I think was the point that Sarah was getting to, that that -- the team, Sarah and the team can answer those today. But any public comments that come in on the EIR, if you will, in particular, go to the adequacy of the environmental analysis, will, in fact, be addressed as part of the final EIR.

MR. SCHIFFRIN: So the final question is, I assume that any responses to public comments would also be part of the administrative record should there be a legal challenge to the EIR?

MR. MATTAS: That is correct. Any comments



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made by the staff, by commissioners, by members of the public today as part of this public hearing are a part of the administrative record for the EIR.

MR. SCHIFFRIN: Thank you.

MS. PARRA: Commissioners, please ensure your mics are on. It looks like people on Zoom are having a hard time hearing you.

MR. KOENIG: Just tap it before you make a comment and that way we know you're mic'd.

Any other comments or questions from commissioners?

I can't see the online, Commissioner McPherson, at the moment.

I do have one. I did have one question and maybe you could bring up the -- Mr. Siviglia, the slide that shows the lane widths.

So my question is about the Bus-on-Shoulder facility where I think many of us here on the commission, and those of us who sit on the Metro Board as well, are excited about the Bus-on-Shoulder portion of this project. And I know I personally would also like to maintain the option to extend that Bus-on-Shoulder facility into the actual shoulder that we're constructing on the rest of the project, which at this point it shows, you know, the specific



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Bus-on-Shoulder facility that we're building today, as you can see in the red there is 12 feet wide; whereas the new shoulder that we're constructing adjacent to the auxiliary lane is 10 feet wide.

Is there the option in the future to pursue a project where the bus would run -- would run in the shoulder next to the total auxiliary lane?

MS. CHRISTENSEN: Yes, that is a possibility in the future; however, we would have to work with Caltrans to get approval for most likely reducing those travel lane widths from 12 feet to 11 feet to free up another 2 feet on the outside. That has a process to go through and Caltrans' approval, which isn't always easy. So we definitely see this as kind of a first phase. And there's many, many other enhancements that could be made later as future projects. And I have actually been working with our planning team to hopefully get some -- eventually get some additional planning done to expand this Bus-on-Shoulder facility and enhancement, and we definitely also have been working with Metro staff because they have a desire to improve this. But we have got to show some proof of concept and, you know, build something -- it's an innovative facility. It's the first in the state, a true Bus-on-Shoulder facility. It wasn't easy getting approvals, just -- it was very



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challenging.

So this is the first phase. We're kind of, you know, shifting to be more multimodal and hopefully give it a little time and it will catch on and become a more regular thing statewide, as well as here in Santa Cruz with enhancements.

So hopefully that answers your question.

MR. KOENIG: It does. I was a little concerned we are already reducing the center median width, because that's one of the options. But as long as, you know, in order to make the next step, obviously, as you said, we would have to do hand in glove with Caltrans. I just want to not have to rebuild a retaining wall in the future.

MS. CHRISTENSEN: Agreed.

MR. KOENIG: If there's no other questions or comments from commissioners, then I'll open it for the public.

Anyone here in chambers who wishes to address us on this subject, please approach the podium.

CHARLIE WILCOX: Good morning. My name is Charlie Wilcox, and I'm here on behalf of the Seacliff Business Partnership in the Seacliff community. Seacliff Business Partnership is basically the merchants association in Seacliff.



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Good to see you all. I'm really happy to see a lot of these things finally happening. I remember discussions with Guy when he first came on about Bus on Shoulder, and I'm excited to see some of those things happen, and see all of this happening. I'm really glad to see action. It's been years.

Sarah, it seems like you're doing a strong job of that. Thank you.

I'm here specifically with a concern about certain aspects of the EIR draft and adequacy mostly regarding stormwater and stormwater drainage through Seacliff and the impacts of these projects and related and concurrent projects. Caltrans has a project in doing drainage and other improvements on Highway 1, as well as the other auxiliary lane project that's happening there, and these bus on lane projects.

In the EIR it seems as though the cumulative effects were not really well backed up or effectually the findings of the low impact weren't really factually addressed. We're providing written comments with more detail about this, which we hope to have addressed. I just wanted to raise awareness around that. Our real concern is it would increase the flow through potential open channels and public danger that that can create ideally with having a trail right near that and kids



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going and playing in ditches and this kind of thing. That's one of the worst things we can possibly imagine. So that's really the concern we wanted to raise. But really glad to see all of this moving forward and the hard work of this group being successful.

So I look forward to talking to you more and hearing responses from your written comments.

MR. KOENIG: Thank you, Mr. Wilcox.

Anyone else here in chambers, please approach the podium.

MR. FARRELL: Good morning, Chairman Koenig and Commissioners.

I'm Matt Farrell. I'm here speaking today for Friends of the Rail and Trail. I'm going to address two items written in a letter to you on May 29th. The first is our concern that the interim trail is, in our opinion, improperly treated as a distinct alternative. The optional first phase interim trail is simply one portion of the entire plan. The rail trail project and the impacts assigned to the interim trail should reflect the cumulative impact of all phases of the project. Therefore, any impact from the alternate trail configuration should be common to the interim trail. And we have raised specific issues around relocations and property acquisition; and secondly, utilities and



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emergency services with a more detailed description of our concerns in our May letter.

Lastly, I would like to speak about the regulatory requirements not noted in the draft EIR. The interim trail requires the approval of abandonment by the Surface Transportation Board and a negotiated agreement with the freight carrier of record before the certificate of interim trail use can be issued.

Additional approval by California Public Utility Commission also is likely to be required. These approvals and requirements should be noted as an additional requirement under the optional first phase interim trail.

(Inaudible) with respect for the two-minute limit, I'm not going to address the third topic in our letter, so I'm going to turn it over to you out of respect for the two-minute limit.

MR. KOENIG: Thank you, Mr. Farrell.

MS. ARNOLD: Thank you. I'm Sally Arnold, also on the board of Friends of the Rail and Trail. And I just want to say how exciting it was to see those renderings of a 16-foot wide trail going through Aptos. That's fabulous. And I know that's an incredibly wide bike and pedestrian trail, unusual in our state to be that wide.



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While we were reviewing the draft EIR and related documentation, we did notice some conclusions that were made. One was that the auxiliary lane project has substantial environmental impacts, some with no chance of mitigation, including the removal of over 1,000 trees in over a 2.6 mile stretch of highway, and permanent impacts to grasslands and live oak, woodlands, and coastal riparian moats.

It also noted that the auxiliary lane project traffic operations report showed that the morning commute on Highway 1 will be made slightly worse by this project, and that while the evening southbound commute will be improved in their terms by 2025, the southbound commute will be just as bad as it is now. And this is because of the well-documented phenomenon of induced travel, colloquially, if you build it, they will come. You build a lane, they're going to fill it up with more cars.

The total cost of the highway widening project included -- and related projects, is already known to be in the hundreds of millions of dollars, and it might approach a billion dollars, by the time this whole thing is completed. We're raising these points to highlight that the common criticisms of proposed rail transit in Santa Cruz County are really just general criticisms of



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infrastructure development and are in no way unique to zero emission and rail transit and trail projects. All infrastructure projects are expensive. They all have environmental impacts. And none of them will eliminate traffic. All we can do is offer people choices to get out of the traffic. We cannot stop that traffic.

However, it seems like some commissioners sometimes hold different projects to different standards. And we hope that you will note that these are three problems common to all infrastructure projects and you will hold all projects to the same standards. Thank you.

MR. KOENIG: Thank you, Ms. Arnold.

MS. CAVALIERI: Good morning, RTC Commissioners. My name is Susan Cavalieri. I want to remind you that the weather events of the recent past, severe drought followed by multiple atmospheric rivers of this past winter will worsen in intensity as greenhouse gas emissions increase. According to the 2022 Santa Cruz Climate Action and Annotation Plan, passenger cars contribute about 51.2 percent of county emissions. Reducing this traffic is essential for emissions reduction. Unfortunately, widening Highway 1 by adding auxiliary lanes will promote induced travel, eventually increasing the number of cars on the road



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leading to more congestion and more emissions. Adding public transit to this plan will not encourage bus ridership, as the bus will not -- encourage bus ridership because a bus will have access to a bus lane for a short distance before moving back into traffic. This is not true Bus on Shoulder where the bus has its own dedicated lane and is not impeded by congestion.

As the bus is a better option, drivers will opt to take the bus instead of driving. You may be aware that L.A. is looking to pilot congestion pricing on roadways to include a section of freeway, which would, and I quote, reduce harmful air pollution and greenhouse gas emissions by pushing more commuters to use public transit. Please prioritize true Bus on Shoulder for Highway 1 to provide similar benefits for those who use our highway and reduce our greenhouse gas emissions at this critical time for our future. Thank you.

MR. KOENIG: Thank you, Ms. Cavalieri.

Does anyone else here wish to address us? I see you, sir. Please go ahead and form a queue so we can get through the comments.

MR. HOLDREN: I'm Dan Holdren. I have lived in Seacliff since 1960. I was instrumental in putting together the village plan. We have a severe drainage problem that was -- tried to be addressed here, and it



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has not been addressed as of yet. My neighbor, who is upstream from me, Brad, had to be on a jury today, but the erosion is bigger than a car in many, many places, and it's collapsing. I would like to see this rail trail continue, and I'm very supportive. I just would like to see the downstream person be looked at, because it's really affecting us as it is now. The local motto is, "Think Local," and I'm very blessed to have Marianne's as an anchor tenant. They have been in business for over 70 years. I would like to see everything continue. Thank you.

MR. KOENIG: Thank you, Mr. Holdren.

MR. SALE: Good morning, everyone. My name is Saladin Sale. I'm a resident of Santa Cruz. I applaud the commission and staff for the remarkable progress that's been occurring since last year's crushing defeat of the Greenway proposal to permanently kill rail transit. I wish to comment on the draft EIR.

Last year's Measure D election was hailed as finally putting the question of rail transit to a vote of the people. Unfortunately, the same die hard anti-rail zealots who promoted Measure D are now suggesting the election results are not to be believed because the (inaudible) voters were confused.

If there was and remains any confusion about



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their failed trail-only proposal, it's because of the continued efforts to promote the so-called interim trail as a viable alternative to the ultimate trail, next to electric light rail transit. There is only the ultimate trail and the no-build alternative. The interim trail is a fantasy, because federal approval to tear out tracks over the objections of a working railroad has no precedent. The STB won't isolate Roaring Camp by allowing the removal of the tracks it needs to access the National Rail Network, especially in the face of the opposition of 73 percent of the voters in the impacted area. Approval of the California PUC is also likely to be required and unlikely to be obtained. The interim trail is thus not a viable option and would only mean stopping all the progress on rail or trail and entering a long legal fight for nothing more than the faint hope that property owners along the trail rail corridor might hit the jackpot with a payout for renegotiating rail easements to become trail easements. The requirements of approval and abandonment are unique to the optional first phase interim trail. S.7 needs to be revised to note these approvals and agreements. Thank you.

MR. KOENIG: Thank you, Mr. Sale.

Is there anyone else here in chambers?

Seeing none, is there anyone online?



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MS. PARRA: Mr. Brian Peoples?

MR. PEOPLES: Hi. It's Brian from Trail Now.

I have already submitted our comments, but I want you to address the specific question that Commissioner Rotkin asked about, about the parking lot ownership. And Sarah's statement was not correct. As the property owner's lawyer, that property has sent multiple letters to the RTC Commission. And the specific legal ownership is by the property owner there. RTC only has an easement, and that easement specifically says freight train only. So you can't have a passenger train. You can't even have a trail. So it's important that staff be clear on this, because it was very confusing that that was communicated that it's owned by the RTC. It's not owned by the RTC.

There is actually a title error. When the RTC purchased it, the title company made an error and the new owner, title company, came back and showed the true record that it's an easement, and it's a freight train only.

So the likelihood of getting a trail, taking out all that parking, is not very likely. This is just another example of how it's unrealistic to have a train and a trail going along the coastal corridor. And this is why it's costing us so much time and so much money.



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It's taken decades. And it costs twice as much to build a trail as widening the highway.

So I encourage you to be -- look at that specific requirement on legal ownership of that parking lot. Thank you for your time.

MR. KOENIG: Thank you, Mr. Peoples.

MS. PARRA: Jack Nelson. Mr. Nelson?

MR. NELSON: Yes, I was just finding my unmute button there.

I'm Jack Nelson. And so what about the environmental impact continuing to widen Highway 1. Well, let's start with the private passenger vehicle is the most energy intensive transportation mode. And mostly what's out there on the highway today is fossil fuel powered vehicles, it's not electric cars, which do also have their own high energy demand. So in the time of climate change, which the UN Secretary General calls a quote, code red for humanity, Santa Cruz County is spending a large portion of funds, expanding the wrong transportation mode, even though as other speakers have pointed out, the commute will not be fixed.

So what might a moral philosopher say about this situation. Well, Kathleen D. Moore was in that role as a professor at Oregon State University, and she has written several books on these environmental and



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moral questions. And I think she might say this boils down to a single sentence, "It's wrong to wreck the world."

Now, what will future human inhabitants of this planet say? Well, facing climate chaos and the possible breaking down of civilization, I think they might be saying that expanding the global greenhouse is a crime against humanity. And yet, Commissioners, you have in front of you alternatives to adjust the public's money in getting us out of cars and onto other transportation modes. You have that power. You're the decision-makers. Where are you? Why aren't you speaking up about this climate crisis? Please understand, look, see, have a heart. Thank you.

MR. KOENIG: Thank you, Mr. Nelson.

MS. PARRA: Mr. Michael Saint.

MR. SAINT: Thank you, Commissioner Koenig. Michael Saint here with CFST.

As you already know, the aux lane project has always been a bone of contention for CFST as well as other advocacy groups in Santa Cruz. And I'll first start out, my comments have already gone into Lara, so I'm not going to repeat what other people have been saying. This is not a true Bus on Shoulder, by any means. The reason you say it's the only one, it's



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actually a hybrid system, and it's never been tried anywhere before, and there's a reason for that. No one really thinks it's going to work as designed.

I suggest -- and we're not the only ones in the state -- I suggest you Google San Diego Bus-on-Shoulder project to see a true Bus on Shoulder, which we aren't doing. Also, there has been no alternative study done on this segment 12, as well as any of the other aux lane projects. You're only comparing to the no-build alternative. So that's a weakness in the EIR.

I would also like to remind all commissioners that we are supposed to be using the new CEQA guidelines, which this EIR follows, and it has to be under. We are no longer required to use level of service, which was the old way of doing planning. CEQA guidelines include presently limiting vehicle miles traveled, and thus, lowering greenhouse gas emissions for transportation projects. This EIR on this segment does none of that.

So our comments are in. I hope you take it seriously. And the last word has not been said. That's all I can say. Take care. Bye bye.

MR. KOENIG: Thank you, Mr. Saint.

MS. PARRA: Jean Brocklebank.

MS. BROCKLEBANK: I'm speaking first and then



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my husband, Michael will also want to speak from this screen.

I thought this was a hearing on the environmental impact report. But many speakers are using this as an opportunity to talk about everything but the adequacy or inadequacy of the EIR as a document decision -- document -- decision-making document.

I would like to make a correction. A speaker earlier referred to the interim trail as an alternative in the EIR. This is not true. There is only one official alternative in the EIR to the proposed project, and that is the no-build alternative. There is no interim trail alternative. This is -- this is the basis of our complaint. The EIR assumed there would be two bridges at each of two crossings over Highway 1. There was no alternative that would have only one bridge at both of those two crossings over Highway 1.

Also, we had submitted our formal comments already. Caltrans has them. The RTC has them. And all of you commissioners now have them. I will repeat the speaker before me and encourage you to take the time to read them. They are in PDF form. There's only two or three pages. And we made some really excellent points on the adequacy of this environmental impact report. The EIR does not pass muster. Thank you very much.



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MR. KOENIG: Thank you, Ms. Brocklebank.

MS. PARRA: Mr. Mike Lewis.

MR. LEWIS: Yes. Thank you. We have studied this EIR very thoroughly over the past couple weeks, and it's very clear that the segment 12 component of this project was inadequately covered, is very -- there is -- there are no plans for the segment 12, there are no plans that show the trees, there's no tree inventory for segment 12. The segment 12 has gotten a short shrift in that there's no vigorous analysis of segment 12 in this EIR. It's a very, very important insufficiency of this EIR.

It's clear that there are two projects here. There is segment 12, and then there's a highway. They have different objectives. They have different means, and they should be separated, and conducted as two separate EIRs. It was very puzzling why this was done. But now after hearing the presentation tonight, I have come to understand that the segment 12 was added to the highway project in order to call this a multimodal project, and that way have access to greater funding.

That's not adequate. Because of the nature of the two projects that are different, there can be no reasonable alternative to the proposed project that covers both of those components of the project. If you



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were to have a trial-only alternative, it would not apply to the highway part of the project. So therefore, you could never have an alternative that covers both segments, both components of the project, adequately.

So we suggest very strongly that you restructure this EIR so that the Highway 1 project is separated from the segment 12 project, so you can do a rigorous analysis of both individually and come to conclusions of environmental impacts related to those specific projects. Thank you.

MR. KOENIG: Thank you, Mr. Lewis.

MS. PARRA: Mr. Longinotti.

MR. LONGINOTTI: Good morning, Commissioners. I'm submitting comments on behalf of the campaign for state and transportation. And I want to inform you of some of what those comments are about.

The EIR -- draft EIR is tiered from the tier -borne EIR that was completed in 2019, and that EIR was invalidated in court last summer, as you might recall. So if you're tiering from an EIR that was invalid, you're not going to have a valid tiered 2 EIR.

The draft EIR does -- as another speaker has said, doesn't provide -- doesn't analyze project alternatives. There's only the build alternative and the no-build alternative, and this is a violation of



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CEQA. You need to analyze possible alternatives that would meet the objectives of the project. And, you know, most egregiously, the draft eliminates the bus -- what it calls Bus on Shoulder only from further study. That's genuine Bus on Shoulder. That's a bus in its own lane on the highway, and that was eliminated from further study unjustifiably.

The draft -- it tries to make an end run around the Vehicle Miles Traveled analysis that's mandated by CEQA. It claims that these auxiliary lanes are exempt from that analysis, and also exempt from mitigating increases of vehicle miles traveled. So what we have here is a very badly flawed EIR that puts the other projects in jeopardy that are -- that, you know, by pedestrian and transit projects that are part of the thrust of this effort.

As another speaker said, congestion relief benefits will be nonexistent in the morning direction and short lived in the afternoon peak direction. Thank you.

THE COURT: Thank you, Mr. Longinotti.

MS. PARRA: Mr. Barry Scott. That's our last speaker.

MR. SCOTT: All right. Thank you, Commission. I am happy to see the documents made available. And I



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want to say that I am a supporter of the full project in its ultimate trail configuration. Even though I may not support highways as a rule, that section is extremely narrow, and it just makes sense to even out the width of the highway corridor. I am opposed to single-passenger vehicles but am happy that a third lane can be later committed to transit only or HOV or other greener uses.

But we need to straighten out the problem in Aptos. And I support the full project that builds new rail bridges and keeps an open trail.

Deficiencies that I find in the EIR are two. Even though it said that only one alternative, a no-build alternative is mentioned, when I look at the summary, cover summary and table of contents section, I see, for example, a summary of potential impacts from alternative. They mention build alternative, optional first phase, next to build alternative, ultimate trail configuration, and then the no-build. So I'm seeing three alternatives. And the optional first phase should be treated differently. It should include the full impact of all phases. You can't just pretend there's an optional first phase and that's all there's going to be. The other problem is an optional first phase would require rail banking. And when I get down to the S.7, page S12, the section is the necessary permits and



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approvals, I don't see the CPU or Surface Transportation Board mentioned. If you do anything -- if the RTC or Caltrans does anything that involves removing a rail line, you have got to get those approvals. So that's a second deficiency, inclusion of the Service Transportation Board is a necessary approving agency. That's all. Thank you.

MR. KOENIG: Thank you, Mr. Scott.

MS. PARRA: Paula Bradley.

MS. BRADLEY: Thank you. I'm Paula Bradley. I'm a Capitola resident, and I would like to support proceeding with the final EIR EA without further delay consistent with -- for the ultimate trail, consistent with the will of the voters.

I prefer that the bus auxiliary lane be dedicated to public transportation, not shared with vehicles resulting in inefficient public transportation with the buses stuck in gridlock with the vehicles.

I would also like to thank you the RTC staff who have done an outstanding job of obtaining funding to proceed with the project into the construction phase. Job well done. Thank you.

MR. KOENIG: Thank you, Ms. Bradley.

MS. PARRA: Sean.

SEAN: In addition to the lack of -- noting the



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cost of rail banking, service showed that the majority of the morning traffic is going beyond Watsonville. Watsonville bears the brunt of this log, the wear and tear on the roads, all sources of pollution caused by drivers, and just the increasing cost of repairing the infrastructure.

RTC is for the county, so it's not just Santa Cruz's needs, and what some people like to refer to as the "Santa Cruz leaving out Watsonville." And the only reason we talk about interim trail is because of the Greenway board members on the RTC. The language "interim trail" was voted on because it was something that was -- you know, continued to be put up as a possible alternative. That has been answered over and over again. It's not an option. The RTC is wasting money and time, which is to the benefit and caused by the Greenway members on the RTC. When you move forward with that and (inaudible) our reality and becoming a reality and are funded, you know, for those good reasons.

MR. KOENIG: Thank you, Sean.

MS. PARRA: Diana D.

DIANA D.: Good morning. I just wanted to -- can you hear me?

MR. KOENIG: Yes, we can hear you.



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DIANA D.: Okay. Thank you. There you go. Good morning. I just wanted to reiterate many of the comments that others in support of the ultimate trail have made, but I won't list all of those. You have heard a lot of them. You're getting a lot of letters and comments on this project. I am in full strong support of like 73 percent of my -- the rest of my county in keeping the option for rail in the future. And I hope it's not in the distant future. We need to get this thing built. And all these delays that have been caused by bringing up so-called alternatives, like the interim trail, is wasting a lot of our money, our staff time, and we need to just move ahead with what the community wants, and what the climate needs. I don't need to go into that.

I really hope that you will recognize that both the federal and state government will be funding projects like this for a long time, because that's what we have to do for the future of our county and for the world. Please keep that in mind. Thank you.

MR. KOENIG: Thank you, Ms. Diana.

MS. PARRA: That was our last speaker, Chairman.

MR. KOENIG: All right. I'll turn to Commission. This is a nonaction item. I'm wondering if



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there's any final comments or questions?

MR. SCHIFFRIN: Yes. Just one follow-up from one of the speakers who stated that this EIR is being tiered off the HOV EIR. That was not my understanding. My understanding is that this is a totally separate EIR. Is that correct?

MS. CHRISTENSEN: You are correct in that it is a separate, stand-alone environmental impact report.

MR. SCHIFFRIN: Thank you very much.

THE COURT: Thank you, Commissioner Schiffrin.

All right. Seeing no other comments or questions from commissioners, we will close the public hearing.

Thank you, staff. That's all. Thank you Mr. Siviglia for the presentation.

(Agenda item concluded.)



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