

**Environmental Impact Report:
2009 Contra Costa Countywide Comprehensive Transportation Plan
SCH NO. 2008052073**

Mitigation Monitoring Report

June 9, 2009

Introduction

This Mitigation Monitoring Program has been prepared for the EIR for the 2009 *Countywide Comprehensive Transportation Plan* (2009 CTP) in accordance with the State's mitigation monitoring statute, Public Resource Code Section 21081.6, and sections 15091 (d) and 15097 of the California Environmental Quality Act (CEQA). These provisions require public agencies to establish mitigation monitoring or reporting programs where projects would have significant adverse impacts and where mitigation measures to reduce or avoid these significant impacts have been identified. The public agency must adopt the monitoring and reporting program when approving the project, in this case, the 2009 CTP. The intent of these provisions is to ensure that mitigation measures are fully implemented.

The Contra Costa Transportation Authority (the Authority) is the lead agency responsible for CEQA compliance for the 2009 CTP EIR. Copies of the documents and reports relevant to this Mitigation Monitoring and Reporting Program are available at the office of the Contra Costa Transportation Authority, 3478 Buskirk Avenue, Suite 100, Pleasant Hill, California, 94523, during normal business hours, and also available on the Authority's website, www.ccta.net.

2009 CTP

The 2009 CTP focuses on refining the Authority's vision and on identifying priorities for making future transportation improvements. The 2009 CTP outlines:

- The Authority's vision, goals, and strategies;
- A broader framework and greater detail for Measure J expenditures;
- Detailed components from the proposed Action Plans;
- An updated Growth Management Program (GMP) component;
- An updated Comprehensive Transportation Project List (CTPL); and
- Tasks to implement the project.

The CTP will serve as the long-range transportation planning document for the county. The 2009 CTP will be the third major update to the CTP plan since it was first adopted in 1995. The 1995 CTP established the overall direction of CCTA's transportation and growth management, knitting together Action Plans prepared by the Regional Transportation Planning Committees (RTPCs) and building on the requirements of the Measure C GMP. The 2000 Update further refined CCTA's vision, goals and strategies, and built on the refinements to the Action Plans carried out in 1999 and 2000. The 2004 Update kept the goals and strategies of the previous CTP and focused primarily on the development of an Expenditure Plan and Growth Management Program for the proposed Measure J, which was passed by the voters in November of 2004.

The 2009 CTP identifies the Authority's vision for Contra Costa, goals and strategies for achieving that vision, and future transportation priorities. The 2009 CTP builds on the analysis and recommendations of RTPCs—representing the eastern, western, central and southwestern parts of Contra Costa County—as embodied in the 2009 Action Plan Updates.

The Action Plans have been updated from their 2000 versions and are in draft form at the time of the review of the Draft EIR. These updated Action Plans include a vision and goals for each sub-region, new or revised multi-modal transportation service objectives, actions to achieve those objectives, and responsibilities for implementing those actions.

The 2009 CTP is intended to help carry out the Authority's four goals:

- Enhance the movement of people and goods on highways and arterial roads;
- Manage the impacts of growth to sustain Contra Costa's economy and preserve its environment;
- Provide and expand safe, convenient and affordable alternatives to the single-occupant automobile; and
- Maintain the transportation system.

An additional component of the 2009 CTP has been how sustainability issues are addressed through the CTP, including an overview of the Authority's role in greenhouse gas emissions, actions that have been undertaken, and actions that will be undertaken, particularly in response to SB 375.¹

PURPOSE OF THE MITIGATION MONITORING AND REPORTING PROGRAM

To ensure that mitigation measures established for significant environmental impacts identified through the CEQA process are carried through, the Public Resources Code was

¹ Senate Bill 375 (Chapter 728, Statutes of 2008) establishes a process for the CARB to implement the state's global warming legislation (AB 32) for the transportation sector by requiring CARB to adopt regional greenhouse gas (GHG) targets for emissions associated with the automobile and light truck sector.

amended in 1988 (codified as Section 21081.6) to require a reporting or monitoring program “designed to ensure compliance during project implementation.” Every time a Lead Agency—such as the Authority for the 2009 CTP—approves a mitigated negative declaration or an EIR that identifies significant impacts and measures to mitigate them, it must also prepare a mitigation monitoring program. CEQA Guidelines Section 15097 was added in 1999 to further clarify agency requirements for mitigation monitoring or reporting.

The 2009 CTP EIR identified significant environmental impacts and measures that would mitigate those impacts. This document outlines a program for the implementation and monitoring of those mitigation measures. The purpose of this program is to document that the mitigation measures will be implemented and that environmental impacts are reduced to the level identified in the 2009 CTP EIR.

This document outlines the responsibilities, actions required and timing for monitoring and reporting on the implementation of those mitigation measures and a discussion of agency roles and responsibilities for mitigation measure implementation and monitoring, general monitoring procedures, and timing of mitigation measure implementation. To ensure compliance with CEQA, this document summarizes the actions to be taken to implement the mitigation measures prescribed for the 2009 CTP EIR. These measures are to be implemented to reduce adverse environmental impacts of individual projects on the resource areas of Air Quality, Geology and Seismicity, Biological Resources, Hydrology and Water Resources, Visual Resources, Noise, Cultural Resources, Hazardous Materials, Land Use and Housing, and Greenhouse Gases and Climate Change.

Components of the Monitoring Program

While the Authority has the primary responsibility for implementing and monitoring the implementation of mitigation measures established in the 2009 CTP EIR, it must rely on the efforts of other agencies in implementing and monitoring mitigation measures for the projects in the 2009 CTP. These measures can and should be implemented and monitored by agencies responsible for implementing and overseeing the implementation of the individual projects contained in the 2009 CTP. These agencies include project sponsors—such as local jurisdictions, transit agencies, the State Route 4 Bypass Authority, and Caltrans—and agencies responsible for the conservation of natural resources. These latter agencies include the Bay Area Air Quality Management District, the San Francisco Bay Conservation and Development Commission, the Regional Water Quality Control Board, the Environmental Protection Agency, the Joint Policy Committee Regional Agencies Climate Protection Program, the Department of Fish and Game and the U.S. Army Corps of Engineers. Ultimately, the Authority will ensure compliance with the identified mitigation measures by requiring individual projects to undergo CEQA and NEPA (if applicable) review prior to project approval by the Authority.

BASIC STRUCTURE OF MONITORING AND REPORT PROGRAM

The mitigation measures identified in the EIR for the 2009 CTP fall into two general categories: (1) project-level measures and (2) program- or planning-level measures. The project-level measures include those to be carried out during environmental review, design and construction of specific projects. The program- or planning-level impacts will be carried out through the Authority's ongoing planning and programming activities.

As part of the Measure C program, the Authority established a process for reviewing and approving projects that receive Measure C funding. This process is outlined in Authority Resolution 92-02-P "Management of Measure C Projects". The process will be carried forward for Measure J funded projects. A summary of this process, focusing on the implementation of identified mitigation measures, follows.

Mitigating Project-Level Impacts

The *Measure C Strategic Plan* initially outlined the Authority's financial plan for carrying out the transportation improvements identified in Measure C and continues to serve that role for Measure J. It estimates expected revenues from the sales tax, establishes policies for allocating those revenues and the responsibilities of project proponents, and outlines a program for allocating expected revenues to specific projects and programs. The Authority adopted its first Strategic Plan in 1991 and has updated it periodically to reflect changing revenue forecasts and the development of projects. The most recent updates are the 2008 *Measure C Strategic Plan* and the 2007 *Measure J Strategic Plan*.

To receive Measure C and/or J funding, a project must first be included in the Strategic Plan. Once in the Strategic Plan, the project proponent and the Authority must enter into a cooperative agreement that details the responsibilities, requirements, and roles of both parties. Before receiving any Measure C and/or J funds, the Authority must approve a funding resolution for the project. This resolution summarizes expected Measure C and/or J funding, other funding, the anticipated scope of work, and any conditions required of the project or project proponent.

Resolution 92-02-P requires project proponents to involve the Authority in the environmental review, design and construction of any Measure C- or J-funded project to ensure that the project is consistent with Authority policies and guidelines, as well as to ensure that the mitigation measures outlined in the EIR are carried out.

- **Environmental Review.** Because the Authority is a "Responsible Agency" under CEQA, it must be involved in the CEQA process for all Measure C and/or J-funded projects. The Authority's project coordinator is expected to be involved in the scoping of the project and in the review of measures proposed to mitigate any significant impacts identified. As a Responsible Agency, the Authority must rely on the project proponent's environmental analysis and mitigation measures identified therein.

- **Project Design and Permitting.** Authority staff is involved throughout the process of designing the project. Resolution 92-02-P also requires projects to undergo a peer review at major milestones in the process. A subcommittee of the Authority's Technical Coordinating Committee (TCC) conducts this peer review at the conceptual design, Phase I, Phase II, and final review stages. This peer review is not required for major highway projects, which are overseen and reviewed in detail by Caltrans, or for trails projects, which are done solely using Authority staff.
- **Project Construction.** The Authority will assign an Authority staff person to serve as Construction Liaison to track the project throughout construction. Project proponents will report on implementation of the mitigation measures as part of regular meetings with the contractor and project manager.

Authority staff reports on the progress of developing Measure C- and Measure J-funded projects, using information provided by project proponents, as part of updates of project status pages in the Strategic Plan and the monthly Project Status Reports prepared for the TCC.

For some projects, the Authority may be the project proponent, serving as lead agency for the CEQA process, overseeing the design and specification of the project, and managing its construction. In those cases, the Authority will be responsible for monitoring and reporting on implementation of the mitigation measures.

Mitigating Program- and Planning-Level Impacts

The EIR identified mitigation measures requiring the Authority to work with local, regional and State agencies to reduce the overall impacts of the program of projects outlined in the 2009 CTP. The Authority will carry out those measures as part of its role as the implementing agency for Measures C and J, and the Congestion Management Agency (CMA) for Contra Costa. The Authority carries out its responsibilities under Measures C and J through various actions, including:

- Establishing a vision, goals and implementing strategies as part of the Countywide Comprehensive Transportation Plan,
- Programming projects that receive Measure C and/or J funding through the Strategic Plan,
- Monitoring compliance with the Growth Management Program, and
- Providing technical support to local agencies to evaluate and help improve the connection between land use and transportation planning.

As the CMA for Contra Costa, the Authority addresses these impacts by, among other things:

- Identifying priorities for State and federal funding programs,

- Working with MTC, ABAG and BAAQMD to support the efficient implementation of adopted Transportation Control Measures (TCMs) for improving air quality,
- Preparing and updating a Congestion Management Program, and
- Developing and updating its Countywide Bicycle and Pedestrian Plan.

As part of these activities, the Authority works to minimize environmental impacts as well as carry out the Authority's goals.

RESPONSIBILITIES

As noted above, both the Authority and other agencies, including project sponsors, have roles in the implementation and monitoring of the mitigation measures outlined in the 2009 CTP. The following summary outlines the roles in this process that the various agencies will play.

Project Proponents

One of the basic premises of the Authority's Mitigation Monitoring and Reporting Program is that agencies responsible for carrying out projects included in the 2009 CTP are also responsible for mitigating their impacts. As project sponsors, these agencies are responsible for complying with CEQA. A project sponsor—acting as a lead agency for the project under CEQA—would comply with this Mitigation Monitoring and Reporting Program through the preparation of a mitigation monitoring and reporting program when its own CEQA analysis identifies significant impacts. Only 22 percent of projects contained in the 2009 CTP have design and right-of-way details or are under construction. As such, most of the projects now contained in the 2009 CTP have not yet gone through CEQA review, because they have not yet been programmed or sufficiently defined to have a meaningful CEQA review.

The project sponsors' role in the implementation of the 2009 CTP EIR mitigation measures includes:

- Conducting CEQA analysis where a project would be likely to have a significant impact on the environment;
- Responding to written comments on impacts and mitigation measures from the Authority and others;
- Adopting a mitigation monitoring and reporting program for those projects with significant impacts; and
- Forwarding to the Authority the recommendations of the EIR or mitigated negative declaration and the mitigation monitoring and reporting program for those CEQA documents.

TCC Peer Review

The Authority has established a peer review process for the projects in the Strategic Plan. In this process, members of the Authority's TCC, which is made up of technical staff from local jurisdictions, review the proposed design for projects in the Strategic Plan. To implement the mitigation measures identified in the 2009 CTP EIR, the Authority will continue the TCC's peer review process, which requires that TCC members look at changes in the design, construction or operation of the proposed project that could mitigate certain environmental impacts. The TCC review will look at those aspects of the projects that would not necessarily be covered by other agencies and that would result directly from the projects' construction and operation. Cumulative impacts and impacts on other areas of the environment (such as biological resources) will be addressed in other forums.

The Authority

As the primary agency responsible for implementing the 2009 CTP, the Authority has the most significant role in this process. This role includes:

- Direct implementation of some mitigation measures including review and revision of the Comprehensive Countywide Transportation Plan,
- Use of the peer review process for projects in the Strategic Plan to consider project changes and incorporation of best practices that would reduce their environmental impacts,
- As part of comments on EIRs and other CEQA documents, recommend as appropriate, that project sponsors and lead agencies incorporate mitigation measures identified in this EIR,
- Reporting on mitigation measures proposed or implemented for Strategic Plan projects in the periodic Project Status Reports, and
- Working with regional agencies (such as the Bay Area Air Quality Management District) and other bodies to implement other actions that would minimize the environmental impacts of the 2009 CTP.

One of the methods for developing more environmentally sensitive projects is the compilation of best practices for mitigation. The Authority will work with sponsors of projects that will receive Measure C and/or J funding to incorporate design changes and best practices, as described below.

Resource Agencies

The other regional planning agencies (ABAG, MTC, BAAQMD, and BCDC) shall support the Authority's implementation of program-level mitigation measures, through their roles as

described specifically in the mitigation measures themselves, as well as through on-going consultation and coordination efforts.

Agencies charged with the protection and conservation of natural resources shall help to ensure the mitigation of significant impacts through providing comments on project CEQA and NEPA documents, and through permit issuance standards and conditions.

TIMING

Most of the mitigation measures are related to specific site design and construction practices and will therefore be required during the design phase, pre-construction phase, and/or construction phase of individual projects. Project-specific mitigation monitoring programs may necessitate onsite environmental monitors during construction activities. Individual projects will progress through development stages at different times throughout the planning period. Nonetheless, project sponsors or their agents will be responsible for successfully implementing and enforcing the mitigation measures, and the Authority will help to ensure compliance by receiving and reviewing status reports.

One of the key components of a monitoring program is to determine whether or not mitigation measures are effective in reducing impacts to levels that are less than significant. Standards for successful mitigation are implicit in many mitigation measures that include such requirements as avoiding a specific impact entirely. Project sponsors will be required to compare residual impacts (after mitigation measures are implemented) to either a) the 2009 CTP EIR significance criteria or b) subsequent site-specific project EIR significance criteria or specific mitigation performance standards in order to determine mitigation measure effectiveness. The Authority may conduct a comprehensive review of measures that are not effectively mitigating impacts at any time it deems appropriate.

Implementation and Monitoring of Mitigation Measures

DETAILED IMPLEMENTATION AND MONITORING

This section summarizes which agencies are responsible for implementation of the mitigation measures identified in the 2009 CTP EIR and the actions required for implementation, monitoring and reporting on these measures. In designing the Mitigation Monitoring and Reporting Program, three questions were considered:

- Who is the responsible agency?
- What action is required?
- When is the action required?

The following tables answer those questions for both implementations of the mitigation measures and the monitoring and reporting of their implementation. They distinguish

between the implementation of the mitigation measures and the monitoring and reporting on their implementation, because these two actions are distinct. The first set of actions describes who will implement the measure and how they will do it. The second set of actions describes how they will measure the success of the implementation measure and inform the Authority (and thus the public) of the results of the mitigation program.

To verify that the mitigation measures adopted by the Authority are fully implemented, the Authority shall review information submitted that is relevant to the proposed mitigation measures for the 2009 CTP. The review shall be conducted as required by CEQA Section 21081.6.

In the tables, the term “Project Sponsor” means the lead agency responsible for environmental clearance, design, right-of-way procurement and construction of the project. While the Project Sponsor will usually be a local jurisdiction, transit operator, Caltrans or other agency, the Authority may serve as Project Sponsor or co-sponsor for certain projects. In those cases, the term “Project Sponsor” will refer to the Authority, which would be responsible for implementing and reporting on the mitigation measures outlined below.

Reference to local jurisdictions includes Contra Costa County and all cities within Contra Costa. The Authority will support agencies in carrying out the implementation, monitoring and reporting procedures outlined below for each impact.

Mitigation and Monitoring Requirements

2.2 Air Quality

Impact 2.2-1	The construction of proposed projects in the 2009 CTP could result in significant short-term direct impacts on air quality near construction sites.
Mitigation Measure 2.2-1	<p>Where construction of proposed projects could result in significant short-term direct impacts on air quality near construction sites, sponsors shall consider measures to minimize or eliminate impacts as part of the design of the project and its environmental review under CEQA and NEPA. Potential mitigation measures could be drawn from or be consistent with the BAAQMD approach and Caltrans’ <i>Highway Design Manual</i> and, where appropriate, based on consultation with BAAQMD staff. Typical mitigation measures include:</p> <ul style="list-style-type: none"> ▪ Appropriate dust abatement programs as described in the BAAQMD approach, which calls for “basic” control measures that should be implemented at all construction sites, “enhanced” control measures that should be implemented at construction sites greater than four acres in area, and “optional” control measures that should be implemented on a case-by-case basis at construction sites that are large in area, located near sensitive receptors or which, for any other reason, may warrant

Mitigation and Monitoring Requirements

additional emissions reductions (BAAQMD, 1999);

- Use of Caltrans policies for dust abatement during construction at construction sites. There are far-reaching measures such as the use of special contract provisions to require that material, borrow and disposal sites as well as temporary haul roads be restored to a condition such that their potential as sources of blowing dust or other pollution is no greater than that of their original condition. The checklist of on-site measures includes provisions for control measures such as planting, stabilizing emulsion, protective blankets or use of other control measures to prevent erosion; and
- Project sponsors of specific projects entailing the demolition of a building containing asbestos materials shall consult with BAAQMD staff concerning the specific requirements of Regulation 11, Rule 2 (Asbestos Demolition, Renovation and Manufacturing) of BAAQMD's regulations.

Implementation

<i>Responsible Party</i>	Project Sponsors.
<i>Action Required</i>	Consult with BAAQMD staff as appropriate and incorporate measures into project specifications and construction requirements.
<i>Timing</i>	Consultation prior to construction; other measures during project construction.

Reporting

<i>Responsible Party</i>	Project Sponsors.
<i>Action Required</i>	Provide the information required for Project Status Reports.
<i>Timing</i>	As part of regular meetings with Authority's Construction Liaison.

2.4 Geology and Seismicity

Impact 2.4-1	Seismic events could damage proposed transportation infrastructure through surface rupture, ground shaking, liquefaction, landslides and tsunamis, causing impacts on property and public safety.
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Mitigation Measure 2.4-1	Where seismic events could significantly affect a project, sponsors shall consider measures to minimize or eliminate impacts as part of the design of the project and its environmental review under CEQA and NEPA. Potential mitigation measures could be drawn from or be consistent with the California Building Code, Caltrans' standards for construction, and the California Geological Survey Guidelines for Evaluation the Hazard of Earthquake Fault Rupture and, where
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Mitigation and Monitoring Requirements

	<p>appropriate, based on a review or investigation by a State licensed geotechnical professional. Typical mitigation measures include:</p> <ul style="list-style-type: none"> Minimization of tsunami inundation hazards through designs to diminish wave inundation and associated damage. For example, precautionary measures such as specifying final foundation or roadbed elevations higher than the expected height of a tsunami with a given return frequency would be effective.
Implementation	
<i>Responsible Party</i>	Project sponsors.
<i>Action Required</i>	Incorporate measures into project specifications and construction requirements.
<i>Timing</i>	During project construction.
Reporting	
<i>Responsible Party</i>	Project sponsors.
<i>Action Required</i>	Provide the information required for Project Status reports.
<i>Timing</i>	As part of regular meetings with Authority’s Construction Liaison.
Impact 2.4-2	Highway and rail construction could require significant earthwork and road cuts, increasing the potential for short-term and long-term soil erosion and slope failure.
Mitigation Measure 2.4-2	<p>Where highway and rail construction could require significant earthwork and road cuts that increase the potential for short term and long term soil erosion and slope failure, sponsors shall consider measures to minimize or eliminate impacts as part of the design of the project and its environmental review under CEQA and NEPA. Potential mitigation measures could be drawn from or be consistent with the California Building Code and Caltrans’ standards for construction, and, where appropriate, based on a review or investigation by a State licensed geotechnical professional. Typical mitigation measures include:</p> <ul style="list-style-type: none"> Project designs shall provide adequate slope drainage and appropriate landscaping to minimize potential future occurrences of slope instability and erosion. Design features shall include measures to reduce erosion from storm water. Road cuts shall be designed to maximize the potential for revegetation.
Implementation	
<i>Responsible Party</i>	Project sponsors.

Mitigation and Monitoring Requirements

<i>Action Required</i>	Incorporate measures into project specifications and construction requirements.
<i>Timing</i>	During project construction.
Reporting	
<i>Responsible Party</i>	Project sponsors.
<i>Action Required</i>	Provide the information required for Project Status reports.
<i>Timing</i>	As part of regular meetings with Authority's Construction Liaison.
Impact 2.4-3	Projects built on highly compressible or expansive soils could become damaged and weakened over time.
Mitigation Measure 2.4-3	<p>Where projects would be built on highly compressible or expansive soils, sponsors shall consider measures to minimize or eliminate impacts as part of the design of the project and its environmental review under CEQA and NEPA. Typical mitigation measures include:</p> <ul style="list-style-type: none"> ▪ A site-specific geotechnical investigation conducted by qualified professionals (California registered civil and geotechnical engineers, or California registered engineering geologists) to identify potential geologic hazards associated with soils underlying proposed improvements; and ▪ Recommended corrective measures, such as structural reinforcement, soil treatment, or replacing existing soil with engineered fill, in accordance with recommendations of the geotechnical investigation and the most recent version of the California Building Code.
Implementation	
<i>Responsible Party</i>	Project sponsors.
<i>Action Required</i>	Conduct site-specific geotechnical investigation by qualified professionals as appropriate and incorporate measures into project specifications and construction requirements.
<i>Timing</i>	Conduct investigation prior to construction; other measures during project construction.
Reporting	
<i>Responsible Party</i>	Project sponsors.
<i>Action Required</i>	Provide the information required for Project Status reports.
<i>Timing</i>	As part of regular meetings with Authority's Construction Liaison.

Mitigation and Monitoring Requirements

2.5 Biological Resources

Impact 2.5-1

Projects included in the 2009 CTP could adversely affect rare, threatened or endangered, candidate, sensitive, or other special-status species of plants and animals and their habitats, including potential interference with the movement of wildlife species.

Mitigation Measure 2.5-1

Where projects included in the 2009 CTP could adversely affect rare, threatened or endangered, candidate, sensitive, or other special-status species of plants and animals and their habitats, including potential interference with the movement of wildlife species, sponsors shall consider measures to minimize or eliminate impacts as part of the design of the project and its environmental review under CEQA and NEPA. Potential mitigation measures shall be consistent with federal, state, regional and local regulatory requirements, as discussed in the Regulatory Setting above. Typical mitigation measures include:

- Select alignments to avoid areas of resource sensitivity and to minimize the need for large areas of cut and fill that would remove vegetation and habitat;
- Avoid construction in aquatic habitats and control runoff so that litter, solvents, greases and other chemicals do not pollute these habitats. Keep disruption of soils within streambeds to a minimum and implement erosion controls around support pillars;
- Preserve existing and mature trees and snags as nesting and roosting habitat to the extent feasible, except when trees are diseased, over-aged, or otherwise constitute a hazard to persons or property;
- Conduct field surveys for rare and endangered plants, sensitive species, and nesting birds where suitable habitat exists. Such surveys provide critical information for assessing impacts and determining if effective mitigation is possible.
- Protect rare and endangered animal species through controlling or eliminating development in primary habitat areas. Where wildlife habitat is disturbed, undertake relocation efforts where feasible;
- Where possible, avoid known animal movement corridors when designing new road and rail alignments, pedestrian/ bike paths, and other transportation facilities. Place pass-through-culverts under highways to allow wildlife movement; consider fencing to prevent wildlife from entering highways. Schedule construction

Mitigation and Monitoring Requirements

	<p>activities to avoid disturbance to wildlife by implementing seasonal or circadian avoidance measures. Design lighting to be responsive to wildlife sensitivities; and</p> <ul style="list-style-type: none"> Require appropriate erosion control measures in conjunction with new development to minimize wildlife habitat destruction. Stabilize cut-and-fill slopes and revegetate immediately following construction. Remove topsoil, stockpile and respread to preserve natural vegetation. To the extent possible, use native vegetation to landscape project sites and minimize the need for fertilizers and pesticides. Avoid introducing invasive species and monitor and control weedy plants. Additional erosion control measures are detailed in Section 2.6 <i>Hydrology and Water Resources, Mitigation Measure 2.6-2.</i>
Implementation	
<i>Responsible Party</i>	Project sponsors.
<i>Action Required</i>	Conduct field studies as necessary; incorporate measures into project specifications and construction requirements.
<i>Timing</i>	Conduct field study prior to construction; other measures during project construction.
Reporting	
<i>Responsible Party</i>	Project sponsors.
<i>Action Required</i>	Provide the information required for Project Status reports.
<i>Timing</i>	As part of regular meetings with Authority’s Construction Liaison.
Impact 2.5-2	Projects included in the 2009 CTP could adversely affect wetlands and other aquatic resources.
Mitigation Measure 2.5-2	<p>Where projects could adversely affect wetlands and other aquatic resources, sponsors shall consider measures to minimize or eliminate impacts as part of the design of the project and its environmental review under CEQA and NEPA. Project proponents shall implement measures to avoid, minimize, and compensate for significant impacts on jurisdictional wetlands and other aquatic resources within or adjacent to the project area. Potential mitigation measures should be drawn from or be consistent with guidelines of the Corps, RWQCB, BCDC, and CDFG. Typical mitigation measures include:</p> <ul style="list-style-type: none"> In accordance with guidelines of the Corps, RWQCB, BCDC, and CDFG, a goal of “no net loss” of wetland acreage and value will be implemented, wherever possible, through avoidance of the resource;

Mitigation and Monitoring Requirements

- Wetlands and other aquatic resources in the project area shall be inventoried and project components sited to avoid and minimize direct and indirect impacts to wetlands and stream drainage channels;
- The number and area of stream channel and wetland crossings should be reduced, where feasible;
- Mitigation for wetland impacts due to proposed transportation projects would be based on project-specific wetland mitigation plans at a minimum 1:1 replacement ratio and subject to approval by the Corps and commenting agencies; and
- Avoidance, compensatory restoration, or creation of new wetland communities to offset the conversion of wetlands for proposed transportation improvements would achieve “no net loss” of wetland acreage and value.
- Additional potential pollution and sedimentation control measures are detailed in Section 2.6 Hydrology and Water Resources, Mitigation Measure 2.6-2. In addition, the following mitigation measures may be required by the Authority.

Implementation

<i>Responsible Party</i>	Project sponsors.
<i>Action Required</i>	Obtain permits as necessary; incorporate measures into project specifications and construction requirements.
<i>Timing</i>	Obtain permits prior to construction; other measures during construction.

Reporting

<i>Responsible Party</i>	Project sponsors.
<i>Action Required</i>	Provide the information required for Project Status reports.
<i>Timing</i>	As part of regular meetings with Authority’s Construction Liaison.

Impact 2.5-4	Projects included in the 2009 CTP could adversely impact riparian habitat or other sensitive natural communities.
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Mitigation Measure 2.5-4	Where projects could adversely affect riparian habitat or other sensitive natural communities, sponsors shall consider measures to minimize or eliminate impacts as part of the design of the project and its environmental review under CEQA and NEPA. Potential mitigation measures could be drawn from or be consistent with CDFG guidelines. Typical mitigation measures include:
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Mitigation and Monitoring Requirements

- Conformance, where applicable, with the provisions of special area-management or restoration plans outlining specific measures to protect sensitive vegetation communities, including preserving habitats in their natural state, respecting setback areas, and limiting the removal of trees and vegetation.

Implementation

<i>Responsible Party</i>	Project sponsors.
<i>Action Required</i>	Incorporate measures into project specifications and construction requirements.
<i>Timing</i>	During project construction.

Reporting

<i>Responsible Party</i>	Project sponsors.
<i>Action Required</i>	Provide the information required for Project Status reports.
<i>Timing</i>	As part of regular meetings with Authority’s Construction Liaison.

Impact 2.5-5 **Projects included in the 2009 CTP could result in the removal of trees protected by local ordinances.**

Mitigation Measure 2.5-5	<p>Where projects could result in the removal of trees protected by local ordinances, sponsors shall consider measures to minimize or eliminate impacts as part of the design of the project and its environmental review under CEQA and NEPA. Potential mitigation measures should be drawn from or be consistent with Contra Costa County or City Ordinances. Typical mitigation measures include:</p> <ul style="list-style-type: none"> Avoiding work activities within the drip-line of protected or designated heritage trees. In the event that it is infeasible to avoid the drip-line of protected or heritage trees, the project proponents shall apply for any applicable permits and comply with local City or County replacement mitigation guidelines for impacts on protected trees specified in the permits.
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Implementation

<i>Responsible Party</i>	Project sponsors.
<i>Action Required</i>	Incorporate measures into project specifications and construction requirements.
<i>Timing</i>	During project construction.

Reporting

<i>Responsible Party</i>	Project sponsors.
<i>Action Required</i>	Provide the information required for Project Status reports.

Mitigation and Monitoring Requirements

<i>Timing</i>	As part of regular meetings with Authority's Construction Liaison.
Impact 2.5-6	Implementation of the 2009 CTP combined with regional growth and development could contribute to cumulative impacts on special-status plant and animal species or wetlands, riparian habitat, and related resources.
Mitigation Measure 2.5-6	Where projects could contribute to cumulative impacts on special-status plant and animal species or wetlands, riparian habitat, and related resources, sponsors shall consider measures to minimize or eliminate impacts as part of the design of the project and its environmental review under CEQA and NEPA, as discussed in Mitigation Measures 2.5-1 through 2.5-5.
Implementation	
<i>Responsible Party</i>	Project sponsors.
<i>Action Required</i>	Incorporate measures, as discussed in Mitigation Measures 2.5-1 through 2.5-5, into project specifications and construction requirements.
<i>Timing</i>	During project construction.
Reporting	
<i>Responsible Party</i>	Project sponsors.
<i>Action Required</i>	Provide the information required for Project Status reports.
<i>Timing</i>	As part of regular meetings with Authority's Construction Liaison.

2.6 Hydrology and Water Resources

Impact 2.6-1	Construction of transportation improvements would increase impervious surface areas causing an increase in storm water runoff volume and rate, nonpoint-source pollutant levels and decreased rates of groundwater recharge.
Mitigation Measure 2.6-1	Where construction of transportation improvements would increase impervious surface areas, sponsors shall consider measures to minimize or eliminate impacts as part of the design of the project and its environmental review under CEQA and NEPA. Potential mitigation measures should be drawn from or be consistent with Caltrans' design requirements, the Bay Area Stormwater Management Agencies Association's (BASMAA) Start at the Source Design Guidance Manual for Stormwater Quality Protection, and the California Storm Water Best Management Practice Handbook for New Development and Redevelopment. These measures may include:

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- Preservation of existing pervious surfaces to minimize the amount of storm runoff to the greatest extent possible;
- Incorporation of appropriate water pollution and storm water runoff control measures;
- Design projects to allow lateral transmission of storm water flows across transportation corridors with no increased risk of upstream flooding; and
- Culverts and bridges designed to adequately carry drainage waters through project sites.

Implementation

<i>Responsible Party</i>	Project Sponsors.
<i>Action Required</i>	Incorporate Measures into project specifications and construction requirements.
<i>Timing</i>	During project construction.

Reporting

<i>Responsible Party</i>	Project Sponsors.
<i>Action Required</i>	Provide the information required for Project Status Reports.
<i>Timing</i>	As part of regular meetings with Authority's Construction Liaison.

Impact 2.6-2	Construction activities could result in erosion and cause subsequent sedimentation of storm water runoff, or introduce pollutants to runoff from the use of automotive fluids and hazardous materials.
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Mitigation Measure 2.6-2	Where construction activities could result in erosion and cause subsequent sedimentation of storm water runoff or introduce pollutants to runoff from the use of automotive fluids and hazardous materials, sponsors shall consider measures to minimize or eliminate impacts as part of the design of the project and its environmental review under CEQA and NEPA. Potential mitigation measures should be drawn from or be consistent with the California Stormwater Quality Association (CASQA), Stormwater Best Management Practice Handbook for Construction, NPDES permit regulations, SWRCB NPDES General Construction Permitting for construction projects that incorporate over one acre, the Manual of Standards for Erosion and Sedimentation Control by the Association of Bay Area Governments, policies and recommendations of the local city or county urban runoff programs, and the recommendations of the applicable RWQCB. Under NPDES permit regulations, the project proponent would be required to prepare and implement a SWPPP, consistent with the above agencies, guidelines, programs and
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permits. Implementation of the SWPPP shall be enforced by inspecting agencies during the construction period. Typical elements of an SWPPP include:

- Excavation and grading activities will be scheduled for the dry season only (April 15 to October 15), to the extent possible. This will reduce the chance of severe erosion from intense rainfall and surface runoff, as well as the potential for soil saturation in swale areas;
 - If excavation occurs during the rainy season, regulation of storm runoff from the construction area through a storm water management/erosion control plan that may include temporary onsite silt traps and/or basins with multiple discharge points to natural drainages and energy dissipaters. Stockpiles of loose material will be covered and runoff diverted away from exposed soil material. If work is stopped due to rain, a positive grading away from slopes will be provided to carry the surface runoff to areas where flow can be controlled, such as the temporary silt basins. Sediment basin/traps will be located and operated to minimize the amount of offsite sediment transport. Any trapped sediment will be removed from the basin or trap and placed at a suitable location onsite, away from concentrated flows, or removed to an approved disposal site;
 - Use of temporary erosion control measures until perennial revegetation or landscaping is established and can minimize discharge of sediment into nearby waterways. For construction within 500 feet of a water body, straw bales will be placed upstream adjacent to the water body;
 - After completion of grading, installation of erosion protection on all cut-and-fill slopes. Revegetation will be facilitated by mulching, hydroseeding, or other methods and should be initiated as soon as possible after completion of grading and prior to the onset of the rainy season (by October 15);
 - Permanent revegetation/landscaping that emphasizes drought-tolerant perennial ground coverings, shrubs, and trees to improve the probability of slope and soil stabilization without adverse impacts to slope stability due to irrigation infiltration and long-term root development;
 - BMPs selected and implemented for the project will be in place and operational prior to the onset of major earthwork on the site. The construction phase facilities will be maintained regularly
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	and cleared of accumulated sediment as necessary; and
	<ul style="list-style-type: none"> ▪ Storage of hazardous materials such as fuels and solvents used on the construction sites in covered containers and protected from rainfall, runoff, and vandalism. A stockpile of spill cleanup materials will be readily available at all construction sites. Employees will be trained in spill prevention and cleanup, and individuals will be designated as responsible for prevention and cleanup activities.

Implementation

<i>Responsible Party</i>	Project Sponsors.
<i>Action Required</i>	Obtain relevant permit(s), prepare and implement a SWPPP as required, and incorporate measures into project specifications and construction requirements.
<i>Timing</i>	Obtain permits and prepare SWPPP prior to construction; other measure during project construction.

Reporting

<i>Responsible Party</i>	Project Sponsors.
<i>Action Required</i>	Provide the information required for Project Status Reports.
<i>Timing</i>	As part of regular meetings with Authority's Construction Liaison.

2.7 Visual Resources

Impact 2.7-1	Construction of new transportation projects in the 2009 CTP could affect visual resources in Contra Costa during construction.
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Mitigation Measure 2.7-1	<p>Where new transportation projects could affect visual resources during construction, sponsors shall consider measures to minimize or eliminate impacts as part of the design of the project and its environmental review under CEQA and NEPA. Potential mitigation measures could be drawn from or be consistent with Caltrans' standards for construction. Typical mitigation measures include:</p> <ul style="list-style-type: none"> ▪ Minimize the visibility of construction staging areas where possible; use fencing and screening materials that are low contrast and consistent with the surrounding landscape; and ▪ Revegetate graded slopes and exposed earth surfaces at the earliest opportunity.
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Implementation

<i>Responsible Party</i>	Project Sponsors.
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<i>Action Required</i>	Incorporate Measures into project specifications and construction requirements.
<i>Timing</i>	During project construction.
Reporting	
<i>Responsible Party</i>	Project Sponsors.
<i>Action Required</i>	Provide the information required for Project Status Reports.
<i>Timing</i>	As part of regular meetings with Authority’s Construction Liaison.
Impact 2.7-2	Construction or expansion of certain transportation projects included in the 2009 CTP could adversely alter views in the County over the long-term by adding incongruous elements to the existing landscape, thereby blocking view or altering the scale, character, and quality of rural or open space areas, important vistas along roadways, and urban communities.
Mitigation Measure 2.7-2	<p>Where construction or expansion of transportation projects could adversely alter views over the long-term, sponsors shall consider measures to minimize or eliminate significant visual impacts as part of the design of the project and its environmental review under CEQA and NEPA. Potential mitigation measures could be drawn from or be consistent with Caltrans’ standards for construction. Typical mitigation measures include:</p> <ul style="list-style-type: none"> ▪ Design projects to minimize contrast in scale and massing between the project and surrounding natural forms and urban development; ▪ Site or design projects to minimize their intrusion into important view sheds; ▪ Use natural landscaping to minimize contrasts between the projects and existing natural and human-made features. Wherever possible, develop interchanges and transit lines at the grade of the surrounding land to limit view blockage. Contour the edges of major cut and fill slopes to provide a more natural looking finished profile; ▪ Design landscaping along highway corridors to add significant natural elements and visual interest to soften the hard edges and linear travel experience that would otherwise occur; and ▪ Complete design studies for projects in designated or eligible State Scenic Highway corridors. Consider the “complete” highway system and develop mitigation measures to minimize

Mitigation and Monitoring Requirements

	the impacts on the quality of the views of visual experience that originally qualified the highway for Scenic Highway designation.
Implementation	
<i>Responsible Party</i>	Project Sponsors.
<i>Action Required</i>	Complete studies as necessary and incorporate Measures into project specifications and construction requirements.
<i>Timing</i>	Complete studies as needed prior to construction; other measures during project construction.
Reporting	
<i>Responsible Party</i>	Project Sponsors.
<i>Action Required</i>	Provide the information required for Project Status Reports.
<i>Timing</i>	As part of regular meetings with Authority's Construction Liaison.
Impact 2.7-3	The construction of soundwalls along arterials proposed in the 2009 CTP could significantly alter views.
Mitigation Measure 2.7-3	<p>Where construction of soundwalls could significantly alter views, sponsors shall consider measures to minimize or eliminate significant visual impacts as part of the design of the project and its environmental review under CEQA and NEPA. Potential mitigation measures could be drawn from or be consistent with Caltrans' standards for construction. Typical mitigation measures include:</p> <ul style="list-style-type: none"> ▪ Develop new or expanded roadways below the grade of surrounding areas to minimize the need for tall soundwalls; ▪ Use transparent panels to preserve views where soundwalls would block views from residences; ▪ Use landscaped earth berm or a combination wall and berm to minimize the apparent soundwall height; ▪ Construct soundwalls of materials whose color and texture complements the surrounding landscape and development; ▪ Design soundwalls to increase visual interest, reduce apparent height, and be visually compatible with the surrounding area; and ▪ Landscape the soundwalls with plants that screen the soundwall, preferably with either native vegetation or landscaping that complements the dominant landscaping of surrounding areas.
Implementation	
<i>Responsible Party</i>	Project Sponsors.

Mitigation and Monitoring Requirements

<i>Action Required</i>	Incorporate measures into project specifications and construction requirements.
<i>Timing</i>	During project construction.
Reporting	
<i>Responsible Party</i>	Project Sponsors.
<i>Action Required</i>	Provide the information required for Project Status Reports.
<i>Timing</i>	As part of regular meetings with Authority's Construction Liaison.

2.8 Noise

Impact 2.8-1	Construction of the projects proposed in the 2009 CTP would have short-term noise impacts on surrounding areas.
Mitigation Measure 2.8-1	<p>Where construction of the projects would have short-term noise impacts on surrounding areas, sponsors shall consider measures to minimize or eliminate impacts as part of the design of the project and its environmental review under CEQA and NEPA. Potential mitigation measures could be drawn from or be consistent with Caltrans' standards for construction, and shall be consistent with federal, state, regional and local regulatory requirements, as discussed in the Regulatory Setting above. Typical mitigation measures include:</p> <ul style="list-style-type: none"> ▪ Requiring mufflers on heavy construction equipment; ▪ Specifying time restrictions consistent with local noise ordinances and with the activities of sensitive land uses in the vicinity. It is noted that limitations on allowable hours for construction could also result in significant adverse impacts on traffic movement if construction is limited to the daylight hours and prohibited during nighttime hours. Project level analysis will determine the level of mitigation; ▪ Using equipment and trucks for project construction with the best available noise control techniques (e.g., improved mufflers, equipment redesign, use of intake silencers, ducts, engine enclosures and acoustically-attenuating shields or shrouds, wherever feasible); ▪ Use of hydraulically or electrically powered impact tools (e.g., jack hammers, pavement breakers, and rock drills) for project construction wherever possible to avoid noise associated with compressed air exhaust from pneumatically powered tools. However, where use of pneumatic tools is unavoidable, an exhaust muffler on the compressed air exhaust shall be used;

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this muffler can lower noise levels from the exhaust by up to about 10 dBA. External jackets on the tools themselves shall be used where feasible, and this could achieve a reduction of 5 dBA. Quieter procedures shall be used, such as drills rather than impact equipment whenever feasible;

- Locating stationary noise sources as far from sensitive receptors as possible, and they shall: be muffled and enclosed within temporary sheds; incorporate insulation barriers; or apply other measures to the extent feasible;
 - To reduce the potential for noise impacts from pile driving, use of alternate methods of driving, if feasible. Alternate measures may include pre-drilling of piles or the use of more than one pile driver to lessen the total time required for driving piles;
 - Erect temporary plywood noise barriers around the entire construction site if necessary to buffer noise from sensitive land uses;
 - Use noise control blankets on any structure as it is erected to reduce noise emission from the site where applicable;
 - Evaluate the feasibility of noise control at the receivers (i.e., nearby sensitive receptors such as residences, schools, hospitals, etc.) by temporarily improving the noise reduction capability of adjacent buildings;
 - Monitor the effectiveness of noise attenuation measures with noise measurements; and
 - Establish a process for responding to and tracking complaints pertaining to construction noise with the following components:
 - A procedure for notifying local jurisdictions, sheriff and/or police department staff, and building division staff throughout Contra Costa;
 - A plan for posting signs on-site pertaining to permitted construction days and hours and complaint procedures and who to notify in the event of a problem;
 - A listing of telephone numbers (during regular construction hours and off-hours);
 - The designation of a construction complaint manger for the project; and
 - Notify neighbors within 300 feet of the project construction area at least 30 days in advance of pile-driving activities about the
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	estimated duration of the activity.
Implementation	
<i>Responsible Party</i>	Project Sponsors.
<i>Action Required</i>	Incorporate measures into project specifications and construction requirements..
<i>Timing</i>	Establish process for responding to and tracking noise complaints prior to construction; other measures during project construction.
Reporting	
<i>Responsible Party</i>	Project Sponsors.
<i>Action Required</i>	Provide the information required for Project Status Reports.
<i>Timing</i>	As part of regular meetings with Authority's Construction Liaison.
Impact 2.8-2	Transportation improvements proposed as part of the 2009 CTP could result in noise levels that approach or exceed the FHWA and FTA Noise Abatement Criteria or could cause noise levels to increase by 3 dBA or more when compared to existing conditions.
Mitigation Measure 2.8-2	<p>Where transportation improvements could result in noise levels that approach or exceed the FHWA and FTA Noise Abatement Criteria or could cause noise levels to increase by 3 dBA or more, sponsors shall consider measures to minimize or eliminate impacts as part of the design of the project and its environmental review under CEQA and NEPA. Potential mitigation measures could be drawn from or be consistent with Caltrans' standards for construction. Typical mitigation measures include:</p> <ul style="list-style-type: none"> ▪ Adjustments to proposed roadway or transit alignments to reduce noise levels in noise sensitive areas; ▪ Construction of sound walls adjacent to new or modified roads or transit lines, especially when projects are located in the vicinity of sensitive receptors. Noise level increases could, in most cases, be mitigated to levels at or below existing levels if soundwalls were constructed along the rights-of-way. A determination of the specific heights, lengths and feasibility of soundwalls must be part of the project-level environmental assessment; ▪ Adjustments to proposed roadway or transit alignment to reduce noise levels in noise sensitive areas. Depressed roadway alignments are effective at mitigating roadside noise levels; ▪ Insulation of buildings or construction of noise barriers around

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	<p>sensitive receptors;</p> <ul style="list-style-type: none"> ▪ Vibration isolation of track segments; and ▪ Adoption of policies and development standards by local jurisdictions that reduce the exposure of sensitive receptors to noise generated by new or expanded transportation facilities, if they have not already done so in their General Plan Noise Elements and implementing ordinances. Such policies and standards may include noise attenuation by design when residential, educational, and other sensitive uses are to be developed near major transportation facilities or corridors. Locally-adopted noise reduction standards should correspond with the best guidance available from Caltrans and other responsible agencies, without thwarting efforts to create transit-oriented and affordable development.
Implementation	
<i>Responsible Party</i>	Project Sponsors.
<i>Action Required</i>	Incorporate measures into project specifications and construction requirements.
<i>Timing</i>	During project construction.
Reporting	
<i>Responsible Party</i>	Project Sponsors.
<i>Action Required</i>	Provide the information required for Project Status Reports.
<i>Timing</i>	As part of regular meetings with Authority's Construction Liaison.
Impact 2.8-3	Transportation improvements proposed as part of the 2009 CTP together with regional growth and development could contribute to cumulative noise levels.
Mitigation Measure 2.8-3	Mitigation measures 2.8-1 and 2.8-2, as listed above, would contribute to reducing the cumulative impact. However, these mitigation measures, are not assumed to fully reduce the potentially significant cumulative noise to a less-than-significant level due to the uncertainty of the cumulative future noise environment, the localized nature of noise impacts, and community perceptions of noise.
Implementation	
<i>Responsible Party</i>	Project Sponsors.
<i>Action Required</i>	Incorporate measures, as described in mitigation measures 2.8-1 and 2.8-2, into project specifications and construction requirements.
<i>Timing</i>	During project construction.

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Reporting

<i>Responsible Party</i>	Project Sponsors.
<i>Action Required</i>	Provide the information required for Project Status Reports.
<i>Timing</i>	As part of regular meetings with Authority's Construction Liaison.

2.9 Cultural Resources

Impact 2.9-1	Construction of new transportation projects supported by the 2009 CTP has the potential to adversely affect archaeological or paleontological resources or buried human remains through damage or destruction of those resources.
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Mitigation Measure 2.9-1	<p>Where construction of new transportation projects has the potential to adversely affect archaeological or paleontological resources or buried human remains through damage or destruction of those resources, sponsors shall consider measures to minimize or eliminate significant paleontological and archeological resource impacts as part of the design of the project and its environmental review under CEQA and NEPA. Potential mitigation measures could be drawn from or be consistent with review or investigation by the Native American Heritage Commission where appropriate. Typical mitigation measures include:</p> <ul style="list-style-type: none"> ▪ Preparation of a research design and testing plan in advance of implementation of the construction of the project, in order to efficiently facilitate the avoidance of cultural sites all together; ▪ Preservation in place. This is the preferred manner of mitigating impacts to archeological sites because it maintains the relationship between artifacts and the archeological context, and it may also avoid conflict with religious or cultural values of groups associated with the site. This may be achieved through incorporation within parks, green-space, or other open space by re-designing projects using open space or undeveloped lands. This may also be achieved by following procedures for capping the site underneath a paved area; and ▪ When avoiding and preserving in place are infeasible, a data recovery plan may be prepared according to CEQA Section 15126.4. A data recovery plan consists of: the documentation and removal of the archeological deposit from a project site in a manner consistent with professional (and regulatory) standards; the subsequent inventorying, cataloguing, analysis, identification, dating, and interpretation of the artifacts; and the
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	production of a report of findings.
Implementation	
<i>Responsible Party</i>	Project Sponsors.
<i>Action Required</i>	Preparation of research, detail and testing plan; incorporate measures into project specifications and construction requirements.
<i>Timing</i>	Preparation of research, detail and testing plan in advance of construction; other measures during project construction.
Reporting	
<i>Responsible Party</i>	Project Sponsors.
<i>Action Required</i>	Provide the information required for Project Status Reports.
<i>Timing</i>	As part of regular meetings with Authority's Construction Liaison.
Impact 2.9-2	Construction of new transportation projects supported by the 2009 CTP has the potential to adversely affect historic architectural resources through demolition or significant changes to the historical setting.
Mitigation Measure 2.9-2	<p>Where construction of new transportation projects supported by the 2009 CTP has the potential to adversely affect historic architectural resources through demolition or significant changes to the historical setting, sponsors shall consider measures to minimize or eliminate significant historic resource impacts as part of the design of the project and its environmental review under CEQA and NEPA. Potential mitigation measures could be drawn from or be consistent with State, federal, or local historic preservation criteria, the Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings and Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings. Typical mitigation measures include:</p> <ul style="list-style-type: none"> ▪ Assessment by a qualified professional of structures greater than 40 years in age within the area of potential effect to determine their eligibility for recognition under State, federal, or local historic preservation criteria; and ▪ The treatment of identified historic resources in accordance with either the Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings or Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings.

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Implementation

<i>Responsible Party</i>	Project Sponsors.
<i>Action Required</i>	Assessment of structures by qualified professional; incorporate measures into project specifications and construction requirements.
<i>Timing</i>	Conduct assessment of structures prior to construction; other measures during project construction.

Reporting

<i>Responsible Party</i>	Project Sponsors.
<i>Action Required</i>	Provide the information required for Project Status Reports.
<i>Timing</i>	As part of regular meetings with Authority's Construction Liaison.

2.10 Hazardous Materials

Impact 2.10-1	Hazardous materials used during construction and operation of the 2009 CTP, such as petroleum products, fuels, spent oil, and solvents, could be released to the environment through improper handling or storage and expose humans and the environment to potentially hazardous conditions.
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Mitigation Measure 2.10-1	<p>Where hazardous materials used during construction and operation of the 2009 CTP could be released to the environment through improper handling or storage and expose humans and the environment to potentially hazardous conditions, sponsors shall consider measures to minimize or eliminate impacts as part of the design of the project and its environmental review under CEQA and NEPA. Potential mitigation measures shall be consistent with federal, state, regional and local regulatory requirements, as discussed in the Regulatory Setting above. Typical mitigation measures include:</p> <ul style="list-style-type: none"> ▪ Utilization of construction best management practices that are typically implemented as part of construction. The use of construction best management practices would minimize the potential negative effects on groundwater and soils. Best management practices could include the following: ▪ Follow manufacturer's recommendations on use, storage and disposal of chemical products used in construction; ▪ Avoid overtopping construction equipment fuel gas tanks; and ▪ During routine maintenance of construction equipment, properly contain and remove grease and oils; ▪ In the event of an inadvertent release of hazardous materials
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	<p>during project operations, cleanup shall occur in accordance with all applicable regulatory requirements; and</p> <ul style="list-style-type: none"> ▪ Spent oil and other solvents used during maintenance of transportation facilities and equipment shall be recycled or disposed of in accordance with all applicable regulatory requirements. All hazardous materials shall be transported, handled, and disposed of in accordance with all applicable regulatory requirements.
Implementation	
<i>Responsible Party</i>	Project Sponsors.
<i>Action Required</i>	Incorporate measures into project specifications and construction requirements.
<i>Timing</i>	During project construction.
Reporting	
<i>Responsible Party</i>	Project Sponsors.
<i>Action Required</i>	Provide the information required for Project Status Reports.
<i>Timing</i>	As part of regular meetings with Authority’s Construction Liaison.
Impact 2.10-2	Disturbance of impacted soils or groundwater during project construction and excavation work could expose construction workers, the public, or the environment to hazardous conditions.
Mitigation Measure 2.10-2	<p>Where disturbance of impacted soils or groundwater during project construction and excavation work could expose construction workers, the public, or the environment to hazardous conditions, sponsors shall consider measures to minimize or eliminate impacts as part of the design of the project and its environmental review under CEQA and NEPA. Potential mitigation measures shall be consistent with federal, state, regional and local regulatory requirements, as discussed in the Regulatory Setting above. Typical mitigation measures include:</p> <ul style="list-style-type: none"> ▪ Preparation and implementation of a soil sampling plan along construction corridors to determine the presence or absence of soil contamination. If soil contamination is found, the contaminated soil shall be removed and disposed of in accordance with all applicable regulatory requirements; ▪ In the event that soil contamination is encountered, project sponsors shall require that one competent professional with HAZWOPER (OSHA Hazardous Waste Operations and Emergency Response Standard) training is onsite at all times during

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	<p>construction phases to perform soil analyses. All construction shall cease until the contaminated soil is reused or removed and disposed of in accordance with all applicable regulatory requirements. A competent professional shall collect verification soil samples to ensure complete removal of contaminated soil; and</p> <ul style="list-style-type: none"> ▪ If any underground storage tanks are discovered during construction, all construction in the immediate area shall stop until the UST is removed under the guidance of the Contra Costa Environmental Health (CCEH) or other regulatory agency. If required by the regulatory agency, removal may include the over-excavation and disposal of any impacted soil that may be associated with such tanks to a degree considered sufficient by the CCEH.
Implementation	
<i>Responsible Party</i>	Project Sponsors.
<i>Action Required</i>	Prepare and implement a soil sampling plan; incorporate measures into project specifications and construction requirements.
<i>Timing</i>	Prepare and implement a soil sampling plan prior to construction; other measures during project construction.
Reporting	
<i>Responsible Party</i>	Project Sponsors.
<i>Action Required</i>	Provide the information required for Project Status Reports.
<i>Timing</i>	As part of regular meetings with Authority’s Construction Liaison.
Impact 2.10-3	Disturbance of structural and building components (i.e., asbestos, lead, PCBs, and PAHs) could expose construction workers, the public, or the environment to hazardous conditions.
Mitigation Measure 2.10-3	<p>Where disturbance of structural and building components could expose construction workers, the public, or the environment to hazardous conditions, sponsors shall consider measures to minimize or eliminate impacts as part of the design of the project and its environmental review under CEQA and NEPA. Potential mitigation measures shall be consistent with federal, state, regional and local regulatory requirements, as discussed in the Regulatory Setting above. Typical mitigation measures include:</p> <ul style="list-style-type: none"> ▪ Prior to the demolition of any building, a pre-demolition asbestos containing material (ACM) and lead-based paint (LBP) survey shall be performed by the project proponent. Abatement of

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	<p>known or suspected ACMs and loose or peeling LBP shall occur prior to demolition or construction activities that would disturb those materials; and</p> <ul style="list-style-type: none"> ▪ In the event that PCB-containing materials are identified prior to demolition activities they shall be removed, and shall be disposed of by a licensed transportation and disposal facility in Class I hazardous waste landfill cells.
Implementation	
<i>Responsible Party</i>	Project Sponsors.
<i>Action Required</i>	Incorporate measures into project specifications and construction requirements.
<i>Timing</i>	During project construction.
Reporting	
<i>Responsible Party</i>	Project Sponsors.
<i>Action Required</i>	Provide the information required for Project Status reports.
<i>Timing</i>	As part of regular meetings with Authority's Construction Liaison.

2.11 Land Use and Housing

Impact 2.11-1	The construction of new or expanded transportation facilities in the 2009 CTP could result in the conversion of important agricultural lands to transportation uses.
Mitigation Measure 2.11-1	<p>Where construction of new or expanded transportation facilities could result in the conversion of important agricultural lands to transportation uses, sponsors shall consider measures to minimize or eliminate impacts as part of the design of the project and its environmental review under CEQA and NEPA. Typical mitigation measures include:</p> <ul style="list-style-type: none"> ▪ Corridor realignment, where feasible, to avoid agricultural land areas; ▪ Conservation easements on land at least equal in quality and size as partial compensation for the direct loss of agricultural land; ▪ Buffer zones and setbacks to protect the functional aspects of agricultural land areas; and ▪ Berms and fencing to reduce conflicts between transportation uses and agricultural land uses.
Implementation	
<i>Responsible Party</i>	Project Sponsors.

Mitigation and Monitoring Requirements

<i>Action Required</i>	Incorporate measures into project specifications and construction requirements.
<i>Timing</i>	During project construction.
Reporting	
<i>Responsible Party</i>	Project Sponsors.
<i>Action Required</i>	Provide the information required for Project Status Reports.
<i>Timing</i>	As part of regular meetings with Authority's Construction Liaison.
Impact 2.11-2	Construction-related activities associated with projects comprising the 2009 CTP are likely to cause short-term disruption of adjoining land uses.
Mitigation Measure 2.11-2	<p>Where construction-related activities are likely to cause short-term disruption of adjoining land uses, sponsors shall consider measures to minimize or eliminate impacts as part of the design of the project and its environmental review under CEQA and NEPA. Typical mitigation measures include:</p> <ul style="list-style-type: none"> ▪ Regulate construction operations on existing facilities to minimize traffic disruptions and detours, and to maintain safe traffic operations; ▪ Ensure construction operations are limited to regular business hours where feasible; and ▪ Control construction dust and noise.
Implementation	
<i>Responsible Party</i>	Project Sponsors.
<i>Action Required</i>	Incorporate measures into project specifications and construction requirements.
<i>Timing</i>	During project construction.
Reporting	
<i>Responsible Party</i>	Project Sponsors.
<i>Action Required</i>	Provide the information required for Project Status Reports.
<i>Timing</i>	As part of regular meetings with Authority's Construction Liaison.
Impact 2.11-3	The construction of new or expanded transportation projects in the 2009 CTP could result in long-term division or displacement of existing housing, businesses, and neighborhoods.

Mitigation and Monitoring Requirements

Mitigation Measure 2.11-3	<p>Where construction of new or expanded transportation projects could result in long-term division or displacement of existing housing, businesses, and neighborhoods, sponsors shall consider measures to minimize or eliminate impacts as part of the design of the project and its environmental review under CEQA and NEPA. Typical mitigation measures include:</p> <ul style="list-style-type: none"> ▪ Preparation and execution of relocation assistance plans. At a minimum, relocation assistance plans will include: ▪ Criteria for replacement housing; ▪ Reimbursement levels for moving costs and differential housing costs to those eligible for displacement; ▪ Construction schedules that allow adequate time for all commercial and industrial businesses to find and relocate to adequate substitute sites; and ▪ Reimbursement levels for the costs associated with relocating a business to an acceptable facility, including search costs and criteria for payment in lieu of relocation if a business cannot be relocated without a substantial loss of existing patronage. ▪ Corridor realignment should be considered by the project sponsor, where feasible, to avoid displacement and division of neighborhoods, and to maintain or improve accessibility.
Implementation	
<i>Responsible Party</i>	Project Sponsors.
<i>Action Required</i>	Prepare and execute relocation assistance plans; incorporate measures into project specifications and construction requirements.
<i>Timing</i>	Relocation plans prior to construction; all other measures during project construction.
Reporting	
<i>Responsible Party</i>	Project Sponsors.
<i>Action Required</i>	Provide the information required for Project Status reports.
<i>Timing</i>	As part of regular meetings with Authority’s Construction Liaison.
2.12 Greenhouse Gases and Climate Change	
Impact 2.12-1	Implementation of the 2009 CTP, combined with forecast countywide growth, would contribute to GHG emissions.

Mitigation and Monitoring Requirements

Mitigation Measure 2.12-1

Because of the urgent need to respond to the challenges of global warming, in response to AB 375,² and because CCTA recognizes that future emissions rates might go up without successful implementation of state-wide policy to increase fuel efficiency, the following additional measures will be implemented to reduce GHG emissions related to the proposed Plan. The mitigation measures are proposed despite the project's contribution to the impact being not cumulatively considerable.

Where projects could contribute to GHG emissions, sponsors shall consider measures to minimize or eliminate impacts as part of the design of the project and its environmental review under CEQA and NEPA. Potential mitigation measures could be drawn from or be consistent with the Global Warming Measures published by the Attorney General's Office, the Bay Area Regional Agency Climate Protection Program – Consolidated Recommendations, other guidance from State and federal agencies or similar policy guidance. Typical mitigation measures include:

- Adopt and implement “green building” practices for any public buildings funded by CCTA to achieve a LEED™ Silver or better or equivalent certification;
 - Adopt “green construction” policies and practices for all CCTA-funded projects, These should include but not be limited to requirements for use of the lowest emitting construction equipment and fuels (e.g. diesel-powered vehicles with EPA Tier 3 or better engines or retrofitting to meet equivalent emission standards as Tier 3 engines);
 - Require use of light colored pavement for solar reflectivity and reduced heat island effects wherever construction costs are no higher than 5 or 10 percent of the least cost alternative paving material;
 - Require installation of solar photovoltaic systems or use of renewable sources of energy for transportation buildings and maintenance facilities, wherever “feasible”, as the term is
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² In addition to the mitigation measures included here, the 2009 CTP describes new state legislation (AB 32 and SB 375), current programs and actions that contribute to legislated goals, upcoming milestones in the years ahead, and implementation actions the Authority will take to guide Contra Costa through the wider regional process and programs.

Mitigation and Monitoring Requirements

defined in CEQA;

- Require shade tree planting as part of specified types of construction projects or wherever CCTA-funded construction results in loss of tree cover because trees have " carbon sequestration capacity;
 - Establish or update minimum standards for construction management for CCTA-funded transportation projects, including specifying minimum content for recycled products in aggregate, concrete, etc. and construction waste management;³
 - Establish standards or incentives for light pollution reduction related to street lighting and lighting of transportation and parking facilities funded by CCTA to promote low-energy use for permanent as well as temporary fixtures.
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Implementation

<i>Responsible Party</i>	The Authority or other regional or local agencies would be responsible for adoption and implementation of “green Building” practices; adoption and implementation of “green construction” policies and practices; establishing minimum standards for construction; and establishing standards or incentives for light pollution reduction. All other measures would be the responsibility of project sponsors.
<i>Action Required</i>	Develop, adopt, and implement practices, policies, and guidelines listed. Incorporate other measures into project specifications and construction requirements.
<i>Timing</i>	Develop, adopt, and implement practices, policies, and guidelines as soon as feasible in order to have guidelines established for future project construction. All other measures would be implemented during project construction.

Reporting

<i>Responsible Party</i>	The Authority and Project Sponsors
<i>Action Required</i>	Provide the information required for Project Status Reports.
<i>Timing</i>	As part of regular meetings with Authority’s Construction Liaison.

3 In a May 2007 letter, for example, the AG mentioned the value of “warm mix” asphalt to reduce GHG emissions as a feasible alternative paving material, Alameda County also has noted the value of requiring use of fly ash in concrete in its Green Building guidance materials.

Mitigation and Monitoring Requirements

Impact 2.12-2	Implementation of the 2009 CTP projects would have the potential to result in a significant cumulative increase in exposure to a risk related to sea level rise.
Mitigation Measure 2.12-2	<p>Because of the urgent need to respond to the challenges of global warming and in response to AB 375, the following additional measures will be implemented to contribute toward long-term solutions and mitigation of sea level rise. The mitigation measures are proposed despite the project’s contribution to the impact being not cumulatively considerable.</p> <p>Where projects could have the potential to result in a significant cumulative increase in exposure to a risk related to sea level rise, sponsors shall consider measures to minimize or eliminate impacts as part of the design of the project and its environmental review under CEQA and NEPA. Potential mitigation measures could be drawn from or be consistent with the Global Warming Measures published by the Attorney General’s Office, the Bay Area Regional Agency Climate Protection Program – Consolidated Recommendations, other guidance from State and federal agencies or similar policy guidance. Typical mitigation measures include:</p> <ul style="list-style-type: none"> ▪ To determine the likely impacts of sea level rise on transportation infrastructure and to identify the appropriate adaptation strategies to reduce or avoid these impacts, conduct a vulnerability assessment for the transportation infrastructure projects and identify the appropriate adaptation strategies to protect those transportation resources that are likely to be affected and are a priority to protect; ▪ Consider sea level rise and potential increases in storm surge inundation in engineering designs, and incorporate mitigation measures where applicable. These mitigation measures should consider the effects on Bay resources and avoid or reduce future risk to the infrastructure and adjoining areas; and ▪ For those transportation projects that do not involve new infrastructure but rather invest in increasing capacity of existing infrastructure, demonstrate that they have investigated the vulnerability of their existing facilities to sea level rise and storm surge inundation and are budgeting for mitigation measures to adapt to projected sea level rise and storm surge. These mitigation measures should consider the effects on Bay resources and avoid or reduce future risk to the infrastructure and the region.

Mitigation and Monitoring Requirements

Implementation

<i>Responsible Party</i>	Project Sponsors.
<i>Action Required</i>	Incorporate measures into project specifications and construction requirements.
<i>Timing</i>	During project design.

Reporting

<i>Responsible Party</i>	Project Sponsors.
<i>Action Required</i>	Provide the information required for Project Status Reports.
<i>Timing</i>	As part of regular meetings with Authority's Construction Liaison.
