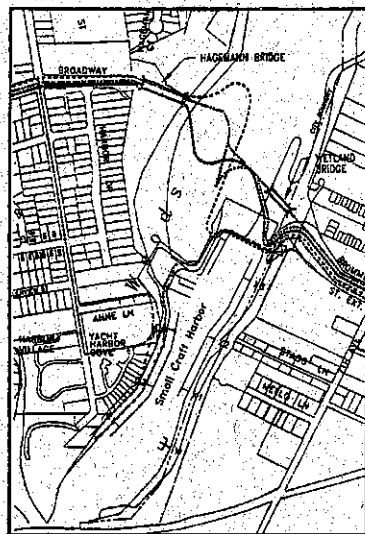


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**BROADWAY-BROMMER STREET
BICYCLE/PEDESTRIAN
PATH CONNECTION
IS/EA/AA**



Draft
Initial Study/
Environmental Assessment/
Alternatives Analysis

**Mitigation Monitoring and
Reporting Program**

Submitted to the:
CITY OF SANTA CRUZ

Prepared by:
BRADY AND ASSOCIATES, INC.
PLANNERS AND LANDSCAPE ARCHITECTS

February 1997

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MITIGATION MONITORING AND REPORTING PLAN

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A. Overview

The Initial Study/Environmental Assessment/Alternatives Analysis (IS/EA/AA) for the Broadway-Brommer Bicycle/Pedestrian Path Connection contains a discussion of the project description, objectives, location, environmental setting, and environmental impacts. The IS/EA/AA also identifies changes or alterations to the proposed project which, if incorporated into or made a condition of approval to the project, would avoid or substantially lessen impacts of the project. These changes and alterations are identified in the IS/EA/AA as mitigation measures.

B. Authority

As required by California Public Resources Code 21081.6, this Mitigation Monitoring and Reporting Plan (MMRP) contains a program for the implementation and monitoring of the individual mitigation measures which have been incorporated into the Broadway-Brommer IS/EA/AA.

C. Purpose

The purpose of this MMRP is to ensure that each mitigation measure is fully implemented in a timely manner and, where necessary, to monitor its performance once implemented to ensure its success. Consistent with this purpose, the MMRP specifies, for each mitigation measure, the measurable, objective performance criteria the measure must achieve by the end of the implementation time period in order for the measure to be deemed to have avoided or substantially lessened the significant environmental effect it addresses. The MMRP provides specific actions to ensure full implementation and enforcement of each mitigation measure. The MMRP also establishes a reporting system to document monitoring activities and compliance with mitigation measures.

D. Responsibilities

Unless otherwise specified herein, the City of Santa Cruz Public Works Department has the responsibility for taking all action necessary to (a) implement the mitigation measure according to the specifications provided for each measure, and, (b) demonstrate that the action required by the mitigation measure has been successfully completed (i.e., preparation of reports, permits or other documentation). The Public Works Department is responsible for monitoring the mitigation measures and must verify that the required action has been successfully completed. Verification will typically be accomplished through either staff inspection of the physical result of the mitigation measure or acceptance and approval of documents or plans demonstrating compliance with the mitigation measure. The City is responsible for verifying implementation (i.e., review technical plans and reports and field verify proper implementation). The Public Works Department has the responsibility of preparing and maintaining a record of the necessary documentation

Unless otherwise specified in this MMRP, or in later actions taken by the City, all costs associated with the MMRP shall be borne by the City of Santa Cruz Public Works Department, including costs incurred by the City to monitor and verify implementation of this MMRP.

E. Compliance File

The City of Santa Cruz Public Works Department will maintain a file (Compliance File) tracking implementation of the MMRP and containing the records upon which the City relies in determining that a mitigation measure has or has not been implemented in accordance with this MMRP. The Compliance File will be made available for review upon request by interested government agencies and members of the public.

F. Checklist Contents

The MMRP Checklist (Table 1) is organized under the same topic structure and order contained in the IS/EA/AA and identifies each mitigation measure in the IS/EA/AA. For each mitigation measure that is being imposed, the MMRP specifies the following information:

- **Mitigation Measure:** Provides an identification number that corresponds to the IS/EA/AA topic letter under which it is found and the order in which it appears in the IS/EA/AA, followed by a mitigation statement. This mitigation statement summarizes the required action of

the IS/EA/AA mitigation measure as it applies to mitigate the identified impact of the Bicycle Path Connection.

- Agency/Individual Responsible for Implementation. Identifies the party or parties responsible for complying with all requirements of the mitigation measure.
- Implementation Timing. Indicates when the various steps involved in implementing mitigation requirements shall be performed.
- Agency/Individual Responsible for Monitoring. Identifies the party or parties responsible for verifying (and enforcing, if necessary) compliance with mitigation specification.
- Action by Monitor. States the specific actions required of the monitoring individual/agency to ensure compliance with mitigation specifications.
- Monitoring Timing. Specifies when actions by the monitor shall be performed.

In sum, the MMRP describes how compliance with the mitigation measure will be achieved and how compliance will be verified.

Table 1
BROADWAY-BROMMER BICYCLE/PEDESTRIAN PATH CONNECTION
MITIGATION MONITORING CHECKLIST

Mitigation Measure	Party Responsible for Implementation	Implementation Timing	Agency Responsible for Monitoring	Action by Monitor	Monitoring Timing	Verification
LAND USE						
LU-1: See Mitigation Measure BIO-5 (a)-(h).	[See BIO-5 (a)-(h)]					
GEOLOGY						
GEO-1: Bridges would be designed to withstand the maximum credible earthquake for each fault in the vicinity.	Project engineer.	At time of bridge design during the development of construction drawings.	City of Santa Cruz Public Works Department.	Verify adequacy of bridge design to withstand seismic activity.	Approval of construction drawings.	
GEO-2(a): Areas of non-engineered fill that are particularly subject to liquefaction would be avoided to the degree feasible.	Project engineer.	Development of construction drawings.	City of Santa Cruz Public Works Dept.	Verify location of path to avoid areas of non-engineered fill.	Approval of construction drawings.	
GEO-2(b): Design criteria for the pathway would meet or exceed the Uniform Building Code (UBC), Federal Highways and Caltrans design requirements.	Project engineer.	Development of construction drawings.	City of Santa Cruz Public Works Dept.; Parks and Recreation Dept.	Verify that path design conforms with design requirements.	Approval of construction drawings.	
GEO-3: Best management practices including development of an erosion control plan would be implemented to minimize erosion, particularly during the construction period.	Contractor.	Pre-construction phase.	City of Santa Cruz Public Works Dept.	Verify existence of erosion control plan that includes Best Management Practices; verify that erosion control plan is being followed.	Approval of construction drawings; monthly during construction.	
WATER						
HYDRO-1: See Mitigation Measure GEO-3 in section D-3.						
BIOLOGICAL RESOURCES						
BIO-1(a): Grading for bridge construction, such as for placing piers, footings, and temporary construction access roads, would be minimized within the riparian corridor and adjacent buffer zone to the greatest extent possible.	Project Engineer.	Development of construction drawings; construction phase.	City of Santa Cruz Public Works Dept.	Verify that grading plan minimizes grading in sensitive areas; verify that grading plan is being followed.	Approval of construction drawings; monthly during grading activities.	

Table 1 *continued*

Mitigation Measure	Party Responsible for Implementation	Implementation Timing	Agency Responsible for Monitoring	Action by Monitor	Monitoring Timing	Verification
<p>BIO-1(b): Routing during final design would maximize removal of non-native species while minimizing native vegetation removal, especially trees. During the construction phase, a site inspector would document the number of mature trees and the square footage of riparian habitat directly impacted by construction activities. The number of mature trees lost and the area of riparian habitat removed would be replaced at a two to one ratio. Revegetation sites would be selected within the study area, in coordination with the City of Santa Cruz Department of Parks and Recreation.</p> <p>A native habitat revegetation specialist would design the revegetation plan and the appropriate species palette for replanting. Native species representative of both the overstory and understory vegetation layers would be included in the planting palette. To preserve the existing gene pool at the project site, propagation materials to be used for revegetation purposes would be collected within the Arana Gulch area to the maximum extent possible.¹ As part of project permitting, a 1601 Agreement (Stream Alteration Agreement) with the California Department of Fish and Game (CDFG) is required to determine the necessary mitigation measures for riparian habitat replacement.</p>	Contractor; native habitat revegetation specialist.	Development of construction drawings; periodically during construction phase.	City of Santa Cruz Public Works Dept.; Parks and Recreation.	Verify that final path design minimizes removal of native vegetation and maximizes removal of non-native species; site inspection to document mature tree and riparian habitat loss, and select sites for revegetation; verify implementation of revegetation plan; verify existence of 1601 agreement.	Approval of construction drawings; construction phase; prior to commencement of recreation activities.	
<p>BIO-1(c): Where removal of trees is unavoidable (including the eucalyptus trees within this habitat), raptor nest surveys would be conducted by a wildlife biologist prior to construction. If there is no evidence of raptors (hawks and owls) re-using old nest sites or new nests, construction would begin as soon as possible. If nest sites are active, nesting trees would be marked and saved, and construction would not be conducted between February to late July after chicks have fledged.</p>	Wildlife biologist.	Pre-construction phase.	City of Santa Cruz Public Works Dept.; Parks and Recreation.	Verify that raptor nest surveys have been completed, and if trees are marked indicating presence of active raptor nests, verify that construction activities do not commence until after breeding season.	Prior to commencement of construction activities.	

¹ If adequate materials are not found on site, proximate locations may be used to collect propagules.

Table 1 *continued*

Mitigation Measure	Party Responsible for Implementation	Implementation Timing	Agency Responsible for Monitoring	Action by Monitor	Monitoring Timing	Verification
BIO-1(d): Any path lighting would consist of a low intensity path light no higher than three feet off the bridge that focuses light on the bridge.	Contractor.	Development of construction drawings and specifications; at time of lighting installation.	City of Santa Cruz Public Works Dept.; Parks and Recreation Dept.	Verify appropriateness of path lighting.	Approval of construction drawings; at time of final project inspection.	
BIO-2(a): Construction activities and staging equipment would be minimized within the riparian corridor. A 2:1 habitat replacement would be necessary as part of a 1601 Agreement with the California Department of Fish and Game (CDFG).	Contractor.	Pre-construction phase; during construction activities.	City of Santa Cruz Public Works Dept.; Parks and Recreation Dept.	Verify existence of 1601 Agreement explaining habitat replacement requirements; verify stipulations of 1601 agreement are being carried out.	Prior to construction; monthly during construction.	
BIO-2(b): Construction activities within Hagemann Gulch would utilize standard best management practices to minimize impacts to the creek channel, and erosion control measures to minimize sedimentation and turbidity in potential red-legged frog habitat. Field surveys would be conducted during the week prior to construction to ensure that red-legged frogs are not found within the proposed alignment area.	Contractor.	During construction activities.	City of Santa Cruz Public Works Dept.; Parks and Recreation Dept.	Verify use of best management practices.	Monthly during construction.	
BIO-2(c): Yellow warbler nest surveys would be conducted in the riparian scrub prior to construction. If nests are found within 300-feet of the bridge site, construction would be delayed from April through July.	Wildlife biologist.	Pre-construction phase.	City of Santa Cruz Public Works Dept.; Parks and Recreation Dept.	Verify that warbler nest surveys have been completed, and if active nests are found within 300 feet of the bridge, verify that construction activities do not commence until after breeding season.	Pre-construction phase.	
BIO-3: Grading activities would be scheduled in a manner that avoids the disruption of breeding raptors. Construction activities would not be permitted March through July if there are active nest sites in adjacent habitats (within 300 feet of construction site). (Refer to wildlife species of concern listed in Table 8).	Contractor.	Pre-construction phase; during construction.	City of Santa Cruz Public Works Dept.; Parks and Recreation Dept.	Verify that grading activities do not interfere with raptor breeding season.	Pre-construction phase.	

Table 1 *continued*

Mitigation Measure	Party Responsible for Implementation	Implementation Timing	Agency Responsible for Monitoring	Action by Monitor	Monitoring Timing	Verification
BIO-4(a): The boundary of the coastal terrace prairie adjacent to the oak woodland bordering Hagemann Gulch would be marked in the field by a qualified botanist familiar with coastal prairie flora. During the construction phase, the coastal prairie adjacent to bicycle/pedestrian path under construction would be protected by the placement of five-foot high construction fencing.	Botanist; contractor.	Prior to and during construction.	City of Santa Cruz Public Works Dept.; Parks and Recreation Dept.	Verify that terrace prairie boundary has been marked; verify that construction fencing is in place.	Prior to permit approval; at commencement of construction activities.	
BIO-4(b): Once the grading plan has been finalized, the level of indirect impacts and any direct removal (if any) would be more precisely determined. If there is any removal of prairie habitat, the amount of prairie disturbed or removed would be recreated so that there is no net loss of coastal prairie habitat. This represents a 1:1 replacement ratio. If needed, a coastal prairie revegetation area would be established on-site so that it is contiguous with existing coastal prairie habitat. The revegetation area would incorporate site-collected propagules of species representative of coastal terrace prairie such California oat grass, purple needlegrass, and soap plant. If implemented, the revegetation site would be subject to a five-year maintenance and monitoring program.	Botanist.	Pre- construction; and post- construction.	City of Santa Cruz Public Works Dept.; Parks and Recreation Dept.	Verify that native prairie loss has been quantified; verify establishment and continued maintenance of revegetation site.	Prior to construction; every five years.	
BIO-5(a): A buffer zone of 60-80 feet, as depicted in the Wetland Consultation prepared for the Harbor (HRG, 1991), would be maintained in the Upper Harbor to protect wetland resources.	Santa Cruz Port District.	Pre-construction phase.	Santa Cruz Port District; City of Santa Cruz Public Works Dept.	Verify that buffer zone is being observed in final plans.	Approval of Construction Drawings; monthly during construction.	
BIO-5(b): During construction, plastic mesh construction fencing would be placed at the upland edge of each wetland buffer zone such that the fencing protects both the wetland and buffer zone. The placement of the fencing would be monitored during construction to assure the integrity of the buffer zone is maintained. Once construction activities are complete and recreational activities commence, a four-foot high split-rail fence of more natural design may be used to mark the edge of the buffer zone.	Contractor; City of Santa Cruz Dept. of Parks and Recreation	Prior to construction activities; during construction; and prior to commencement of recreation activities.	Santa Cruz Port District; City of Santa Cruz Dept. of Public Works; Parks and Recreation Dept.	Verify that construction fencing is in place; verify that post-construction fencing is in place.	Prior to commencement of construction activities; prior to commencement of recreation activities.	

Table 1 continued

Mitigation Measure	Party Responsible for Implementation	Implementation Timing	Agency Responsible for Monitoring	Action by Monitor	Monitoring Timing	Verification
<p>BI0-5(c): Debris and material stored within 25 feet of the steep slopes would be removed as soon as possible. Prior to construction, the existing habitat and buffer zone would be fenced and a qualified biologist would be consulted regarding placement of the temporary fencing. In addition, the outside boundary of the wetland and riparian buffer zone would be permanently fenced for the length of the project site. The fence would be designed to prevent access and debris disposal within the buffer zone and protected plant communities.</p>	Biologist, Contractor.	Pre-construction phase; prior to commencement of recreation activities.	Santa Cruz Port District; Dept. of Public Works	Verify that construction fencing is in place; verify that post-construction fencing is in place.	Prior to commencement of construction activities; prior to commencement of recreation activities.	
<p>BI0-5(d): Non-native plant species would be removed from the drainage, the willow, riparian and the scrub communities on the project site. The re-introduction of these non-native species would be prevented during the construction phase of the project and would continue until after the project. Erosion control measures would be implemented, if necessary.</p>	Contractor in conjunction with botanist.	During construction activities.	Santa Cruz Port District; City of Santa Cruz Public Works Dept.	Verify that non-native plant species have been removed, and appropriate erosion control measures are in place.	During construction activities.	
<p>BI0-5(e): The buffer zone would be revegetated with native vegetation which will enhance the value of the site and function as a vegetative harrier. Recommended native species include coast live oak (<i>Quercus agrifolia</i>), California blackberry and California rose (<i>Rosa californica</i>). Bare areas on the steep slope would also be revegetated with native species. Coast live oaks shown on the Madrone Landscape Plan would be supported with native shrubs such as <i>Ceanothus thyrsiflorus</i>.</p>	Contractor.	During construction activities.	Santa Cruz Port District; City of Santa Cruz Public Works Dept.; Parks and Recreation Dept.	Verify that native plant revegetation has occurred.	Prior to commencement of recreation activities.	
<p>BI0-5(f): Monitoring of the site by a qualified biologist would be required to document protection of the marsh and riparian habitat during and after construction. Monitoring will evaluate the effectiveness of the mitigation measures. If it is decided that the mitigation measures are ineffective in preventing impacts to the marsh and riparian habitats (such as dumping of debris), additional mitigation measures will be recommended.</p>	Qualified biologist, in conjunction with City of Santa Cruz Public Works Dept.	During construction; post-construction.	Santa Cruz Port District; Santa Cruz Dept. of Public Works; Parks and Recreation Dept.	Verify effectiveness of mitigation measures that protect marsh and riparian habitat areas.	During and after construction activities.	

Table 1 *continued*

Mitigation Measure	Party Responsible for Implementation	Implementation Timing	Agency Responsible for Monitoring	Action by Monitor	Monitoring Timing	Verification
BIO-5(g): Interpretive signs would be posted outside the buffer zone in conspicuous areas. The signs will highlight the significance of the wetland and riparian habitats and outline activities which are prohibited within the plant communities and the buffer zone.	Contractor.	After construction activities.	Santa Cruz Port District; City of Santa Cruz Parks and Recreation Dept.	Verify installation of interpretive signage.	Within six months of termination of construction activities.	
BIO-5(h): The proposed project would implement erosion control measures that are designed to prevent significant impacts to riparian and wetland resources resulting from sedimentation.	Santa Cruz Port District; City of Santa Cruz Public Works Dept.	After project completion.	Santa Cruz Port District; City of Santa Cruz Parks and Recreation Dept.; Public Works Dept.	Verify implementation of erosion control measures.	Yearly at the start of the rainy season.	
BIO-5(i): The seasonal wetland would be monitored for indirect impacts. Fencing may be added, if necessary, if adverse changes in the seasonal wetland are observed.	Biologist, in conjunction with City of Santa Cruz Public Works Dept.	After project completion.	City of Santa Cruz Public Works Dept.; Public Works Dept.	Monitoring changes in wetlands areas, and installing fencing as necessary.	Monthly during rainy season.	
BIO-6(a): A qualified erosion control specialist would design and implement effective erosion and drainage control plans to prevent increased erosion, sedimentation, and run-off into undisturbed habitats, especially the Woods Lagoon Tidal Channel. Grading, erosion, and drainage plans would be reviewed and approved by the ACOE, the Coastal Commission, and the Regional Water Quality Control Board prior to issuance of the work permit.	Erosion control specialist.	Pre-construction phase.	Santa Cruz Public Works Dept.; Parks and Recreation Dept.	Verify that erosion and drainage plans have been prepared, approved, and implemented.	Prior to construction; monthly during construction activities.	
BIO-6(b): To reduce dust deposition on vegetation adjacent to construction activities, a dust abatement program would be implemented. The program would include watering of graded areas associated with the bicycle/pedestrian path and bridges during construction. If dust accumulation occurs, the adjacent vegetation may also need to be periodically sprayed with water.	Contractor.	During construction activities.	City of Santa Cruz Public Works Dept.	Verify existence and implementation of dust-abatement program.	Prior to work permit approval; monthly during construction activities.	
BIO-7(a): Prior to construction, eucalyptus trees within 300 feet of the proposed alignment would be evaluated (apply Mitigation Measures BIO-1(c) and BIO-3 for current roost and nesting status during the breeding season of raptors and herons (February-July).	Wildlife biologist.	Prior to commencement of construction activities.	City of Santa Cruz Public Works Dept.; Parks and Recreation Dept.	Verify that raptor nest surveys have been completed, and if trees are marked indicating presence of active raptor nests, verify that construction activities do not commence until after breeding season.	Prior to commencement of construction activities.	

Table 1 *continued*

Mitigation Measure	Party Responsible for Implementation	Implementation Timing	Agency Responsible for Monitoring	Action by Monitor	Monitoring Timing	Verification
BIO-7(b): As suggested in the Santa Cruz Harbor Wetland Consultation (HRG, 1992), a temporary 300-foot buffer zone from a heron nest tree, during May-July when young are present, is recommended. (See Sheet B in Oversize Pocket).	Contractor; City of Santa Cruz Public Works Dept.	Prior to and during construction.	City of Santa Cruz Public Works Dept.; Parks and Recreation Dept.	Verify that if necessary, buffer zones appear in final plans and are being maintained.	Prior to construction.	
BIO-8(a): Nest surveys in the Coast Live Oak woodland for species of special concern (great blue heron and raptors) would be conducted according to protocol by a wildlife biologist. If active nesting and roosting sites are identified, construction would be delayed until the young have fledged the nest.	Wildlife biologist.	Prior to commencement of construction activities.	City of Santa Cruz Public Works Dept.; Parks and Recreation Dept.	Verify that nest surveys have been completed, and if active nesting and roosting sites are found, verify that construction activities do not commence until young have fledged the nest.	Prior to commencement of construction activities.	
BIO-8(b): The final alignment of the bicycle/pedestrian path would minimize the removal of mature trees of native species to the maximum extent possible. Within the oak woodland, the path alignment would remove eucalyptus trees, except those significant for wildlife, instead of native tree species (e.g., oak, bay) whenever possible. Eucalyptus trees are not considered a significant botanical or wildlife resource, since they are an invasive non-native tree species that is out-competing and displacing native tree species. However, some eucalyptus trees may provide benefits for wildlife nesting and roosting, and these trees would be protected.	Contractor; biologist.	Development of construction drawings.	City of Santa Cruz Public Works Dept.; Parks and Recreation Dept.	Verify that final path design minimizes removal of mature native trees and also removes all eucalyptus trees not currently being used for nesting and roosting.	Approval of construction drawings.	
BIO-8(c): During construction activities, a site inspector would periodically document the number of native tree species removed within the oak woodland. A revegetation program would be designed to insure proper mitigation for the removed trees. The removed trees would be replaced by the same species using a minimum of a 1:1 replacement ratio. Replacement trees would be planted within the coast live oak woodland within the study area. Replacement plantings would be subject to a maintenance and monitoring program for a minimum of three years, and periodic observation thereafter to ensure revegetation success.	Biologist; site inspector.	During construction activities; after construction activities.	City of Santa Cruz Public Works Dept.; Parks and Recreation Dept.	Verify documentation of native tree removal and appropriate tree replacement program; maintain and monitor replacement plantings.	Monthly during construction activities; every three months for three years, twice yearly thereafter.	

Table 1 *continued*

Mitigation Measure	Party Responsible for Implementation	Implementation Timing	Agency Responsible for Monitoring	Action by Monitor	Monitoring Timing	Verification
BIO-8(d): Prior to all construction activities, native tree species greater than eight inches in diameter at breast height (DBH) to be retained adjacent to the bicycle/pedestrian path would be flagged in the field. Trees to be retained would be protected during the construction phase by the placement of a six-foot high construction fence that encompasses the dripline of the tree. No grading, placement of fill, staging of equipment, or other construction activities would be conducted within the dripline of the protected trees.	Contractor.	Prior to construction activities.	City of Santa Cruz Public Works Dept.; Parks and Recreation Dept.	Verify flagging and fencing of mature native trees.	Prior to commencement of construction activities.	
BIO-8(e): Prior to grading activities adjacent to or within coast live oak woodland or coast live oak riparian habitat, a survey would be conducted to determine if Sharp-shinned Hawks or Cooper's Hawks are nesting on the site. The survey would be conducted by a qualified wildlife biologist during May-June. In the event the survey proves positive, create a 300-foot buffer zone around the nest site, within which no development or grading would occur until the young have fledged.	Wildlife biologist.	Prior to grading activities adjacent to or within coast live oak habitat.	City of Santa Cruz Public Works Dept.; Parks and Recreation Dept.	Verify existence of bird survey; verify placement and observation of buffer zone, if necessary.	Prior to monthly during grading activities,	
BIO-9(a): Direct impacts to tarplant population sites would be mitigated through replacement of the tarplant seedbed within a mitigation site of comparable acreage within the Tarplant Management Area of the Arana Gulch greenbelt property.	Biologist.	Prior to project completion.	City of Santa Cruz Public Works Dept.; Parks and Recreation Dept.	Verify replacement of tarplant seed bed.	Following project completion and periodically in accordance with MOU.	

Table 1 *continued*

Mitigation Measure	Party Responsible for Implementation	Implementation Timing	Agency Responsible for Monitoring	Action by Monitor	Monitoring Timing	Verification
<p>BIO-9(b): Prior to any construction activities, the extent of the most recent recorded tarplant populations for sites A, B, and D and the largest extent feasible of their buffer zones would be marked in the field. Five-foot high construction fencing would be placed to mark the outer 50-foot boundary of the buffer zones (Except for population site D if Alternative D3 is selected). The fencing would be maintained through the construction phase and periodically monitored to insure protection of tarplant habitat.</p> <p>In addition to mitigating direct impacts, the City would manage the tarplant populations within the Tarplant Management Area in accordance with the Memorandum of Understanding (MOU) currently being developed with CDFG. Land management practices and techniques would include but not be limited to mowing, potential prescribed burning, and removal of invasive non-native species (CDFG, 1995). The population sites would be surveyed on an annual basis and the approximate number of individuals determined for each site to determine the status and recovery of Santa Cruz tarplant.</p>	Biologist; Contractor; City of Santa Cruz Public Works Dept.; Parks and Recreation Dept.	Prior to construction activities; during maintenance activities; annually thereafter.	City of Santa Cruz Public Works Dept.; Parks and Recreation Dept.	Verify placement of construction fencing to mark tarplant buffer zones; management of tarplant populations during land management activities; surveys to monitor status and recovery of tarplant populations.	Prior to commencement of construction and monthly during construction; annual surveys thereafter.	
<p>BIO-10: All construction activities in the vicinity of Arana Gulch would minimize physical alteration of the channel and banks, and minimize sedimentation during and after construction activities. Construction of new bridge structures across Arana Gulch would minimize grading, filling or channelization of the channel. In addition, construction activities would be avoided between December-March during steelhead migration.</p>	Contractor; Santa Cruz Public Works Dept.	Development of construction drawings; during construction activities.	City of Santa Cruz Public Works Dept.	Verify that construction procedures are minimizing grading activities in the stream channel; verify that construction is not occurring at the stream channel during steelhead migration periods.	Monthly during grading activities at steam channel; once between December and March.	
<p>BIO-11(a): Bare areas greater than six feet in diameter remaining from construction activities would be revegetated with seed mixes having plant species that are appropriate for the type of habitat disturbed. A restoration specialist would develop the appropriate seed mixes and plant palettes, according to habitat type.</p>	Contractor in conjunction with restoration specialist.	After construction activities.	City of Santa Cruz Public Works Dept.; Parks and Recreation Dept.	Verify that restoration specialist has developed appropriate seed mixes and bare areas have been revegetated.	Every three months following construction for a period of 1 year	

Table 1 continued

Mitigation Measure	Party Responsible for Implementation	Implementation Timing	Agency Responsible for Monitoring	Action by Monitor	Monitoring Timing	Verification
BIO-11(b): On an annual basis for five years, a restoration specialist would perform a reconnaissance-level survey to monitor the level of invasive species adjacent (within 25 feet) of the bicycle/pedestrian path. Areas considered sensitive habitat such as wetlands, riparian woodland, coastal terrace prairie, and tarplant habitat would be high priority for surveillance and eradication of invasive non-native species. As needed, the restoration specialist would recommend remedial measures with the goal of increasing habitat value. Control of invasive non-native species will be an on-going program in the management of the Arana Gulch greenbelt property. The goals of the program would include a performance criteria of less than 5 percent invasive non-native species by the end of five years (post-construction) with population levels of such species having a decreasing trend.	Restoration specialist.	Annually after termination of construction activities.	City of Santa Cruz Parks and Recreation Dept.	Hire restoration specialist to perform surveys and recommend remedial measures to be included in on-going non-native species control program.	Annually for a period of five years.	
BIO-12(a): At strategic points along the bicycle/pedestrian path, interpretive signs would be posted to inform people when they are passing through a sensitive habitat or area of significant wildlife use. Habitat descriptions and their importance may be presented to increase pedestrians understanding and respect for the resources of the Arana Gulch greenbelt property. Guidelines regarding trail use, litter, noise, fire, and lighting would be listed.	City of Santa Cruz Dept. of Parks and Recreation.	Following project construction.	City of Santa Cruz Parks and Recreation Dept.	Verify installation of interpretive signage.	Within six months of termination of construction activities.	
BIO-12(b): Annual monitoring of sensitive resources would be conducted. If there is evidence of adverse impact to sensitive resources, permanent fencing of affected habitats such as the wetlands, seasonal pond, coastal terrace prairie, and documented Santa Cruz tarplant population sites would be considered.	Restoration specialist.	After commencement of recreation activities.	City of Santa Cruz Parks and Recreation Dept.	Hire restoration specialist to perform surveys and recommend fencing, if necessary; ensure that any necessary fencing is installed.	Annually after commencement of recreation activities.	
BIO-13: Any heritage trees removed or damaged by placement or construction of the bicycle/pedestrian path would be replaced according to City requirements.	Contractor.	After termination of construction activities.	City of Santa Cruz Parks and Recreation Dept.	Ensure that any heritage trees are replaced.	Within three months following project construction.	

Table 1 *continued*

Mitigation Measure	Party Responsible for Implementation	Implementation Timing	Agency Responsible for Monitoring	Action by Monitor	Monitoring Timing	Verification
VISUAL QUALITY AND AESTHETICS						
VIS-1: The (ramp) structure would be designed to reduce visual impact by incorporating plantings within the structure to create a vegetated terrace effect, allowing ample space for the growth of mature trees between the ramps, and for overhanging vines or other plantings. Colors and textures would be blended to the degree feasible by matching the color and texture of the concrete with the Purisima formation sandstone.	Landscape architect.	During development of construction drawings.	City of Santa Cruz Dept. of Public Works; Parks and Recreation Dept.	Ensure that design incorporates these elements.	Prior to final design approval.	
VIS-2: The sandstone bank would be partly reinforced with keystone blocks or comparable materials that would allow for some planting of vegetation along the bicycle/pedestrian path.	Landscape architect.	During development of construction drawings.	City of Santa Cruz Public Works Dept.; Parks and Recreation Dept.	Ensure that design incorporates these elements.	Prior to final design approval.	
VIS-3: The bicycle/pedestrian path would contain light fixtures that direct the light and glare towards the path and the ground, as well as pedestrian-scale standard heights.	Contractor.	During project construction.	City of Santa Cruz Public Works Dept.; Parks and Recreation Dept.	Ensure that appropriate lighting has been installed.	Inspection of project following construction.	
CULTURAL RESOURCES						
CULT-RES-1: The Parks and Recreation Department would consult with owners of the historic property and provide additional plantings, as needed, to insure maintenance of a visual buffer between the path and historic ranch.	City of Santa Cruz Dept. of Parks and Recreation	Following project construction and on-going.	City of Santa Cruz Dept. of Parks and Recreation	Ensure that plantings are installed, as needed.	Once following construction, and annually, thereafter.	