

CALIFORNIA COASTAL COMMISSION

NORTH COAST AREA

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Commission Action:

STAFF REPORT: REGULAR CALENDAR

APPLICATION NO.: 1-95-59

APPLICANT: CITY OF PACIFICA

AGENT: Scott Holmes, Environmental Services Director

PROJECT LOCATION: An area within a 117± acre abandoned rock quarry, located north of Calera Creek, west of Highway One, and south of Mori Point in the Rockaway Beach area of the City of Pacifica. APN'S 018-150-070 (Bottoms) and 018-150-050 (Bottoms).

PROJECT DESCRIPTION: Implement Coastal Commission Restoration Order No. RO9502 (Bottoms) to re-create previously destroyed habitat of the endangered San Francisco garter snake (SFGS) and its primary prey species the California red-legged frog (RLF) and the Pacific tree frog (PTF) by: (1) grading a one-acre area with 500 cubic yards of balanced cut and fill; (2) creating two 5-foot-deep ponds, one 3,000 square feet and the other 3,800 square feet in size; (3) constructing a unpaved, vehicular way from a new wastewater treatment plant to the ponds; (4) installing an underground pipeline to carry tertiary-treated wastewater from the treatment plant to the ponds; (5) installing underground pipelines from the ponds to the floodplain of the creek with drain outlets and lockable gate valves for use in controlling the water elevation of the ponds; (6) installing a 3.5-foot-high, split-rail fence around the ponds with a 10-foot-wide gate for vehicular access and a 3-foot-wide gate for pedestrian access; (7) planting native wetland, riparian, and upland vegetation around the two ponds and the regraded area; (8) entering into a cooperative agreement with the U.S. Fish and Wildlife Service regarding the duties of each party for restocking, maintenance, and monitoring of the re-created habitat area; and (9) conducting a 10-year, vegetative and restocking monitoring program plan to measure the success of the re-created habitat area for the SFGS and its primary prey species, the RLF and PTF.

1-95-59
CITY OF PACIFICA
Page 2

Non-Coastal Zoning: C-3X Service Commercial with a Hillside Preservation District (HPD) overlay zone.
Coastal Plan designation: Not Certified (Area of Deferred Certification)

LOCAL APPROVALS RECEIVED: City of Pacifica Special Use Permit (UP-761-95) and Project Variance (PV-370-95).

LOCAL APPROVALS NEEDED: City of Pacifica Site Development, Grading, and Minor Administrative Boundary Adjustment Permits.

OTHER APPROVALS RECEIVED: U.S. Army Corps of Engineers Nationwide 26 Permit.

OTHER APPROVALS NEEDED: California Regional Water Quality Control Board approval, California Department of Fish and Game 1601/1603 Streambed Alteration Agreement, California Department of Transportation Encroachment Permit.

SUBSTANTIVE FILE DOCUMENTS: City of Pacifica Local Coastal Program, Coastal Commission Restoration Order No. R09502.

STAFF NOTE

The proposed project includes the restoration of the previously destroyed habitat of the endangered San Francisco garter snake (SFGS) and its primary prey species, the California red-legged frog (RLF) and the Pacific tree frog (PTF), within an area of a now abandoned, 117± acre rock quarry in the City of Pacifica.

The City of Pacifica originally requested authorization for the project in August of 1995 as part of Permit Application No. 1-95-40. The application also requested authorization for construction of a new wastewater treatment plant for the City of Pacifica and re-alignment and restoration of lower Calera Creek and its adjacent floodplain and wetlands.

In October of 1995, Coastal staff approved a request by the City to sever restoration of the SFGS habitat area from Permit Application No. 1-95-40, and submit the project as a separate application (Permit Application No. 1-95-59). The request was approved to expedite the permit filing and review process of the project approved under Permit No. 1-95-40.

In November of 1995, the Coastal Commission approved Permit No. 1-95-40 for the treatment plant and wetlands restoration work, and adopted revised findings in January of 1996.

Permit Application No. 1-95-59 for restoration of the SFGS habitat area arises out of Coastal Commission Restoration Order No. R09502 (Bottoms). The restoration order seeks to resolve, in part, a violation of the Coastal Act which took place in August of 1989 within the quarry area that was, and

1-95-59

CITY OF PACIFICA

Page 3

currently still is, owned by William and Mary Bottoms. The unpermitted development activities which were the subject of the restoration order include: (a) the filling of two ponds totalling approximately 4,200 square feet in area, (b) the removal of vegetation surrounding the ponds, and (c) the removal of vegetation along approximately 200 feet of lower Calera Creek. The ponds were a habitat area for the endangered San Francisco garter snake and its prey species.

The restoration order requires the property owner to undertake activities that constitute development under the Coastal Act. Therefore, restoration of the SFGS habitat area requires the approval of a coastal development permit by the Coastal Commission. The restoration order has specific requirements regarding the re-creation, monitoring, and restocking of two ponds and the habitat area for the endangered San Francisco garter snake and its prey species. These requirements are proposed to be addressed in Permit Application No. 1-95-59. The restoration order is intended to run with the land, binding all future owners and possessors of the subject property to the terms of the order. The City of Pacifica has entered into a purchase and sale agreement with Mr. Bottoms to acquire the land which is the subject of the restoration order. Consequently, the City will be required to carry out the restoration order portion of the project if it acquires the land that is subject to the order. The City of Pacifica intends to implement the restoration order obligations as approved under Permits No. 1-95-59.

Permit No. 1-95-40 and Permit Application No. 1-95-59 are similar to the extent that they raise some of the same issues under the Coastal Act. These similarities exist because the proposed area for restoration of the SFGS habitat is within the larger, 70± acre project area. In addition, both projects require re-grading within a contiguous 70± acre area that incorporates 150,000 cubic yards of balanced cut and fill. Thus, the rough grading for each project is proposed to be done at approximately the same time because of economies of scale and proximity of location. In addition, the two ponds for the restoration of the SFGS habitat area are currently proposed to rely upon a continuous supply of tertiary-treated wastewater from the new wastewater treatment plant.

Notwithstanding these similarities, there is an important difference between Permit No. 1-95-40 and the restoration order which Permit Application No. 1-95-59 is intended to implement. The two-part project under Permit No. 1-95-40 is "permissive" in the sense that the Commission has merely authorized approval of the two-part project. Although the coastal development permit was approved by the Commission, the applicant is not required to construct the project. However, the project submitted under Permit Application No. 1-95-59 arises out of a restoration order of the Commission which requires restoration of the SFGS habitat area. Thus, if for any reason, including but not limited to, project litigation or lack of project funding, the applicant does not construct the two-part project as authorized under Permit No. 1-95-40, the project to restore the SFGS habitat area must still be implemented as required under Restoration Order No. R09502. Thus, the special conditions of Permit

No. 1-95-59 stand on their own. Therefore, if for any reason, the applicant fails to construct the project as authorized pursuant to Permit No. 1-95-59, the landowner is subject to enforcement proceedings for a violation of the obligations of Restoration Order No. R09502.

SUMMARY OF STAFF RECOMMENDATION:

Staff recommends approval of the project with a variety of special conditions to ensure that the project will be implemented in a manner that is consistent with the Chapter 3 policies of the Coastal Act. Since the work that is authorized under this permit to restore the SFGS habitat area is being implemented to comply with the Commission's restoration order, special Conditions require the applicant to comply with all prior to issuance special conditions of the permit within 180 days of approval of the permit by the Commission, and to comply with all other requirements within specific deadlines. Deadlines may only be extended by the Executive Director for good cause.

STAFF RECOMMENDATION:

The staff recommends that the Commission adopt the following resolution:

I. Approval with Conditions.

The Commission hereby grants a permit, subject to the conditions below, for the proposed development on the grounds that the development will be in conformity with the provisions of Chapter 3 of the California Coastal Act of 1976, will not prejudice the ability of the local government having jurisdiction over the area to prepare a Local Coastal Program conforming to the provisions of Chapter 3 of the Coastal Act, is located between the sea and the first public road nearest the shoreline and is in conformance with the public access and recreation policies of Chapter 3 of the Coastal Act, and will not have any significant adverse impacts on the environment within the meaning of the California Environmental Quality Act.

II. Standard Conditions. See attached.

III. Special Conditions.

1. Capture Plan for the San Francisco Garter Snake. PRIOR TO ISSUANCE of the coastal development permit, the applicant shall submit for the review and approval of the Executive Director a plan approved by the U.S. Fish and Wildlife Service to capture any San Francisco Garter Snakes that may have entered into the project area and to protect them from harm during grading and construction operations of the project. The capture plan shall be implemented at least 60 days prior to the start of any grading or construction activity. The plan shall include the mowing of grasslands in strategic areas and/or the use of drift fencing, traps, and any other measures that meet the requirements of the U.S. Fish and Wildlife Service. The plan shall be implemented by the

U.S. Fish and Wildlife Service or by (a) qualified individual(s) that has(ve) been approved by the U.S. Fish and Wildlife Service and the permittee.

2. Legal Ability. PRIOR TO ISSUANCE of the coastal development permit, the applicant shall submit for the review and approval of the Executive Director: (1) a copy of a signed acknowledgement from both the permittee and Mr. Bottoms which indicates that the landowner has read, understands, and consents to development of the subject parcels as conditioned herein, and (2) a copy of a signed acknowledgement from both the applicant and Mr. Bottoms which indicates that the landowner is responsible to satisfy the obligations of Restoration Order No. R09502.

3. Evidence of Water Supply. PRIOR TO ISSUANCE of the coastal development permit, the applicant shall submit for the review and approval of the Executive Director evidence that the water source to be used for the ponds is capable of supplying and maintaining sufficient water levels and water quality to maintain viable populations of the SFGS, RLF, and PTF. The ponds shall be maintained at such level at all times.

4. Final Erosion Control/Grading and SFGS Habitat Planting Plans. PRIOR TO ISSUANCE of the coastal development permit, the applicant shall submit for the review and approval of the Executive Director, a copy of a final erosion control/grading plan and a copy of a final SFGS habitat planting plan that is consistent with the corresponding provisions below. Development shall occur consistent with the final approved plans.

- (a) The final erosion control/grading plan shall be prepared by a licensed civil or professional engineer, or by a licensed landscape architect. The plan shall be designed to assure that there will be no increase in the peak rate of surface water runoff from the site during or after construction of the project as a result of a ten-year, six-hour rainstorm. The plan shall include specific measures to control surface water runoff, soil erosion, sedimentation, and the activation of dormant slides. The plan shall show the location, size, and maintenance requirements of all permanent and temporary sedimentation basins, ditches, berms, water diversions, silt fences, mulches, and ground covers. The plan shall show the location of the contractor's yard to park cars and equipment and to stockpile construction materials. The plan shall identify the final disposal site for any debris which will be removed from the site. All erosion control measures shall be in place and fully functional prior to any grading or construction activity taking place during the rainy season.
- (b) The final SFGS planting plan shall be in substantial conformance with a planting plan submitted by L.C. Lee and Associates in a document entitled: "Report to the City of Pacifica on the 75% Design for Restoring Lower Calera Creek and Adjacent Wetlands Pacifica Wastewater

Treatment Plant Project," dated March 6, 1995 and per an August 3, 1995, addendum to the original document. The plan shall be designed to provide and maintain native wetland and upland vegetation comprised of a species mix and density suitable to provide foraging habitat and protective cover for SFGS, RLF, and PTF. The final planting plan for the SFGS habitat area shall include: (1) any revisions to the sequence of planting, salvage of native plant materials, and water delivery to the ponds, (2) identification of the selected nurseries for plant procurement, and (3) a narrative description indicating the planting specifications and maintenance techniques to be followed (i.e. the total number of each species to be planted, the size and depth of the holes to be dug, any special actions to prepare the soil for planting such as discing, soil amendments to be added, tree staking, wind or shade screening measures, the planting schedule, fertilizing schedule, irrigation method and schedule, the type and location of mulches, hydroseeded areas, the method to remove exotic vegetation or weeds, etc.). The planting program shall be designed to maximize the chances of survival of the vegetation to be planted. Any planted vegetation that dies shall be replaced at a one-to-one or greater ratio for the life of the project.

5. Pond Implementation Schedule. The final grading to construct the ponds shall be completed no later than August 15, 1997. The ponds shall be filled with water from the approved source no later than September 30, 1998.

6. Monitoring Plan for Restored SFGS Habitat Area. The permittee shall monitor the wetlands for the SFGS habitat area, and shall restock and monitor the ponds for the SFGS and the California red-legged frog (RLF) and the Pacific tree frog (PTF) per the agreement with the U.S. Fish and Wildlife Service as indicated in Exhibits No. 10, 11, and 12. Stocking of the ponds shall occur consistent with the schedule contained in Exhibit No. 12. Restocking shall be required as necessary to achieve the success criteria approved in the U.S. Fish and Wildlife Service agreement dated January 12, 1996 and attached as Exhibits No. 10, 11, and 12.

The landowner shall be fully responsible for any failure to meet the success standards of the monitoring plan for the restored SFGS habitat area. Upon a determination by the Executive Director after review of the required monitoring reports that the success standards have not been achieved, the permittee (or its successor and assigns in interest to the subject property) shall submit a corrective action plan prepared by a qualified biologist or botanist for the review and approval of the Executive Director that prescribes remedial measures that can reasonably be expected to achieve the success standards of the permit. The corrective action plan shall also prescribe a new monitoring and remediation program to ensure the success of the remediation measures in achieving the success standards. Upon approval of the corrective action plan by the Executive Director, the permittee shall apply to the Commission for any necessary amendment to this permit to implement the corrective actions and shall immediately implement the plan after any

necessary approvals have been obtained. If the permittee does not agree that remediation is necessary or objects to any conditions imposed by the Executive Director for approval of the corrective action plan, the matter may be set for hearing and disposition by the Commission.

7. Temporary Fencing. Concurrent with the construction of the ponds and at least until the success criteria approved by the Coastal Commission in Special Condition No. 6 above have been achieved, a minimum 100-foot-wide buffer shall be established around the pond areas through the installation of a split-rail fence that shall not interfere with the migration of the SFGS.

8. Design and Implementation of a Long-term Management and Maintenance Plan for the Restored SFGS Habitat Area. Within one year after the issuance of the coastal development permit, the permittee shall: (1) prepare a long-term management and maintenance plan with advice from the staff of the Coastal Commission, the California Department of Fish and Game, and the U.S. Fish and Wildlife Service, and (2) submit that plan to the Coastal Commission for their review and approval. The plan must be designed to ensure that the goals of the monitoring plan for the SFGS habitat area will continue to be met after the restoration project has been successfully accomplished. The issues to be addressed in the long-term maintenance plan shall include, but are not limited to, fire suppression, prescribed burning, plant succession, habitat enhancement, and degree and extent of public access/use.

After the plan has been approved by the Coastal Commission, any additional proposed changes to the plan shall be submitted to the Executive Director for his review. The Executive Director shall determine whether the proposed change is a material or immaterial change to the plan. Immaterial changes may be approved in writing by the Executive Director. Material changes shall be subject to the review and approval of the Coastal Commission.

9. Local Site Development and Grading Permits. PRIOR TO ISSUANCE of the coastal development permit, the applicant shall submit a copy of an approved site development permit and grading permit from the City of Pacifica.

10. Condition Compliance. All requirements specified in the foregoing conditions that the applicant is required to satisfy as prerequisites to the issuance of this permit must be met within 180 days of Commission action on this permit. The project shall be constructed within the time frames of the submitted implementation schedule and as conditioned herein. Deadlines may be extended for good cause. Any extension request must be made in writing to the Executive Director and reviewed by Coastal Commission staff at least 10 days prior to the expiration of a deadline. Failure to comply with these requirements within the specified time periods will render this permit approval null and void.

11. Restoration Order Compliance. Implementation of Coastal Development Permit No. 1-95-59 as conditioned herein shall serve to comply with the obligations of Restoration Order No. R09502. Consistent with Special

Condition No. 2 above, failure to implement Coastal Development Permit No. 1-95-59 as conditioned herein shall result in enforcement proceedings against the landowner for a violation of Restoration Order No. R09502.

IV. Findings and Declarations.

The Commission hereby finds and declares the following:

1. Project Location and Description.

The project site is located within a 117± acre abandoned rock quarry that contains the lower reaches of Calera Creek. The project site is located west of Highway One and is bordered by Mori Point ridge to the north, by San Marlo Way and the Rockaway Beach area to the south, by an old railroad fill bank and Highway One to the east, and by the Pacific Ocean to the west. See locational Exhibits No. 1, 2, and 3.

The primary purpose of the proposed project is to re-create previously destroyed habitat of the endangered San Francisco garter snake (SFGS) and its primary prey species, the California red-legged frog (RLF) and the Pacific tree frog (PTF). The project will be incorporated into a yet-to-be completed reclamation plan for the entire 117± acre quarry area. The project is also complementary to and compatible with the development previously approved by the Commission under Permit No. 1-95-40, which authorized: (1) construction of a new wastewater treatment plant for the City of Pacifica, and (2) realignment and restoration of lower Calera Creek.

The proposed project is located along the north side of Calera Creek at the toe of Mori Point ridge. The proposed project requires grading of a one-acre area using 500 cubic yards of balanced cut and fill to re-create two ponds for the SFGS habitat area. The ponds are technically known as "sag ponds". The ponds will be constructed on a man-made terrace which is about seven feet above the elevation of the main channel the creek. The purpose of elevating the ponds slightly above the creek is to prevent high winter flows of Calera Creek from scouring the ponds and washing out the eggs and larvae of the frog populations which serve as prey species for the SGFS.

The proposed project includes construction of a dirt access road from the new wastewater treatment plant to the ponds. The proposed project also includes the installation of a 3.5-foot-high, split-rail fence around the ponds with a 10-foot-wide gate for vehicular access and a 3-foot-wide gate for pedestrian access.

Each pond is proposed to be five feet deep at its center. The easterly pond is proposed to be about 120 feet long, 70 feet wide, and has a surface water area of 3,800 square feet. The westerly pond is proposed to be about 110 feet long, 40 feet wide, and has a surface water area of 3,000 square feet. To maintain water flow through the ponds, tertiary-treated wastewater will be piped via an underground pipeline from the treatment plant to the ponds.

1-95-59

CITY OF PACIFICA

Page 9

About 1 to 2 percent of the treated wastewater discharge of the treatment plant (about 50 gallons per minute) will be used to provide a continuous water supply to the ponds. Vectors, such as mosquitoes, should not be a problem as long as adequate water circulation and a balanced population of plants and animals is maintained in the ponds. To control the water elevation of the ponds, the project has drain outlets, lockable gate valves, and underground pipelines that drain excess water from the ponds to the floodplain area of the creek. The proposed project includes planting native wetland, riparian, and upland vegetation around the two ponds and the graded area. The vegetation around the ponds is designed to replicate the preferred habitat for the SFGS and its prey species. Both ponds will have open water at their centers. California Bulrush (*Scirpus californicus*) will be planted along the perimeter of the ponds. Graminoids, forbs, ferns, and fern allies will be planted in drier locations beyond the bulrush. See Exhibits No. 4, 5, 6 and 7.

The project includes a cooperative agreement between the City of Pacifica and the U.S. Fish and Wildlife Service regarding the duties of each party for restocking, maintenance, and monitoring of the re-created SFGS habitat area. See Exhibit No. 10. Lastly, the project includes a 10-year, vegetative and restocking monitoring plan to measure the success of the re-created SFGS habitat area. See Exhibits No. 11 and 12.

Snakes would not be transplanted to the site until the pond system and the SFGS habitat area is functioning to the satisfaction of the resource agencies (USFWS and CDFG). At that time, a biologist with a permit to trap SFGS will work in coordination with the resource agency staff on the SFGS transfer project. The source location of the snake would most likely be the nearest location where the SFGS currently exists, such as the Laguna Salada on the north side of Mori Point. Since the project area and the Laguna Salada wetlands would then be functioning as a contiguous habitat area, the movement of snakes from one location to another would not be considered a detriment to the snake population in the source area.

The design, size, and location of the two ponds for the SFGS has been a collective effort in consultation with the following agencies and individuals: (1) the U.S. Fish and Wildlife Service (Peter Sorenson, Sheila Larson, Alison Willy, and Kelly Geer), (2) the California Department of Fish and Game (John Brode), (3) L.C. Lee & Associates (Lyndon Lee, Linda Ellis, and Peggy Fiedler), (4) the Coastal Conservancy (Prentiss Williams), and (5) Dr. Samuel McGinnis.

The 117± acre quarry property contains about seven acres of scattered, fresh-water wetlands and an archaeological site. However, neither the wetlands nor the archaeological site will be disturbed by the proposed project.

2. Implementation of Restoration Order No. R09502.

The proposed project has been designed to implement Coastal Commission Restoration Order No. R09502 (Bottoms). The restoration order has a number of

specific requirements that have been incorporated into the design and implementation of the project. In summary, the more important requirements include:

- (a) constructing a pond or ponds that are not less than five deep and that have a total surface water area of not less 4,200 square feet in size,
- (b) providing an adequate water source for the ponds to maintain viable populations of the SFGS prey species,
- (c) providing of a 100-foot-wide buffer between the margins of the ponds and the nearest development,
- (d) replanting the area around the ponds with native wetland and upland plant materials that are appropriate to the area,
- (e) entering into an agreement with the U.S. Fish and Wildlife Service regarding monitoring and restocking of the SFGS habitat area,
- (f) providing control measures to prevent introduction of species which prey on the SFGS or RLF,
- (g) establishing a schedule to implement each component of the project, including completion of pond construction, planting, stocking, monitoring, and management,
- (h) establishing a long-term vegetative and restocking monitoring plan for the SFGS habitat area,
- (i) complying with all of the above requirements, and
- (j) implementing any other measures that are necessary to ensure the successful restoration of the SFGS habitat area as determined by the Coastal Commission through this permit action.

As described previously, the proposed project contains elements (a) through (h) above as required by element (i). As discussed in the findings below, the Commission has attached a number of special conditions to this permit to ensure the successful restoration of the SFGS habitat area. Therefore, as submitted above, and as conditioned herein, the Commission finds that the proposed project complies with the specific requirements of the restoration order.

3. Environmentally Sensitive Habitat Area.

Section 30240 of the Coastal Act provides in applicable part that: (a) environmentally sensitive habitat areas be protected against any significant disruption of habitat values, (b) only uses dependent on those resources be allowed within those areas, and (c) development in areas adjacent to

environmentally sensitive habitat areas be sited and designed to prevent impacts which would significantly degrade those areas.

In addition, Section 30107.5 of the Coastal Act defines an "environmentally sensitive area" as:

any area in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could easily be disturbed or degraded by human activities and developments.

The San Francisco garter snake (*Thamnophis sirtalis tetrataenia*) was listed as endangered in March of 1967 (Federal Register 32:4001). As a result, the SFGS habitat area is considered to be "environmentally sensitive" because an endangered species is also a rare and valuable species. In addition, the past filling and grading activities of the former washing ponds on the quarry property that eliminated the SFGS habitat area are an indication of how easily the former SFGS habitat area can be disturbed or degraded by human activities and developments.

Other ponds near the project site are known to support three prey species of the SFGS. These prey species include populations of: (1) the California Red-legged frog (*Rana aurora draytonii*), (2) the Pacific tree frog (*Hyla regilla*), and (3) the Mosquito fish (*Gambusia affinis*). The California Red-legged frog is a Federal Candidate Category 1 and a California State Species of Special Concern. The two frog species are the primary sources of food for the SFGS, and the fish is a buffer food source when other food is scarce (Jeening 1992). These three species were found north of the proposed project site, at the nearby Sharp Park Golf Course.

The SFGS spends its spring and summer months feeding near ponds and creeks. However, the snake migrates up the Mori Point hillside during the fall and winter months. The herpatologists who have studied the quarry area believe that the snake may migrate through the "saddle area" of the Mori Point ridge where it may make contact with other San Francisco garter snakes that are believed to migrate up from the Laguna Salada on the north side of Mori Point. Although the herpatologists believe that the SFGS is no longer at the project site because its habitat area in the quarry was destroyed in 1989, there is always the possibility that SFGS may have migrated back into the quarry area.

Therefore, to protect any SFGS which may have entered into the project area from harm during grading and construction operations, the Commission attaches Special Condition No. 1 which requires a capture plan for the SFGS prior to the start of grading and construction activities. Special Condition No. 1 requires that the capture plan be submitted to the Executive Director for his review and approval prior to issuance of the coastal development permit. The condition requires that the plan be approved by the U.S. Fish and Wildlife Service; that the plan be implemented by the U.S. Fish and Wildlife Service or

by a qualified individual(s); and that the plan be in place at least 60 days prior to the start of any grading or construction activity.

Special Condition No. 2 requires the applicant and landowner to submit for the review and approval of the Executive Director a copy of a signed acknowledgement which indicates that the landowner consents to all special conditions of permit approval which affect his property and is responsible to satisfy the obligation of Restoration Order No. R09502. This condition is necessary to ensure that the permittee has the ability to carry out the special conditions which are needed to protect the habitat consistent with the Commission imposed Restoration Order No. R09502.

Special Condition No. 3 requires the applicant to submit evidence for the review and approval of the Executive Director that the water source to be used for the ponds is capable of supplying and maintaining sufficient water levels and water quality to maintain viable populations of the SFGS, RLF, and PTF. The condition also provides that the required water levels of ponds be maintained at all times.

Construction of the wastewater treatment plant and delivery of properly treated wastewater to the ponds as authorized under Permit No. 1-95-40 will satisfy Special Condition No. 3 of this permit. However, Special Condition No. 3 is necessary in the event that the project which was approved under Permit No. 1-95-40 is not constructed because the ponds will need to be supplied by another water source.

Special Condition No. 4 requires the submission of a final erosion control/grading and a SFGS habitat planting plan for the review and approval of the Executive Director that is consistent with the corresponding provisions below. Among other things, the final erosion control/grading plan under Special Condition No. 4a must include specific measures to control surface water runoff, soil erosion, sedimentation, and the activation of dormant slides within the project area. The plan also requires that all erosion control measures be in place and fully functional prior to any grading or construction activity taking place during the rainy season. This plan and these measures are designed to ensure that no outside impacts will disrupt or undermine the successful restoration of the SFGS habitat area.

Among other things, the planting plan shall be designed to provide for foraging habitat and protective cover for the SFGS, RLF, and PTF. The final planting plan under Special Condition No. 4b must also be in substantial conformance with a planting plan submitted by L.C. Lee and Associates in a document entitled: "Report to the City of Pacifica on the 75% Design for Restoring Lower Calera Creek and Adjacent Wetlands Pacifica Wastewater Treatment Plant Project," dated March 6, 1995 and per an August 3, 1995, addendum to the original document. To ensure successful implementation, the final SFGS habitat planting plan must include: (a) any revisions to the sequence of planting, the salvaging of native plant materials, and water delivery to the ponds, (b) identification of the selected nurseries for plant

procurement, and (c) a narrative description indicating the planting specifications and maintenance techniques to be followed, such as the total number of each species to be planted, the size and depth of the holes to be dug, any special actions to prepare the soil for planting such as discing, soil amendments to be added, tree staking, wind or shade screening measures, the planting schedule, fertilizing schedule, irrigation method and schedule, the type and location of mulches, hydroseeded areas, the method to remove exotic vegetation or weeds, etc.). Special Condition 5b requires that the planting program be designed to maximize the chances of survival of the vegetation to be planted, and that any planted vegetation that dies be replaced at a one-to-one or greater ratio for the life of the project.

A final planting plan for restoration of the SFGS habitat area must be submitted prior to permit issuance. This plan is necessary to fully implement the planting that is needed to re-create the SFGS habitat area. Some of the final planting specifications are indicated in Exhibit No. 7. In addition, some of the maintenance provisions are indicated in Exhibit No. 11, the vegetative monitoring plan. The proposed project need not but can be designed to integrate the SFGS habitat area with the restoration of the wetlands along Calera Creek.

Special Condition No. 5 establishes two important deadlines for implementation of the proposed project. The condition requires that the final grading to construct the ponds be completed no later than August 15, 1997, and that the ponds be filled with water from the approved source no later than September 30, 1998. Since the wetlands planting is scheduled to begin on August 15, 1997, then the ponds need to be constructed by no later than that date. Since the wastewater treatment plant is scheduled to be completed by no later than September 30, 1997, then the ponds need to be filled with water by no later than that date. These deadlines are consistent with the overall schedule provided by the applicant and dated December 12, 1995 to construct the wastewater treatment plant, to restore lower Calera Creek, and to restore the SFGS habitat area as authorized under this permit. See Exhibit No. 9.

Special Condition No. 6 requires that the permittee adhere to the submitted vegetative and restocking monitoring plan for SFGS and the California red-legged frog (RLF) in the restored habitat area per the agreement with the U.S. Fish and Wildlife Service as indicated in Exhibits No. 10, 11, and 12. Special Condition 6, makes the landowner of the SFGS habitat area fully responsible for any failure to meet the success standards of the monitoring plan for the restored SFGS habitat area and establishes a clear procedure to taking any necessary corrective actions. Special Condition No. 6 is necessary to ensure that the SFGS habitat area is successfully re-established.

Special Condition No. 7 that a fence be constructed around the ponds concurrent with the construction of the ponds and at least until the success criteria approved by the Coastal Commission in Special Condition No. 6 above have been achieved. The fence must be placed a minimum of a 100 feet from the edge of the ponds. The condition requires a split-rail fence to be used and

that the fence not interfere with the migration of the SFGS. The condition is necessary to comply with the restoration order which specifically requires that a 100-foot-wide buffer be provided between the SFGS habitat area and the nearest development.

Special Condition No. 8 requires the permittee to design and implement a long-term maintenance and management plan for the restored SFGS habitat area. Special Condition No. 8 requires that, within one year after the issuance of the coastal development permit, the permittee: (1) prepare a long-term management and maintenance plan with advice from the staff of the Coastal Commission, the California Department of Fish and Game, and the U.S. Fish and Wildlife Service, and (2) submit that plan to the Coastal Commission for their review and approval. The plan must be designed to ensure that the goals of the monitoring plan for the SFGS habitat area will continue to be met after the restoration project has been successfully accomplished. The issues to be addressed in the long-term maintenance plan must include, but are not limited to, fire suppression, prescribed burning, plant succession, habitat enhancement, and degree and extent of public access/use.

Special Condition No. 8 also requires that after the plan has been approved by the Coastal Commission, any additional proposed changes to the plan must be submitted to the Executive Director for his review, and that the Executive Director will determine whether the proposed change is a material or immaterial change to the plan. While immaterial changes may be approved in writing by the Executive Director, material changes must be subject to the review and approval of the Coastal Commission. Special Condition No. 8 is necessary to ensure that the successfully re-established, SFGS habitat area remains a SFGS habitat area that is not lost or diminished through inadvertent or inappropriate maintenance and management practices.

Special Condition No. 9 requires the permittee to submit the appropriate local permits for the project to the Executive Director prior to the issuance of the coastal development permit. Special Condition No. 8 is required to ensure that the local permits which the City approves for the project are based on the same plans which the Commission has approved for the project.

Lastly, Special Condition No. 10 for condition compliance and Special Condition No. 11 for restoration order compliance are necessary for Permit No. 1-95-59 to implement and enforce the restoration order. In summary, it is only with Special Conditions No. 1 through No. 11 that the Commission finds that the project is consistent with Section 30240 of the Coastal Act.

4. Public Access.

Section 30210 of the Coastal Act requires in applicable part that maximum public access and recreational opportunities be provided when consistent with public safety, private property rights, and natural resource protection. Section 30211 of the Coastal Act requires in applicable part that development not interfere with the public's right of access to the sea where acquired

through use. Section 30212 of the Coastal Act requires in applicable part that public access from the nearest public roadway to the shoreline and along the coast be provided in new development projects, except in certain instances, as when adequate access exists nearby. In applying Sections 30210, 30211, and 30212, the Commission is limited by the need to show that any denial of a permit application based on those sections, or any decision to grant a permit subject to special conditions requiring public access, is necessary to avoid or offset a project's adverse impact on existing or potential public access.

A staff site inspection did not reveal any evidence of public use within the project area. In addition, no one has come forward to claim that they have used the project area on a continuous basis for either blufftop viewing or for vertical access to the sea. The Commission therefore finds that the project is consistent with Section 30211 as the project will not interfere with the public's right of access where acquired through use, as no such rights apparently exist within or immediately adjacent to the project area.

The proposed project does not create any demand for additional public access from the first public road (Highway One) to the sea. As a result, the project will not have any adverse impacts on existing or potential public access, and the Commission therefore finds that the project is consistent with Sections 30210 and 30212 as no additional public access is necessary.

5. Visual Resources.

Section 30251 of the Coastal Act requires in applicable part that permitted development: (a) be sited and designed to protect views to and along the ocean and scenic coastal areas, (b) minimize the alteration of natural land forms, (c) be visually compatible with the character of surrounding areas, and, where feasible, (d) restore and enhance visual quality in visually degraded areas.

As an integral part of a larger reclamation plan for the quarry area, the proposed project will restore and enhance the visual quality of this visually degraded area. In its present condition, the project site is either poorly vegetated or covered with weedy and exotic plant species that provide very little habitat value for native wildlife. Once the project is completed, the project site will be very well vegetated with native plants that provide significant habitat value for native wildlife. The most immediate visual impact will be the rough grading activity that is necessary to create the ponds. This visual disruption is only temporary, however, and the disruption can be mitigated with the use of temporary cover crops, hydroseeding, and/or mulching until the more permanent plantings are established. To ensure that such measures will take place, the Commission attaches Special Condition No. 4 which requires the permittee to submit a final erosion control/grading plan (Special Condition No. 4a) and a final planting plan for the SFGS habitat area (Special Condition No. 4b) for the review and approval of the Executive Director, prior to issuance of the permit.

In its present condition, the quarry area cannot be considered to be a natural landscape or a natural landform. Thus, the requirement in Section 30251 that development minimize the alteration of natural landforms is not applicable to the restoration of the SFGS habitat area which is located in the quarry area. Therefore, the Commission finds that the project is consistent with Section 30251 to the extent that it will be visually compatible with the character of the surrounding area.

6. City of Pacifica LUP/Prejudice to LCP.

The subject property is designated as a Special Area in the city's Coastal Land Use Plan (LUP). This portion of the City's coastal zone was not certified by the Coastal Commission during the summer of 1994, and it remains as "an area of deferred certification". The City's LUP indicates that the site is "to be developed as a unit, and to include commercial, residential, City Hall, and Marina Uses". The plan emphasizes that the property is one of the few remaining large vacant sites suitable for commercial development and that a substantial portion of the commercial uses should be coastally oriented visitor destinations. The Commission finds that approval of this project will not preclude the future development of the larger quarry property area as part of an overall plan or unit.

In approving the special use permit for the wastewater treatment plant under Permit No. 1-95-40, the City of Pacifica found that the proposed use was not inconsistent with the existing land use in the area. The certified EIR for the three-part project states that use of a portion of the quarry site for a wastewater treatment plant and its associated creek and wetlands would conform to the Coastal Plan narrative, provided that the rest of the property remains available for development. Restoration of the SFGS habitat area will take place within Zone 2 of the Calera Creek Restoration Project. Since restoration of the SFGS habitat area is an integral part the wetlands restoration for Calera Creek, the above finding remains unchanged. The Coastal Commission therefore finds that approval of just the SFGS restoration area, as conditioned, will not prejudice local government's ability to implement a certifiable LCP for the quarry area.

7. Condition Compliance.

The project is proposed to implement Commission Restoration Order No. R09502 to restore the SFGS habitat area on the property. Resource damage of the former SFGS habitat area has continued since 1989, and will continue until the habitat area is successfully restored.

The Commission therefore attaches Special Condition No. 10 to ensure that the SFGS habitat area will be restored in a timely manner. Special Condition No. 10 requires that the special conditions of the permit that must be satisfied prior to issuance of this permit must also be met within 180 days of Commission action on this permit. Special Condition No. 10 further requires that the project be constructed within the time frames of the submitted implementation schedule.

1-95-59

CITY OF PACIFICA

Page 17

Lastly, Special Condition No. 11 requires that failure to comply with these requirements within the specified time periods, or within such additional time as may be granted by the Executive Director for good cause, will result in the nullification of this permit approval and constitute a violation of the restoration order.

8. California Environmental Quality Act (CEQA).

Section 13096 of the California Code of Regulations requires Commission approval of coastal development permit applications to be supported by a finding showing the application, as conditioned by any conditions of approval, to be consistent with any applicable requirements of the California Environmental Quality Act (CEQA). Section 21080.5(d)(2)(i) of CEQA prohibits a proposed development from being approved if there are feasible alternatives or feasible mitigation measures available which would substantially lessen any significant adverse impact which the activity may have on the environment.

As conditioned, the proposed project is consistent with the policies of the Coastal Act that require environmentally sensitive areas to be protected against any significant disruption of habitat values. Mitigation measures to minimize adverse environmental effects include Special Conditions No. 1 through No. 11. As conditioned, there are no feasible alternatives or feasible mitigation measures available, beyond those required, which would substantially lessen any significant adverse impact which the activity may have on the environment. Therefore, the Commission finds that the proposed project, as conditioned to mitigate the identified impacts can be found consistent with the requirements of the Coastal Act and to conform to CEQA.

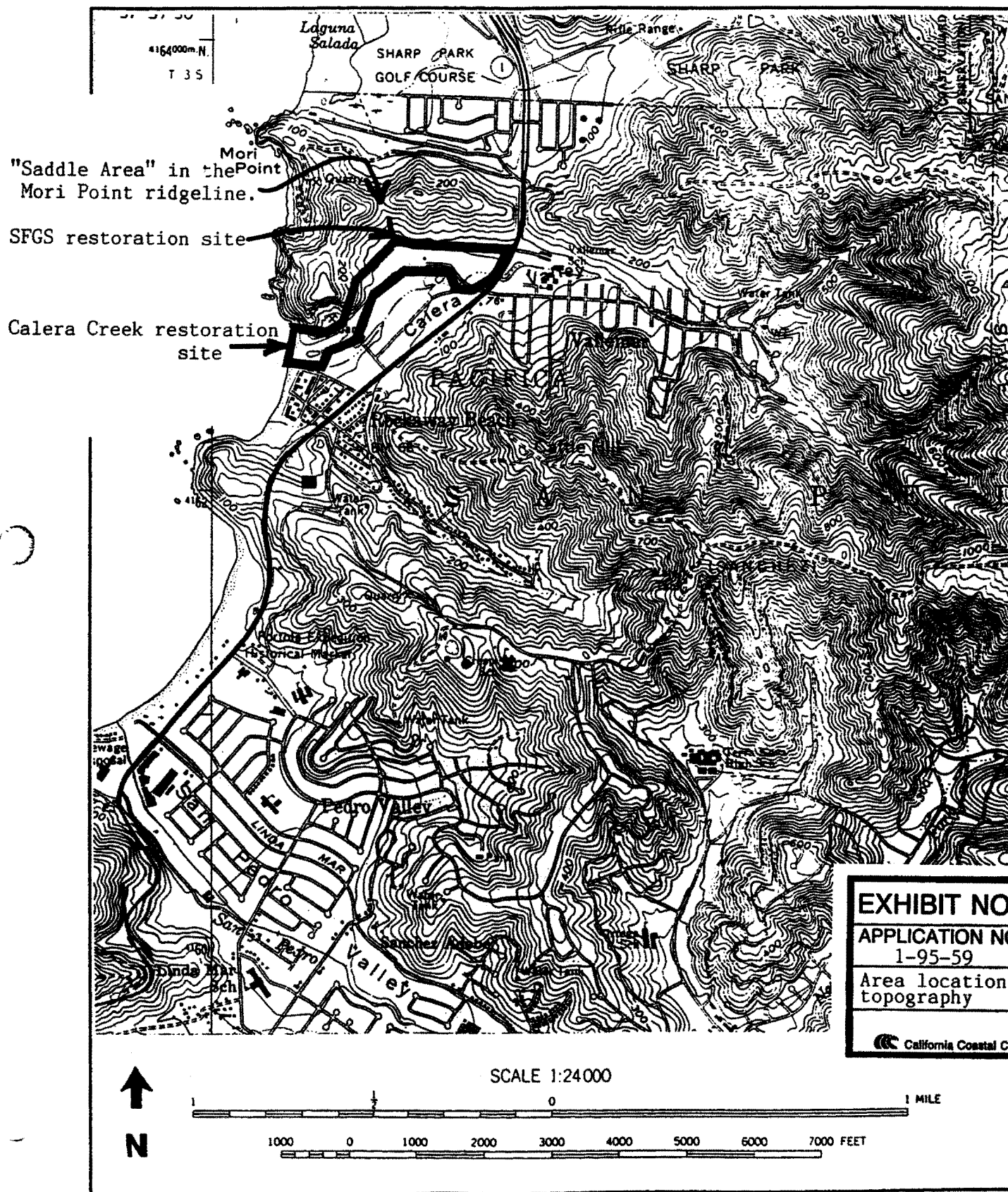
8421p

ATTACHMENT A

Standard Conditions

1. Notice of Receipt and Acknowledgment. The permit is not valid and development shall not commence until a copy of the permit, signed by the permittee or authorized agent, acknowledging receipt of the permit and acceptance of the terms and conditions, is returned to the Commission office.
2. Expiration. If development has not commenced, the permit will expire two years from the date on which the Commission voted on the application. Development shall be pursued in a diligent manner and completed in a reasonable period of time. Application for extension of the permit must be made prior to the expiration date.
3. Compliance. All development must occur in strict compliance with the proposal as set forth in the application for permit, subject to any special conditions set forth below. Any deviation from the approved plans must be reviewed and approved by the staff and may require Commission approval.
4. Interpretation. Any questions of intent of interpretation of any condition will be resolved by the Executive Director or the Commission.
5. Inspections. The Commission staff shall be allowed to inspect the site and the development during construction, subject to 24-hour advance notice.
6. Assignment. The permit may be assigned to any qualified person, provided assignee files with the Commission an affidavit accepting all terms and conditions of the permit.
7. Terms and Conditions Run with the Land. These terms and conditions shall be perpetual, and it is the intention of the Commission and the permittee to bind all future owners and possessors of the subject property to the terms and conditions.

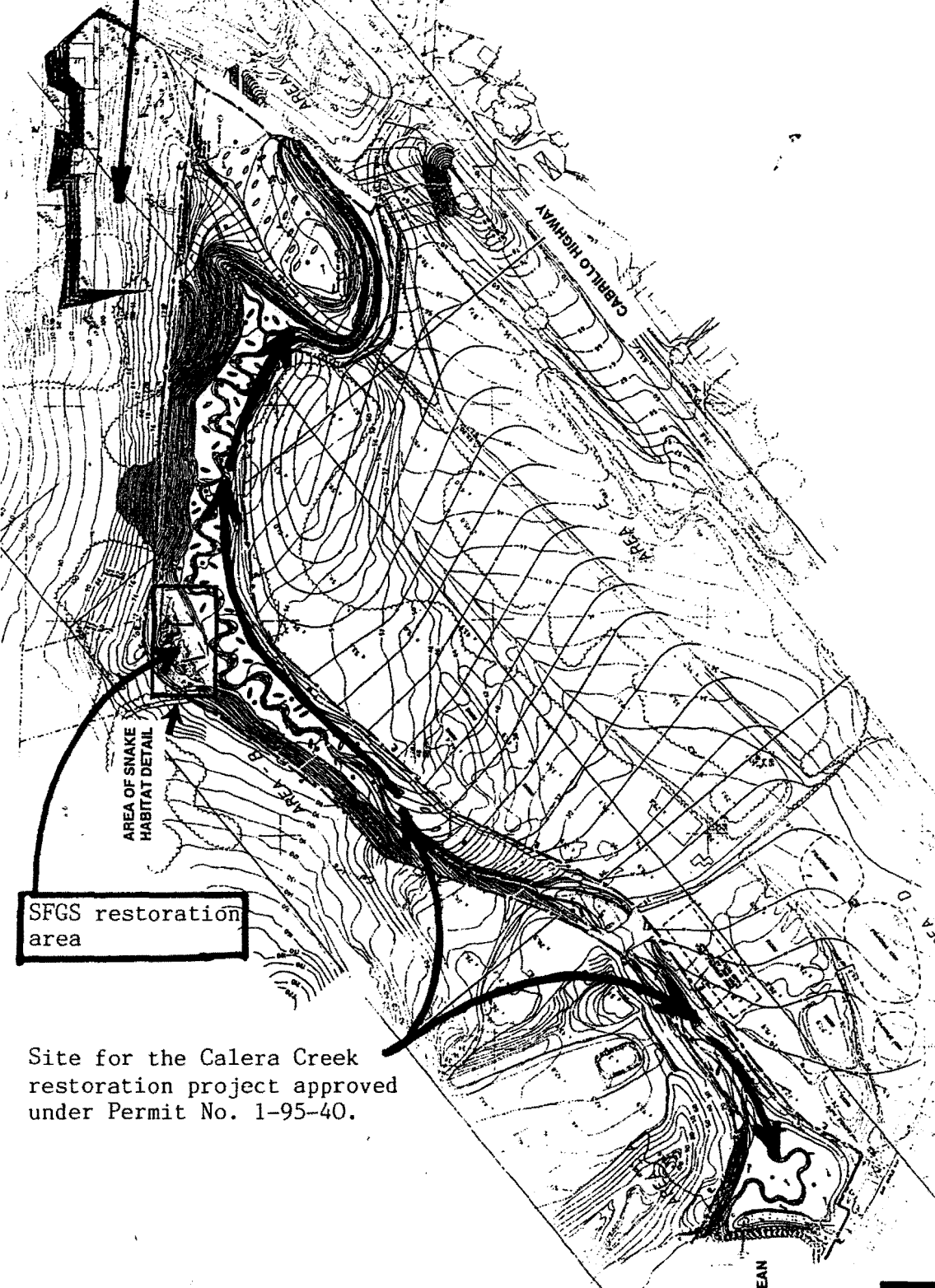
Figure 1. Location of Calera Creek Restoration Site in Pacifica, California (U.S.G.S. Montara Mtn. Quad 1980)



Site for the wastewater treatment plant approved under Permit No. 1-95-40

North
↑

CALERA CREEK WETLAND RESTORATION, SNAKE HABITAT LOCATION



SFGS restoration
area

Site for the Calera Creek
restoration project approved
under Permit No. 1-95-40.

PACIFIC OCEAN

EXHIBIT NO. 3

APPLICATION NO.
1-95-59

Location of SFGS
restoration area

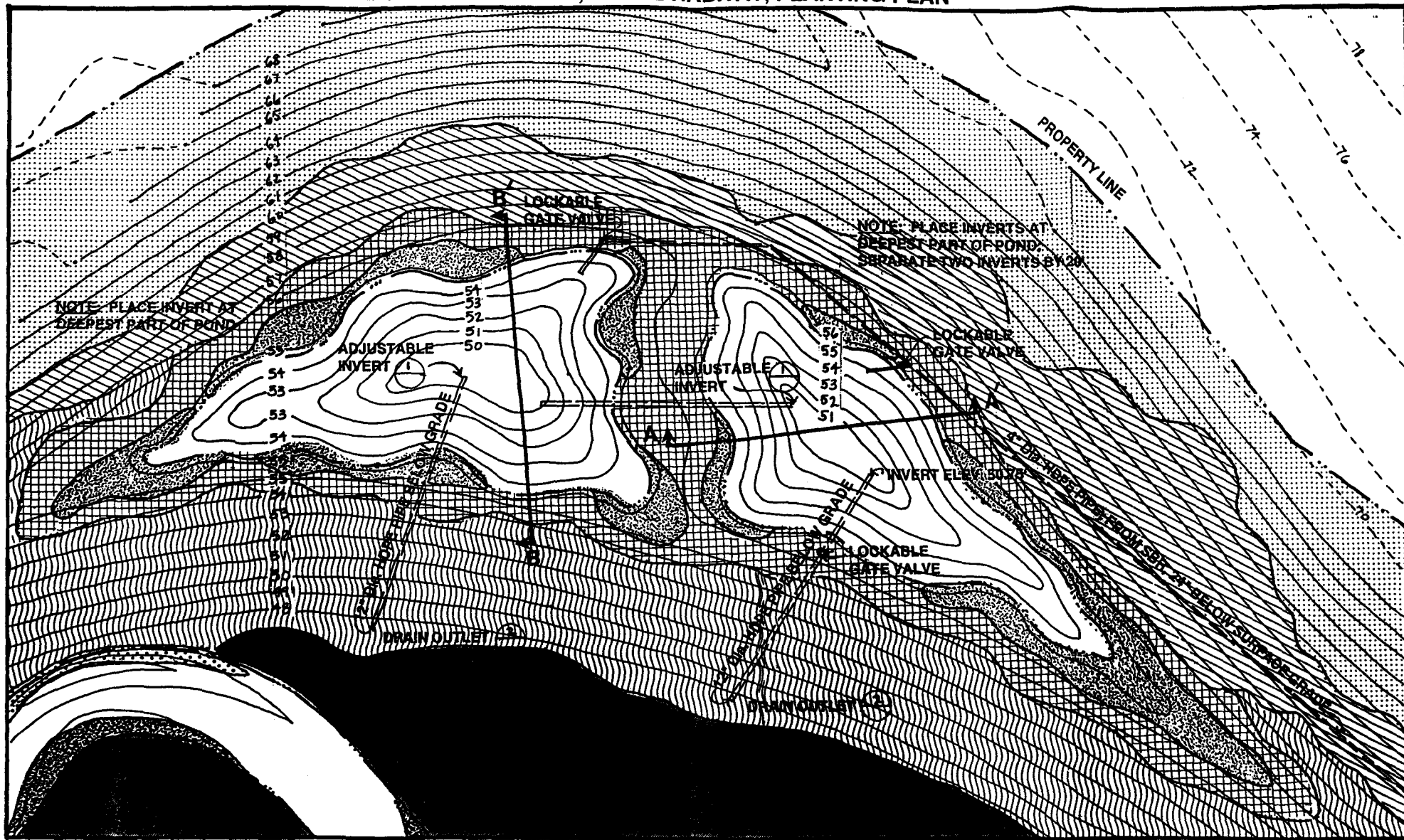
Designed by	LCL, PLF	Date	Revision
Drawn by	LE 11-22-95	12/30/95	Add Fence
Checked by			

California Coastal Commission

Grading Plan

EXHIBIT NO. 4	APPLICATION NO. 1-95-59
---------------	----------------------------

CALERA CREEK WETLAND RESTORATION, SNAKE HABITAT, PLANTING PLAN



 EMERGENT V, Snake Ponds

 EMERGENT VII, California Bulrush

 SCRUB SHRUB I, Riparian Zone

 SCRUB SHRUB II, Stream Terrace

 PALUSTRINE FOREST I, Riparian Corridor

 PALUSTRINE FOREST II, Point Bar

 UPLAND COMMUNITY I, Coastal Scrub

 UPLAND COMMUNITY II, Coastal Prairie



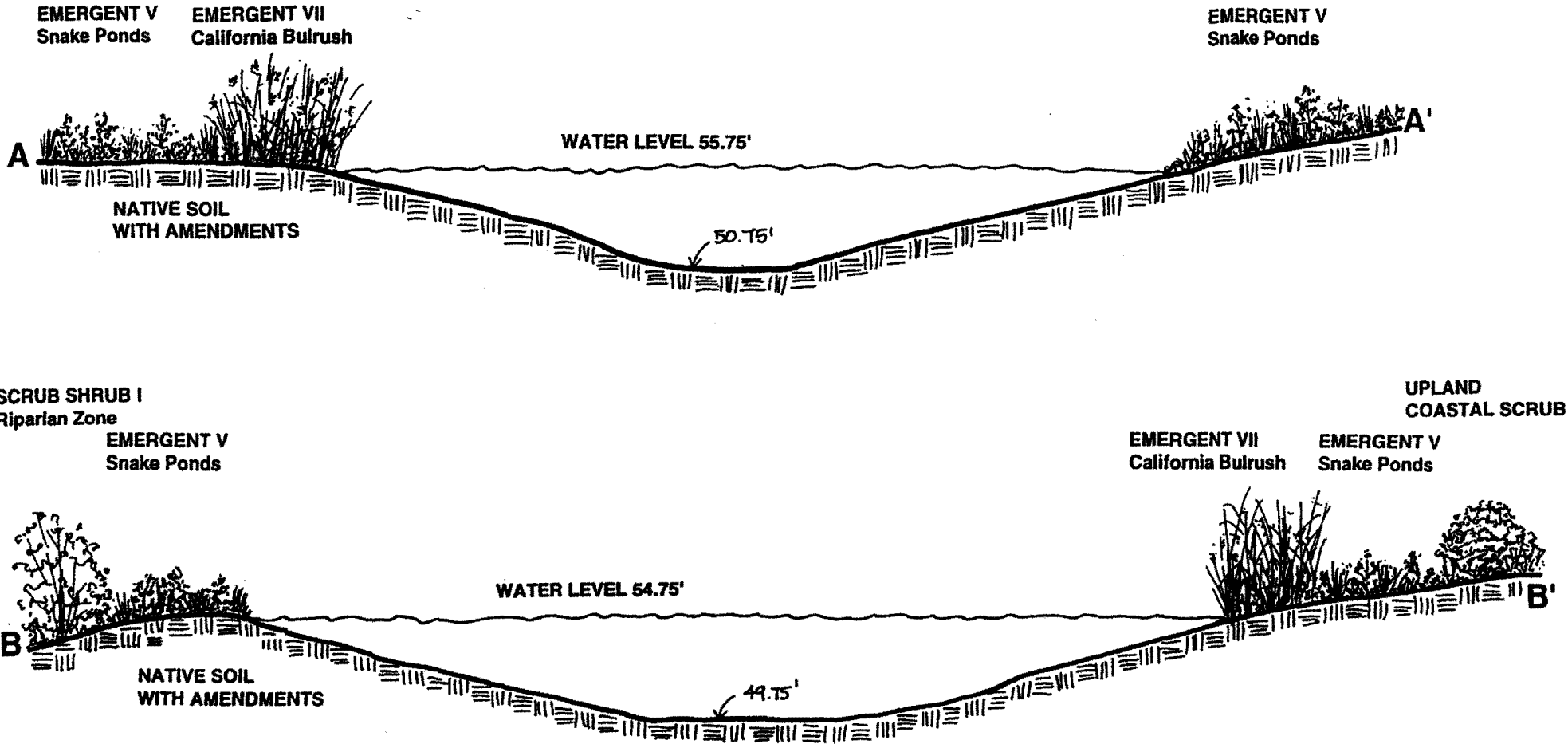
 California Coastal Commission


Planting Plan

APPLICATION NO.
1-95-59

EXHIBIT NO. 5

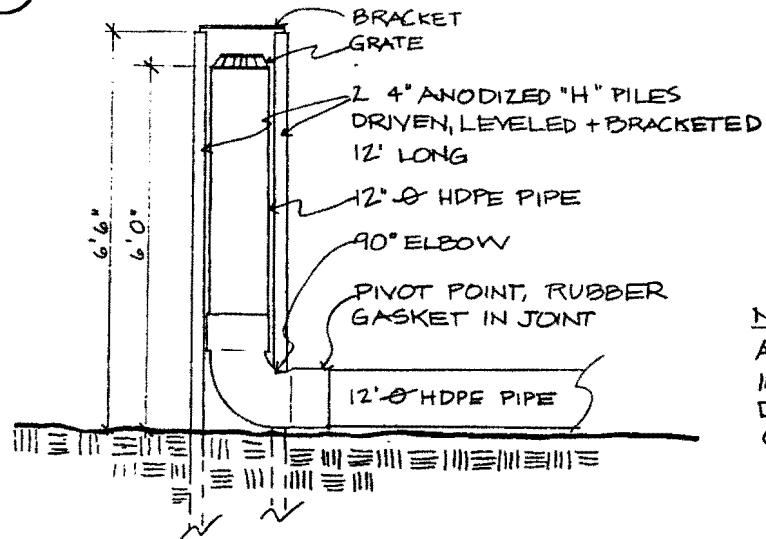
CALERA CREEK WETLAND RESTORATION, SNAKE HABITAT, SECTIONS



 California Coastal Commission	EXHIBIT NO. 6
	APPLICATION NO.
	1-95-59
	Cross-section

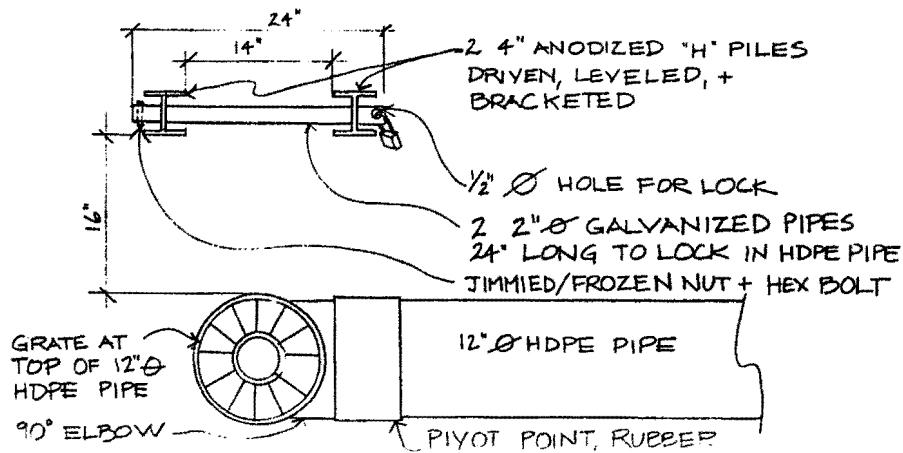
CALERA CREEK WETLAND RESTORATION, SNAKE HABITAT DETAILS

1 ADJUSTABLE INVERT



NOTE: PLACE
ADJUSTABLE
INVERT IN
DEEPEST PART
OF POND

1 ADJUSTABLE INVERT, PLAN VIEW



1 ADJUSTABLE INVERT

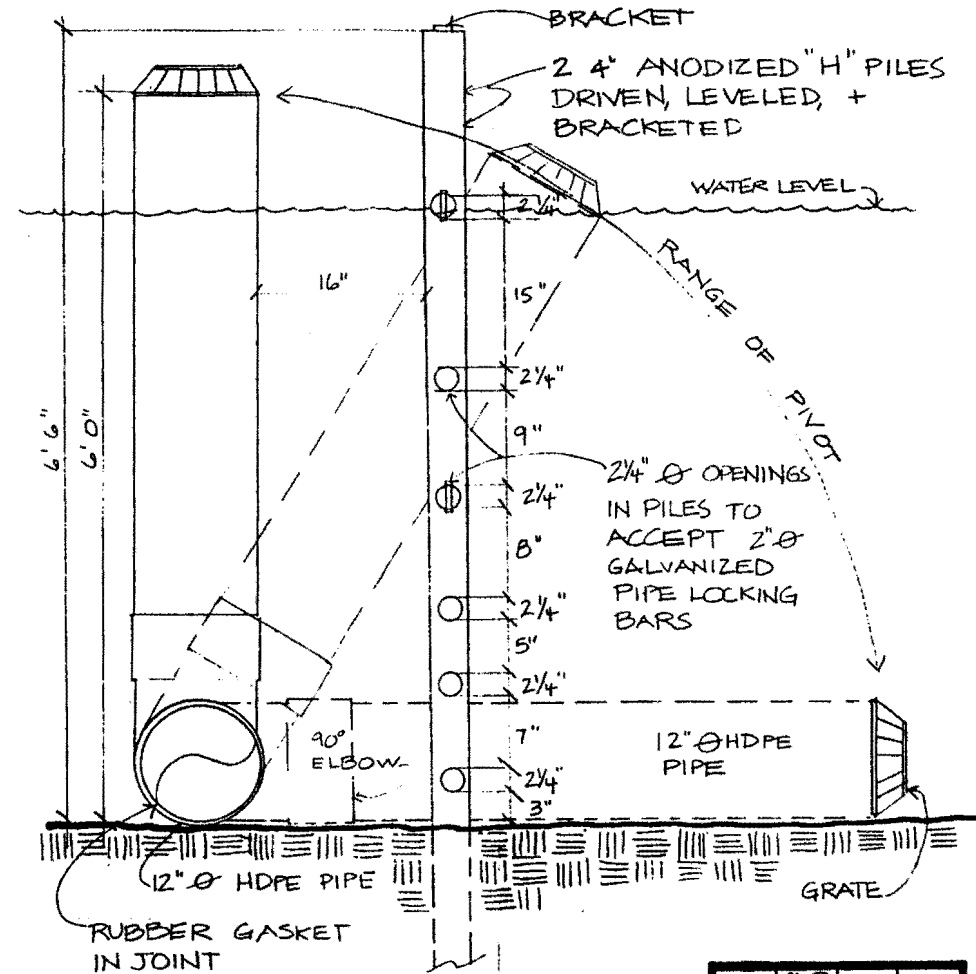
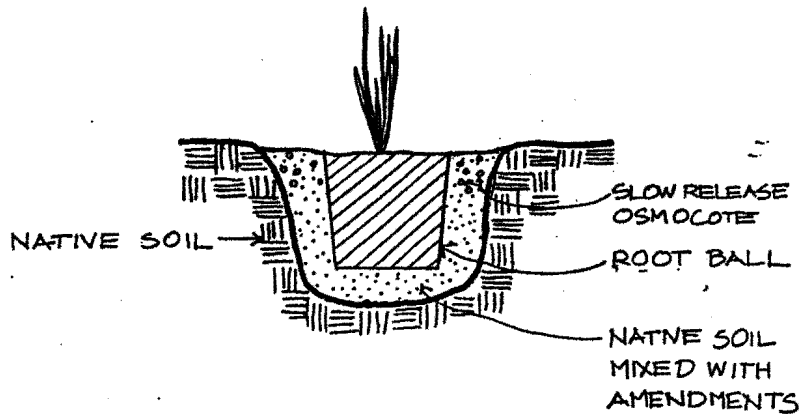


EXHIBIT NO. 7
APPLICATION NO. 1-95-59
Construction details and specifications
California Coastal Commission

CALERA CREEK WETLAND RESTORATION, PLANTING DETAILS

EXHIBIT B CALERA CREEK WETLAND RESTORATION, PLANTING DETAILS

Page 2, Exhibit No. 7, Permit No. 1-95-59



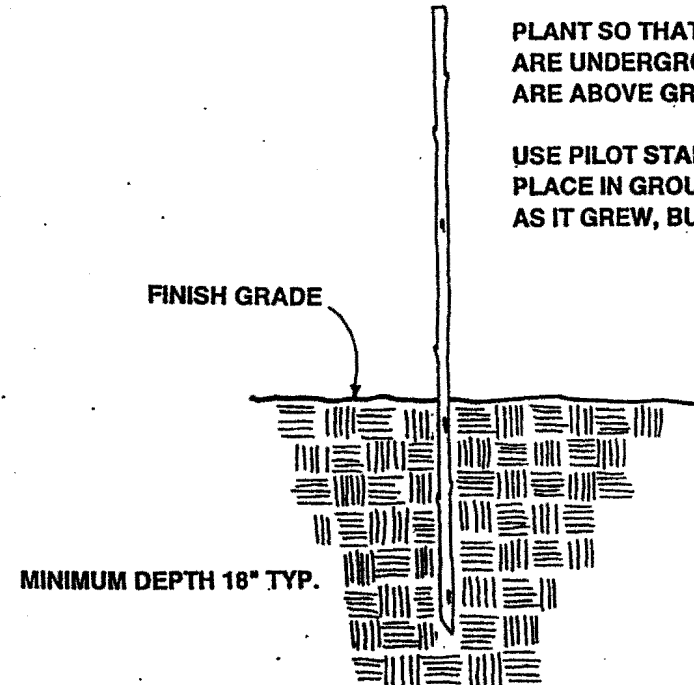
GRAMINOID, AND FORB, FERN AND FERN ALLY DETAIL
No Scale

11-22-95
LCLA

WILLOW (SALIX SPP.)
4' X 1 1/2" DIAMETER LIVE STAKE
6 BUDS, MINIMUM

PLANT SO THAT SEVERAL LIVE BUDS
ARE UNDERGROUND AND SEVERAL
ARE ABOVE GROUND

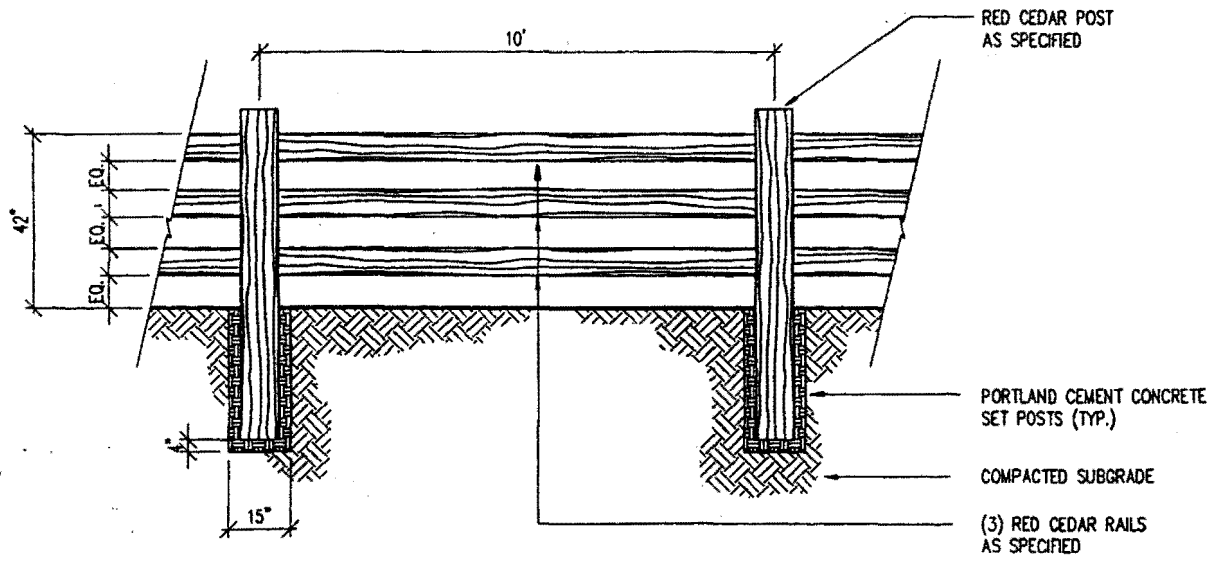
USE PILOT STAKE TO MAKE HOLE.
PLACE IN GROUND RIGHT SIDE UP,
AS IT GREW, BUDS POINTING UPWARD.



LIVE STAKE (CUTTING) DETAIL
No Scale

L.C. LEE & ASSOCIATES, INC. SEATTLE, WA MARCH, 1995

CALERA CREEK WETLAND RESTORATION, SNAKE HABITAT

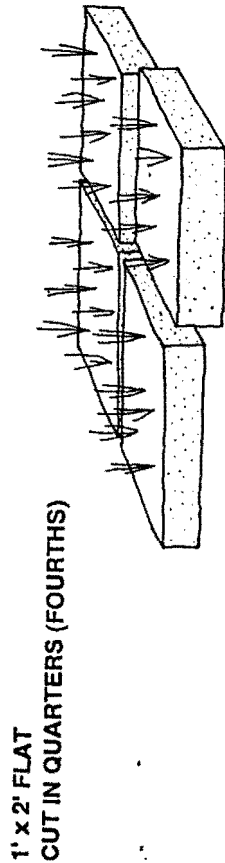


SPLIT RAIL FENCE DETAIL

NTS

9

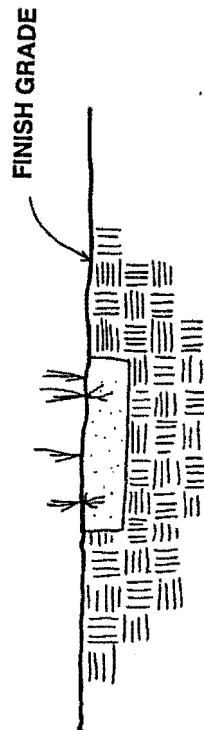
CALERA CREEK WETLAND RESTORATION, PLANTING DETAILS



1' x 2' FLAT

CUT IN QUARTERS (FOURTHS)

PLANT ONE QUARTER FLATS
SEE PLANTING PLAN
FOR PLANTING ELEVATION



FLAT PLANTING DETAIL

No Scale

11-22-95
L.C.A.

CALERA CREEK WETLAND RESTORATION, PLANTING SPECIFICATIONS

PALUSTRINE EMERGENT V Snake Ponds

Graminoids	Size	#/Acre	Spacing
<i>Calamagrostis nutkaensis</i>	1 gal. pot	4,840	3' o.c.
<i>Carex barbarae</i>	1 gal. pot	10,890	2' o.c.
<i>Carex obnupta</i>	1' x 2' flat, quartered (in fourths)	4,840	3' o.c.
<i>Juncus bellicus</i>	1' x 2' flat, quartered (in fourths)	4,840	3' o.c.
<i>Juncus effusus</i> var. <i>brunneus</i>	1 gal. pot	43,560	1' o.c.
<i>Festuca rubra</i>	1 gal. pot	4,840	3' o.c.
Forbs, Ferns, Fern Allies			
<i>Mimulus guttatus</i>	4" pot	1,742	5' o.c.
<i>Oenothera sarrmentosa</i>	6" pot	1,742	5' o.c.
<i>Scrophularia californica</i>	4" pot	2,990	15' o.c.

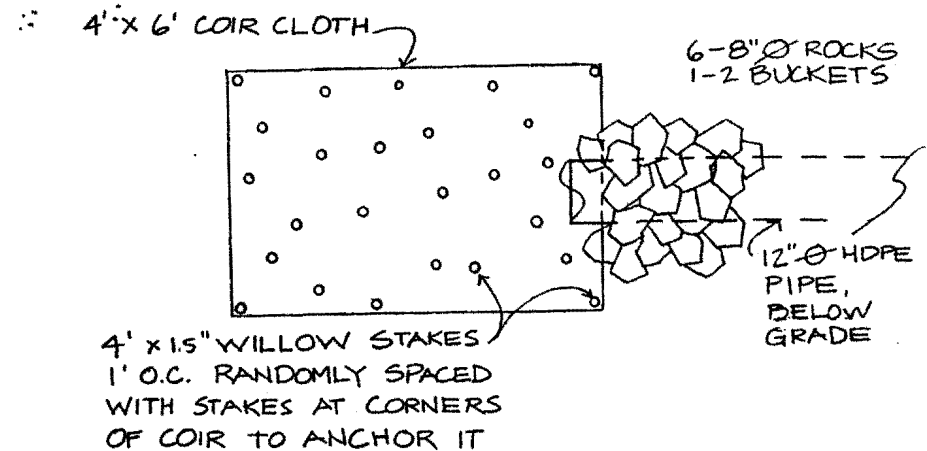
PALUSTRINE EMERGENT VII California Bulrush Zone

Graminoids	Specs	#/Acre	Spacing
<i>Polygonum hydropiperoides</i>	4" pot	10,890	2' o.c.
<i>Scirpus californicus</i>	1 gal. pot	43,560	1' o.c.
<i>Sparganium eurycarpum</i> ssp. <i>eurycarpum</i>	1 gal. pot	43,560	1' o.c.

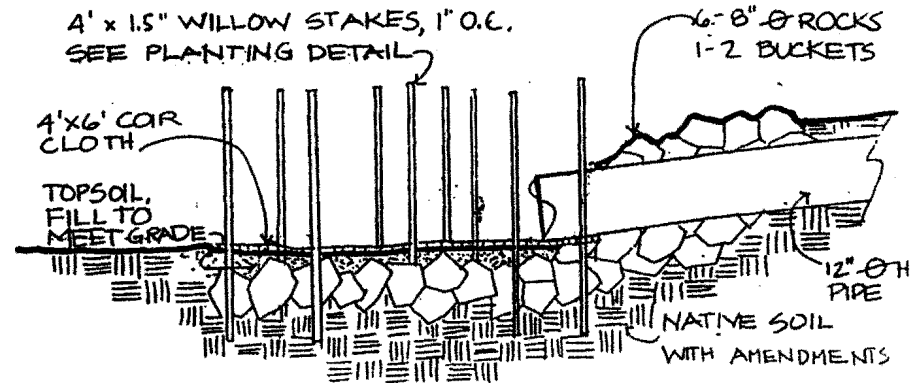
11-22-95 LCLA

CALERA CREEK WETLAND RESTORATION, SNAKE HABITAT, DETAILS

2 DRAIN OUTLET, PLAN VIEW



2 DRAIN OUTLET, SECTION



11-22-95 LCLA

Waters of the U.S., Including Wetlands, as Delineated at Calera Creek in 1993 by LCLA¹

Grading limit line to construct the two ponds for Permit No. 1-95-59. Grading does not impact existing wetlands.

- Wetland Plants Salvagable
- Wetland Plants Off - Limits
- Wetland Plants Not Suitable / Limited Salvage Potential

PLEASE NOTE: 1) "Waters of the U.S." are defined using definitions provided at 33 CFR 328.3 (a) (1) and (2). Wetlands are defined using definitions provided at 33 CFR 328.3 (b) and consistent with Federal definition details provided in the 1989 U.S. Army Corps of Engineers Wetland Delineation Manual (Environmental Laboratory, 1987).

LEGEND

- WATERS OF THE U.S. (TYPE 3)
- WETLANDS
- WOODY RIPARIAN WETLANDS
- WATERS OF THE U.S. INCLUDING WETLANDS BELOW ORDINARY HIGH WATER
- PLOT
- BACKHOE PIT (BP)

TABLE

LOOP #	AREA	MAP TYPE
LOOP 1	33.943 SF (0.772 ACRES)	WATERS & WETLANDS
LOOP 2	191 SF (0.004 ACRES)	WATERS OF THE U.S.
LOOP 3	1,007 SF (0.023 ACRES)	WATERS OF THE U.S.
LOOP 4	270 SF (0.006 ACRES)	WATERS OF THE U.S.
LOOP 5	844 SF (0.019 ACRES)	WATERS OF THE U.S.
LOOP 6	30.337 SF (0.693 ACRES)	WATERS & WETLANDS
LOOP 7	1,164 SF (0.026 ACRES)	WETLANDS
LOOP 8	1,209 SF (0.028 ACRES)	WATERS OF THE U.S.
LOOP 9	2,429 SF (0.056 ACRES)	WATERS OF THE U.S.
LOOP 10	4,097 SF (0.094 ACRES)	WATERS & WETLANDS
LOOP 11	5,597 SF (0.128 ACRES)	WATERS OF THE U.S.
LOOP 12	16,911 SF (0.386 ACRES)	WETLANDS
LOOP 13	433 SF (0.010 ACRES)	UPLAND ETC.
LOOP 14	11,881 SF (0.271 ACRES)	WETLANDS
LOOP 15	2,009 SF (0.046 ACRES)	WETLANDS
LOOP 16	948 SF (0.021 ACRES)	WOODY RIPARIAN WETLANDS
LOOP 17	25,839 SF (0.587 ACRES)	WOODY RIPARIAN WETLANDS
LOOP 18	1,187 SF (0.026 ACRES)	WOODY RIPARIAN WETLANDS
LOOP 19	2,004 SF (0.046 ACRES)	WETLANDS
LOOP 20	470 SF (0.011 ACRES)	WETLANDS
LOOP 21	2,544 SF (0.058 ACRES)	WOODY RIPARIAN WETLANDS
LOOP 22	168 SF (0.004 ACRES)	WOODY RIPARIAN WETLANDS
LOOP 23	333 SF (0.008 ACRES)	WOODY RIPARIAN WETLANDS
LOOP 24	47,008 SF (1.074 ACRES)	WETLANDS
LOOP 25	255 SF (0.006 ACRES)	WETLANDS
LOOP 26	1,133 SF (0.026 ACRES)	WETLANDS
LOOP 27	988 SF (0.022 ACRES)	WATERS & WETLANDS
LOOP 28	1,128 SF (0.026 ACRES)	WOODY RIPARIAN WETLANDS
LOOP 29	1,400 SF (0.032 ACRES)	WETLANDS
LOOP 30	2,833 SF (0.065 ACRES)	WOODY RIPARIAN WETLANDS
LOOP 31	1,400 SF (0.032 ACRES)	WETLANDS
LOOP 32	4,887 SF (0.111 ACRES)	WATERS OF THE U.S.
LOOP 33	1,304 SF (0.029 ACRES)	WATERS OF THE U.S.
LOOP 34	1,014 SF (0.023 ACRES)	WATERS OF THE U.S.
LOOP 35	4,143 SF (0.094 ACRES)	WOODY RIPARIAN WETLANDS
LOOP 36	146 SF (0.003 ACRES)	WATERS & WETLANDS
LOOP 37	77,570 SF (1.763 ACRES)	WETLANDS
LOOP 38	833 SF (0.019 ACRES)	WATERS OF THE U.S.
LOOP 39	7917 SF (0.173 ACRES)	WATERS OF THE U.S.

TOTAL AREA, WATERS & WETLANDS 61,343 SF (1.372 ACRES)
TOTAL AREA, WOODY RIPARIAN WETLANDS 43,770 SF (1.008 ACRES)
TOTAL AREA, WETLANDS 183,983 SF (4.233 ACRES)
TOTAL AREA, WATERS OF THE U.S. 35,013 SF (0.800 ACRES)

GRAND TOTAL, WATERS OF THE U.S., INCLUDING WETLANDS, 309,851 SF, 7.113 ACRES

Plant Species:
Mimulus guttatus
Salix lasiolepis
Scirpus microcarpus

Plant Species:
Salix lasiolepis
Scirpus californicus
Scirpus microcarpus

Plant Species:
Scirpus microcarpus
Potentilla anserina ssp.
pacifica

Plant Species:
Salix lasiolepis

Plant Species:
Scirpus microcarpus

Plant Species:
Salix lasiolepis

Plant Species:
Juncus balticus
Juncus effusus var. *brunneus*
Potentilla anserina ssp.
pacifica
Scirpus americanus
Scirpus californicus

Plant Species:
Salix lasiolepis



NO.	DATE	BY
1		
2		
3		

EXHIBIT NO. 8
APPLICATION NO.
1-95-59
SFGS restoration
area in relation to
the area wetlands.
California Coastal Commission

SCALE:
1"=400'

DRAWN BY:
REVIEWED BY:
CHECKED BY:

DATE ISSUED:
JOB NUMBER:

MAP OF WATERS OF THE U.S.
INCLUDING WETLANDS

CITY OF PACIFICA

WASTEWATER
TREATMENT PLANT-
CALERA CREEK SITE

SHEET 1 OF 2

CALERA CREEK WETLANDS RECLAMATION AND WATER RECYCLING PLANT

SCHEDULE

	RANGE	
	<u>Projected</u>	<u>Loan Limit</u>
<u>Combined Phase I and Phase II</u>		
Completion of 50% Plans and Specifications	11/1/95	
Planning Commission Review and Permit	11/6/95	
Value Engineering on 50% (Optional)	11/6/95	
Completion of 80% Plans and Specifications	12/1/95	
Value Engineering	12/14/95	
Biddability Review	12/11/96	
Submit Plans to State for Review	12/11/95	1/15/96
Advertise for Bids	2/7/96	6/15/96
State Approval of Plans and Specs	2/7/95	7/15/96
Execute Loan Contract Ammendment	2/15/96	2/30/97
State Approval to Award Contract	3/15/96	1/14/97
Award of Contract	3/15/96	1/14/97
Begin Excavation for the treatment plant	4/15/96	
Procure Wetlands Plants	4/15/96	
Begin Rough Grading for the wetlands	5/15/96	
Provide soil ammendment for wetlands	8/15/97 to 6/15/97	
Begin Fine Grading for the wetlands	7/15/97	
Wetlands planting	8/15/97 to 10/1/97	
Sumit final revenue plan	2/25/97	2/10/98
Complete Construction of Treatment plant	7/30/97	9/30/98
Divert existing Creek and Relocate Wetland Species	8/1/97 thru	8/1/98

December 12, 1995

EXHIBIT NO. 9

APPLICATION NO.
1-95-59

Implementation
schedule

 California Coastal Commission



IN REPLY REFER TO:

United States Department of the Interior

FISH AND WILDLIFE SERVICE

Ecological Services
Sacramento Field Office
2800 Cottage Way, Room E-1803
Sacramento, California 95825

RECEIVED
JAN 19 1996
CALIFORNIA
COASTAL COMMISSION

In Reply Refer To:
1-1-95-TA-301

January 12, 1996

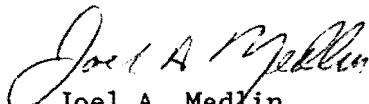
Mr. Jim Muth
Coastal Planner
California Coastal Commission
North Coast Office
45 Fremont, Suite 2000
San Francisco, California 94105-2219

Subject: Memorandum of Understanding Between the United States Fish and Wildlife Service and City of Pacifica

Dear Mr. Muth:


Enclosed is a copy of the Memorandum of Understanding (MOU) between the U.S. Fish and Wildlife Service (Service) and the City of Pacifica (City). The Service and the City will retain the originals. If you have any questions or concerns regarding the MOU or the proposed wetlands restoration project, please contact Ms. Kelly Geer of my office at (916) 979-2725.

Sincerely,


Joel A. Medlin
Field Supervisor

Enclosure

cc: ARD, Klamath and California Ecoregions, Region 1, Portland, Oregon
Patricia Anderson, CDFG
Lindon Lee, L.C. Lee and Associates, Inc.
Scott Holmes, City of Pacifica

EXHIBIT NO. 10
APPLICATION NO. 1-95-59
Agreement between the City of Pacifica and the U.S.F.&W.S.
 California Coastal Commission

MEMORANDUM OF UNDERSTANDING
BETWEEN THE
UNITED STATES FISH AND WILDLIFE SERVICE
AND
CITY OF PACIFICA

Article I. Background and Objectives

This Memorandum of Understanding is entered into between the United States Fish and Wildlife Service (USFWS) and the City of Pacifica (City), herein referred to as the Parties, to achieve compliance with California Coastal Commission Restoration Order No. R09502 (attached as Exhibit A). This Memorandum of Understanding is entered into under the authorities of the Endangered Species Act of 1973, as amended, and other applicable laws and regulations.

In Restoration Order No. R09502, the California Coastal Commission ordered William F. Bottoms and Mary A. Bottoms (Bottoms Family 1989 Trust) to restore and provide for the long-term monitoring and maintenance of previously damaged endangered species habitat, including: (1) restoration of damaged ponds and vegetation; (2) long-term monitoring and maintenance of restored areas; and (3) management of restored areas as habitat for the San Francisco garter snake and the red-legged frog. The City has subsequently assumed responsibility for the above-described restoration and maintenance of the damaged habitat.

By this Memorandum of Understanding, the USFWS and the City agree to cooperate to fulfill the above-described restoration and maintenance activities.

Article II. Statements of Work

The parties agree to the following procedures:

- A. United States Fish and Wildlife Service shall contact the City twenty-four (24) hours in advance of any site visits. The USFWS shall make all inspection records and reports pertaining to the site available to the City upon request.

- B. The City of Pacifica shall allow the USFWS access for site visits and species trapping upon twenty-four (24) hours notice. The City shall allow Fish and Wildlife Service the right to restock with San Francisco garter snakes the ponds and habitat located on parcel 018-150-040. The City shall provide USFWS with the monitoring reports as described in the Monitoring Plan (Exhibit A).

This Memorandum of Understanding shall be effective when signed by both parties and shall remain in effect as needed for up to ten (10) years from that date. The Memorandum of Understanding is subject to renewal by mutual agreement for a longer period of time.

Nothing in this Memorandum of Understanding is intended to abrogate the responsibility of the City or the USFWS in complying with the provisions of the Endangered Species Act, the Clean Water Act, or other applicable laws and regulations.

Article IV. Designated Officials

The designated contact person for the USFWS is: Alison Willy.

The designated contact person for the City of Pacifica is: Scott Holmes, Director of Public Works.

Article V. Reports

The Monitoring Plan and reporting requirements are provided in Exhibit A. The Pond and Habitat Design is attached as Exhibit B.

Article VI. Termination

Termination of this agreement by either party requires written notification to the other that such a measure is being considered, and a meeting within thirty (30) days of such notification will be held to informally address all concerns raised. If resolution of the concerns cannot be negotiated, then the party wanting to terminate this Memorandum of Understanding must provide written notice within sixty (60) days following the meeting stating the reasons why this agreement is being dissolved.

Article VII. Amendments

The USFWS and the City may review, and if mutually agreed, amend this Memorandum of Understanding.

Article VIII. Required Clauses.

During the performance of this Memorandum of Understanding, the participants agree to abide by the terms of Executive Order 1126 on non-discrimination and will not discriminate against any person because of race, color, religion, sex or national origin. The participants will take affirmative action to ensure that applicants are employed without regard to their race, color, religion, sex or national origin.

No member or delegate to Congress, or resident Commissioner, shall be admitted to any share or part of this agreement, or to any benefit that may arise therefrom, but this provision shall not be construed to extend to this agreement if made with a corporation for its general benefit.

IN WITNESS WHEREOF, each party hereto has caused this Memorandum of Understanding to be executed by an authorized official on the day and year set forth opposite their signature.

FIELD SUPERVISOR
UNITED STATES FISH AND WILDLIFE SERVICE

Joel A. Medlin
(Signature)

1/18/96
(Date)

CITY MANAGER
CITY OF PACIFICA

Charles English
(Signature)

12-8-95
(Date)

CONCUR.

CALIFORNIA COASTAL COMMISSION

MONITORING PLAN FOR THE DEPRESSIONAL WETLAND AREAS CONSTRUCTED FOR SNAKE HABITAT, CALERA CREEK WETLAND RESTORATION, CITY OF PACIFICA, CALIFORNIA

I. Project Background

A. Overview of Proposed Project

The City of Pacifica proposes to construct a wastewater treatment plant, associated digester, filters, and sludge handling building on a parcel of land that has supported quarrying activities for over a century. In conjunction with the construction, the City proposes to relocate Calera Creek, presently a ditched stream on the former quarry site, and restore a riparian zone and associated riverine and depressional wetlands. Broadly speaking, the design calls for a creek alignment and structure that more closely approximates a natural stream course and mosaic of forested, scrub-shrub, and emergent wetlands to flank the stream. An additional portion of the stream/wetland corridor is designed to serve as created habitat for the endangered San Francisco garter snake (*Thamnophis sirtalis tetrataenia*). The monitoring plan described below addresses those monitoring activities associated only with the creation of depressional wetland areas to serve as habitat for the San Francisco garter snake and its prey species.

The restored snake habitat is designed to be an integral part of the Calera Creek Wetland Restoration project (see Figure 1). The snake habitat area within this larger project is comprised of two ponds and 100-foot buffer outward from the ponds. Monitoring the development of the snake habitat will constitute one component of the monitoring for the entire Calera Creek Wetland Restoration Project. Data being collected for the Calera Creek Wetland Restoration Project will also apply to the snake habitat.

B. Location of Project and General Site Description

The City of Pacifica is located on the Pacific Coast side of the San Francisco Peninsula, three miles south of the City of San Francisco in San Mateo County. The City is bounded by three ridges of the Central Coast Ranges on the east, and by the Pacific Ocean on the west. The City is comprised generally of secluded valleys and open hillsides set against a coastline of long beaches and rugged headlands.

The proposed Calera Creek wastewater treatment plant site is a large (60 acres) and complex site bounded by Mori Point Ridge on the northwest and north, old railroad fill bank on the northeast, Cabrillo Highway (Route 1) on the east and southeast, Rockaway Beach District on the south, and the Pacific Ocean on the west. The lower Calera Creek Valley is approximately one-half to one and one-half miles south southwest of the Sharp Park area, within the northeast portion of Township 4 South, Range 6 West.

Calera Creek currently is an intermittent stream that drains a basin of approximately 1,048 acres (1.64 square miles) and discharges into the Pacific Ocean north of Rockaway Beach. The average annual flow of the creek is 2.33 ft³ (cfs) at the project site. It is a third to fourth order stream set in a valley characterized by steep coastal hills, transitional footslopes, alluvial terraces and valleys, marine terraces, mudflats, dunes, and ocean beaches.


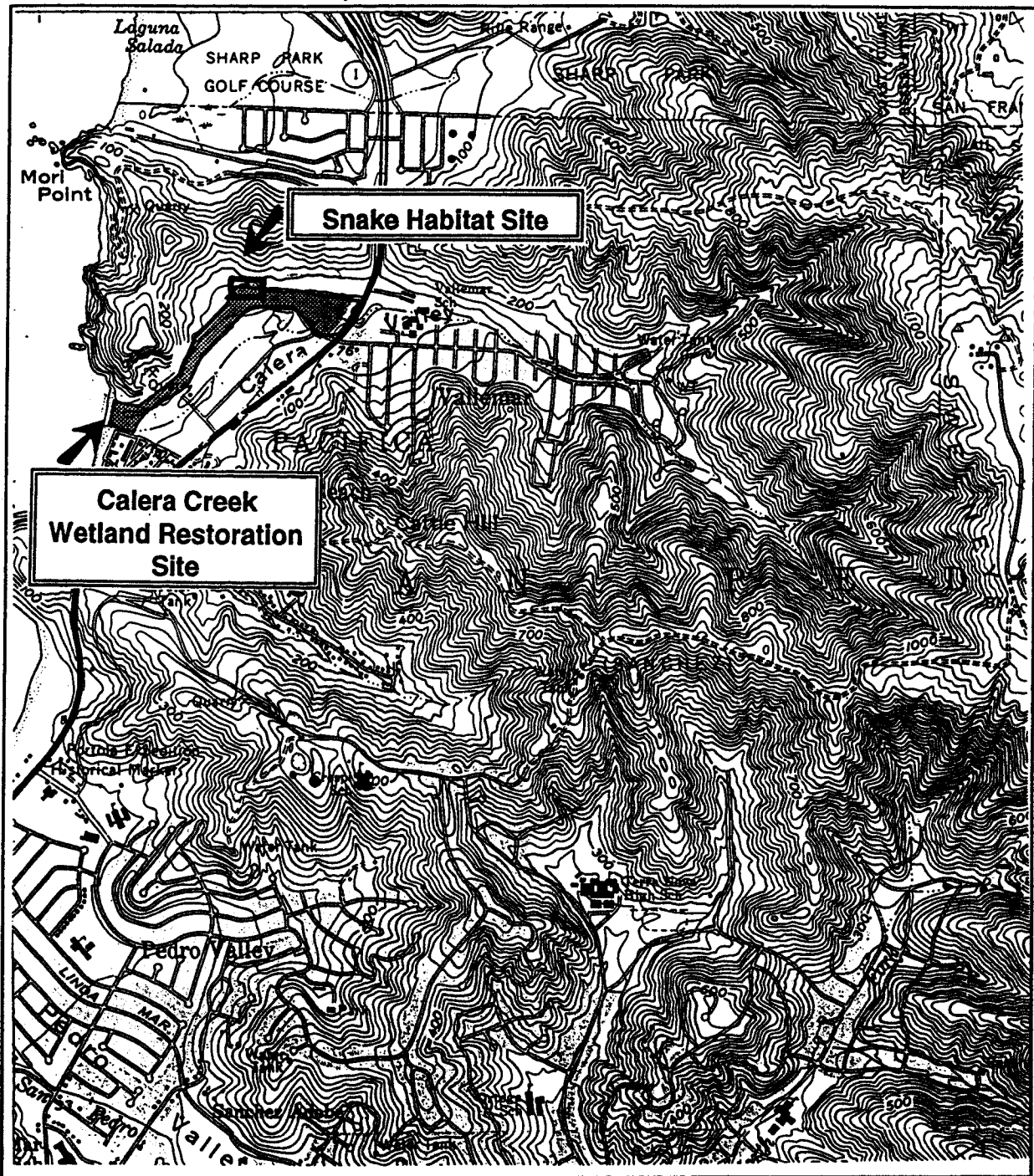
EXHIBIT NO. 11
APPLICATION NO. 1-95-59
Monitoring plan for wetlands
 California Coastal Commission

Figure 1. Location of Snake Habitat Restoration Area at Calera Creek Wetland Restoration Project



U.S. Geological Survey, Montara Mountain, Calif. 1956, Photorevised 1980

Scale 1" = 2000' NORTH ↑

C. History of Project

The City of Pacific currently is under a Cease and Desist Order from the Regional Water Quality Control Board (RWQCB) to abate water quality violations caused by overloading the existing wastewater treatment plan. The City discharges effluent to the Pacific Ocean through an outfall at Santa Rosa Pier under the present system. Existing wastewater facilities for the incorporated City of Pacifica have experienced many design and operational problems over the last 20 years. In 1981, the State District Court forced the City to make improvements to bring the plant into compliance and evaluate the plant's actual capacity. The plant is incapable of treating peak flows. Even during normal flows, project growth in the City of Pacifica cannot be accommodated by the current facilities.

The City screened six alternative wastewater treatment projects with respect to their capital and annual costs. The apparent best alternative is to construct a sequenced batch reactor (SBR) and tertiary units in the northeast end of the quarry. The quarry site currently is owned by the Bottoms Family Trust; William Bottoms, the trustee, has indicated his willingness to exchange a portion of this property for services and agreements that the City can provide him -- i.e., to prepare a portion of the site for development and to assume his obligation for restoring the endangered San Francisco garter snake habitat that was destroyed in 1989. The City is currently negotiating for the purchase and exchange of a portion of the Bottoms' property.

II. Monitoring Methodology: The Hydrogeomorphic Approach

Monitoring will be based on the hydrogeomorphic (HGM) approach developed for depressional wetland ecosystems by a national team of wetland scientists. The HGM approach is founded upon recognition of differences among hydrologic and geomorphic characteristics of various classes of wetland ecosystems and the use of reference systems as the basis for assessing changes in the functioning of wetlands. HGM classifies wetlands based on their (a) geomorphic setting (landscape position), (2) water source and transport, and (3) hydrodynamics (direction of flow and strength of water movement).

Under the hydrogeomorphic approach, wetlands in a geographic region are assigned to classes based upon their hydrologic and geomorphic character (Brinson 1993). Once the class of a wetland has been established (e.g., depressional, riverine, slope, fringe, etc.), under the HGM approach it is necessary to sample other wetlands in the region that belong to this same class. A team of knowledgeable wetland scientists collects data on four groups of wetland functions: hydrology, biogeochemistry, plant community maintenance, and habitat/faunal community maintenance. These data then comprise the "reference framework" that provide the range of conditions for the wetland class in question. Hydrogeomorphic assessments are restricted to only those functions operating in a specific wetland class.

From data collected at reference sites, it is possible to develop wetland functional profiles and use them as templates for project standards and in wetland design. Changes in wetland functions from one condition to another (e.g., pre-project to post-project) are quantifiable because direction and/or degree of change from the reference state is the fundamental metric (Brinson 1993; Brinson et al. 1994; LCLA 1994, 1995).

At each reference site, the team of wetland scientists uses best professional judgement to determine whether or not the site being sampled is an "attainable reference", a term meaning the highest level of ecosystem functioning possible for a wetland class within the constraints of disturbance history and land use of the reference domain. By defining attainable reference conditions, the HGM assessment method provides decision-makers with explicit, measurable conditions that are possible to achieve in a wetland restoration. Thus wetland restoration designers and those who monitoring the restoration are able to see clearly the differences

between attainable and current conditions, both pre-project and post-project. A thorough description of the HGM functional assessment as the basis for the design of the restored wetlands and riparian habitat for the Calera Creek Wetland Restoration Project is found in L.C. Lee & Associates, Inc. (1995).

II. Project Goals, Objectives, and Project Success Standards

The primary project goal of the wetland restoration project at Calera Creek addressed herein is to restore habitat for the San Francisco garter snake and its prey species by constructing depressional wetlands as part of a larger Calera Creek Wetland Restoration. Construction of these depressional wetlands, "snake ponds", is intended to contribute to increased wetland functions on the Calera Creek restoration site. Specific criteria for construction of the snake habitat, as articulated by the California Coastal Commission in its Restoration Order (RO9502), are as follows:

- a. Construct habitat pond or ponds not less than 4200 square feet in total area with depth of the ponds ranging from 2.5 feet in the inshore zone to 5 feet in the center.
- b. Provide and maintain a water source for the ponds capable of supplying sufficient water levels to maintain viable populations of the Red-legged frog (*Rana aurora draytonii*) and Pacific tree frog (*Hyla regilla*).
- c. Provide a 100-foot buffer between the margins of the ponds and the nearest development.
- d. Around the margins of the ponds, plant native wetland and upland vegetation comprised of a species mix and density suitable to provide foraging habitat and protective cover for the San Francisco garter snake, the Red-legged frog, and the Pacific tree frog.
- e. Stock the restored habitat with the Red-legged frog.
- f. Provide control measures adequate to prevent introduction of species which prey on the San Francisco garter snake or the Red-legged frog.

In this monitoring plan, hydrologic, biogeochemical, vegetation, and faunal support/habitat parameters are included as monitoring foci because they are the wetland "functions" or major normal activities that wetland ecosystems perform. They have direct bearing on maintaining the specified depressional wetland habitat for the San Francisco garter snake and Red-legged frog.

A. Primary Project Goal: Increase wetland functioning at the constructed Snake Ponds at the Calera Creek Wetland Restoration site to conditions within 75% to 100% of reference standards, as measured by HGM protocol.

A.1. Objective: Create two depressional wetlands as specified by the Coastal Commission Restoration Order (RO9502), and by planting and maintaining native wetland and riparian plant species within 100 feet of the ponds.

A.1.a. Project Success Standard: The hydrology, biogeochemistry, plant community maintenance, and habitat/faunal support wetland functions shall increase to 75% - 100% of those existing at the attainable reference standard sites, as measured by data obtained during the monitoring period. Reference standards are defined as those conditions exhibited by a group of reference wetlands that correspond to the highest level of functioning (highest sustainable

capacity) across the suite of wetland functions.

III. Hydrology: Goals, Objectives and Project Success Standards

Maintenance of a constant water supply of water will be important to the three species whose habitat has been targeted for restoration at Calera Creek (i.e., *Thamnophis sirtalis tetrataenia*, *Rana aurora draytonii*, and *Hyla regilla*). Water in the snake ponds will be pumped from the SBR to achieve the project standard of a 5' depth at the center of the ponds, and to support an area 2.5' deep along their edges. A fluctuation of 20 percent from this standard will be considered acceptable. Hydrology project standards should be reached within the first year after construction.

A. Goal H1. Establish two depressional wetlands as snake habitat with a hydrologic regime characteristic of depressional wetlands, as measured by HGM protocol, to within 75% to 100% of reference standards.

A.1. Objective H1: Construction of two ponds with a central depth of 5' depth and edge depth of 2.5', with a total area not less than 4200 square feet.

A.1.a. Project Success Standard H1: Ponds must maintain a 5' depth at their deepest point and 2.5' at their margins, on average, over the monitoring period.

A.2. Objective H1: Increase low vegetation roughness. This can be achieved by the planting of appropriate native species along the pond shorelines and within 100 feet of the depressional wetlands.

A.2.a. Project Success Standard H1: Increased low vegetation roughness will increase to within 75% to 100% of the conditions found at the reference standards as determined by the HGM functional assessment protocol.

B. Goal H2. Increase long term surface water storage at the Calera Creek site from present condition to within 75% to 100% of reference standards

B.1. Objective H2: Increase the opportunity for long term surface water storage by the construction of two ponds with a central depth of 5' depth and edge depth of 2.5' as articulated by the California Coastal Commission in its Restoration Order (RO9502)

B.1.a. Success Standard H2: Increased long term surface water storage can be achieved by the creation of two depressional wetlands with a permanent water to a depth of 5' at the pond center, on average, over the monitoring period.

III. Biogeochemistry: Goals, Objectives and Project Success Standards

The City of Pacifica will monitoring snake ponds to determine the suitability of the water as habitat for the Red-legged frog and Pacific tree frog. The project standard for water quality at the depressional wetland area constructed for snake habitat is to provide optimum conditions for support of the target species.

Ponds will be filled and allowed to stand for one to two field seasons. Water quality parameters will be sampled twice a year during the initial 2-year period while the ponds are filled and before

any animal species are introduced to the system. Project standards for year 3 will be set based on water quality data collected during the first two field seasons after construction of the snake ponds.

A. Goal B1. Increase nutrient cycling from present condition in Calera Creek to within 75% to 100% of reference standards.

A.1. Objective B1: Net primary productivity and detrital turnover shall increase from its current condition.

A.1.a. Project Success Standard B1: Net primary productivity and detrital turnover shall increase from its current condition (zero) to those conditions within 75% to 100% of those conditions described by reference standards.

B. Goal B2. Increase the removal of elements and compounds from present condition in Calera Creek to within 75% to 100% of reference standards.

B.1. Objective B2: Increase microtopographic complexity, vegetation biomass and roughness, and increase organic matter of soils from those of existing conditions. This can be accomplished by the planting of native species, application of farmed topsoil, and the establishment of micro- and macro-depressions in the adjacent wetland and riparian habitats.

B.1.a. Project Success Standard B2: Net primary productivity and detrital turnover shall increase from its current condition to 75% to 100% of those conditions described by reference standards.

C. Goal B3. Increase the retention of particulates from present condition in Calera Creek to within 75% to 100% of reference standards.

C.1. Objective B3: Increase microtopographic complexity and vegetation roughness from those of existing conditions.

C.1.a. Project Success Standard B3: Microtopographic complexity and vegetation roughness shall be increased from existing conditions to 75% to 100% of those conditions described by reference standards.

IV. Plant Community Maintenance: Goals, Objectives and Project Success Standards

The City of Pacifica will monitor several vegetation parameters at the depressional wetland area constructed for snake habitat. to determine the survival and growth rates of the vegetation planted in the restored area, percent cover of target plant species will be measured by plant polygon at the same time. Presence or absence of volunteer native and/or exotic species and percent cover of exotic species will be measured.

Project standards for plant community functions at the restoration site were established based on advice from San Francisco garter snake experts (e.g., Dr. Samuel McGinnis, California State University, Hayward [1993]), and data collected from reference standard wetlands along the central California coast (L.C. Lee & Associates, Inc. 1995). The project standard after 10 years it 75% to 100% of the reference standards.

A. Goal P1: Maintain the composition of the plant species to species characteristic of coastal watersheds within the Central Coast of California, as measured by the reference standards.

A.1. Objective P1: Plant native species along the shoreline of the depressional wetlands and within the 100' buffer; implement an aggressive weed control strategy.

A.1.a. Project Success Standard P1: Snake pond habitat shall maintain the plant species composition similar in characteristic to depressional wetlands within the Central California coastal watersheds as determined by the reference wetlands. Snake habitat shall support between 75% to 100% of the same flora as reference wetlands as measured by species composition, canopy coverage, and plant height.

V. Habitat/Faunal Community Maintenance: Goals, Objectives and Project Success Standards

A. Goal H/F1. Increase spatial habitat structure for wildlife from its present condition in Calera Creek to within 75% to 100% of reference standards.

A.1. Objective H/F1: Plant native species of different life forms and growth morphologies (e.g., trees, shrubs, graminoids, forbs) that are similar in characteristic to depressional wetlands within the Central California coastal watersheds as determined by the reference wetlands.

A.1.a. Project Success Standard H/F1: Snake habitat shall support between 75% to 100% of the same flora as reference wetlands as measured by species composition, canopy coverage, and plant height.

B. Goal H/F2. Increase interspersions and connective of wildlife habitat from present condition in Calera Creek to within 75% to 100% of reference standards.

B.1. Objective H/F2: Plant native species beyond the 100' buffer that are consistent with the habitat needs of the three target wildlife species for the restoration.

B.1.a. Project Success Standard H/F2: Snake habitat and the adjacent wetland and riparian stream corridor of Calera Creek shall support between 75% to 100% of the same flora as reference wetlands as measured by species composition, canopy coverage, and plant height.

C. Goal H/F3. Increase distribution and abundance of aquatic and wetland-dependent invertebrates from present condition in Calera Creek to within 75% to 100% of reference standards.

C.1. Objective H/F3: Abundance and diversity of aquatic and wetland invertebrate taxa will be adequate to support the stocked populations of Red-legged frog and Pacific tree frog.

C.1.a. Project Success Standard H/F3: Populations of Red-legged frog and Pacific tree frog will be documented during the monitoring period.

D. Goal H/F4. Increase distribution and abundance of target native aquatic and wetland-dependent vertebrate taxa, i.e., Red-legged frog, Pacific tree frog, and if found, San Francisco garter snake, from present condition in Calera Creek to within 75% to 100% of reference standards.

D.1. Objective H/F4: Abundance of the stocked populations of Red-legged frog and existing Pacific tree frog shall be within 75% to 100% of reference standards by the end of the monitoring period.

D.1.a. Project Success Standard H/F4: Abundance of the stocked populations of Red-legged frog and existing Pacific tree frog shall be within 75% to 100% of reference standards.

VI. Monitoring Methods

A. Hydrology

Permanent staff gauges will be installed in each pond to facilitate monitoring of water levels. During the first year after construction, the City of Pacifica will monitor water levels weekly. After the first year, water levels will be monitored at least once each season or as appropriate to maintain the specified pool elevataion. In addition, outline pipes will be regularly checked to ensure that the valves are working properly and that all pipes are free of debris.

B. Biogeochemistry

The City will use (1) water chemistry data describing the outfall from the SBR that feeds the snake ponds, and (2) water quality data from the snake ponds to determine project standards for water quality. The water parameters below were chosen as indicators of the health of the system. Water quality parameters will be sampled twice a year, in spring and fall, but not following storm events. A water quality monitoring point will be established in each pond. The following parameters will be analyzed using standard techniques:

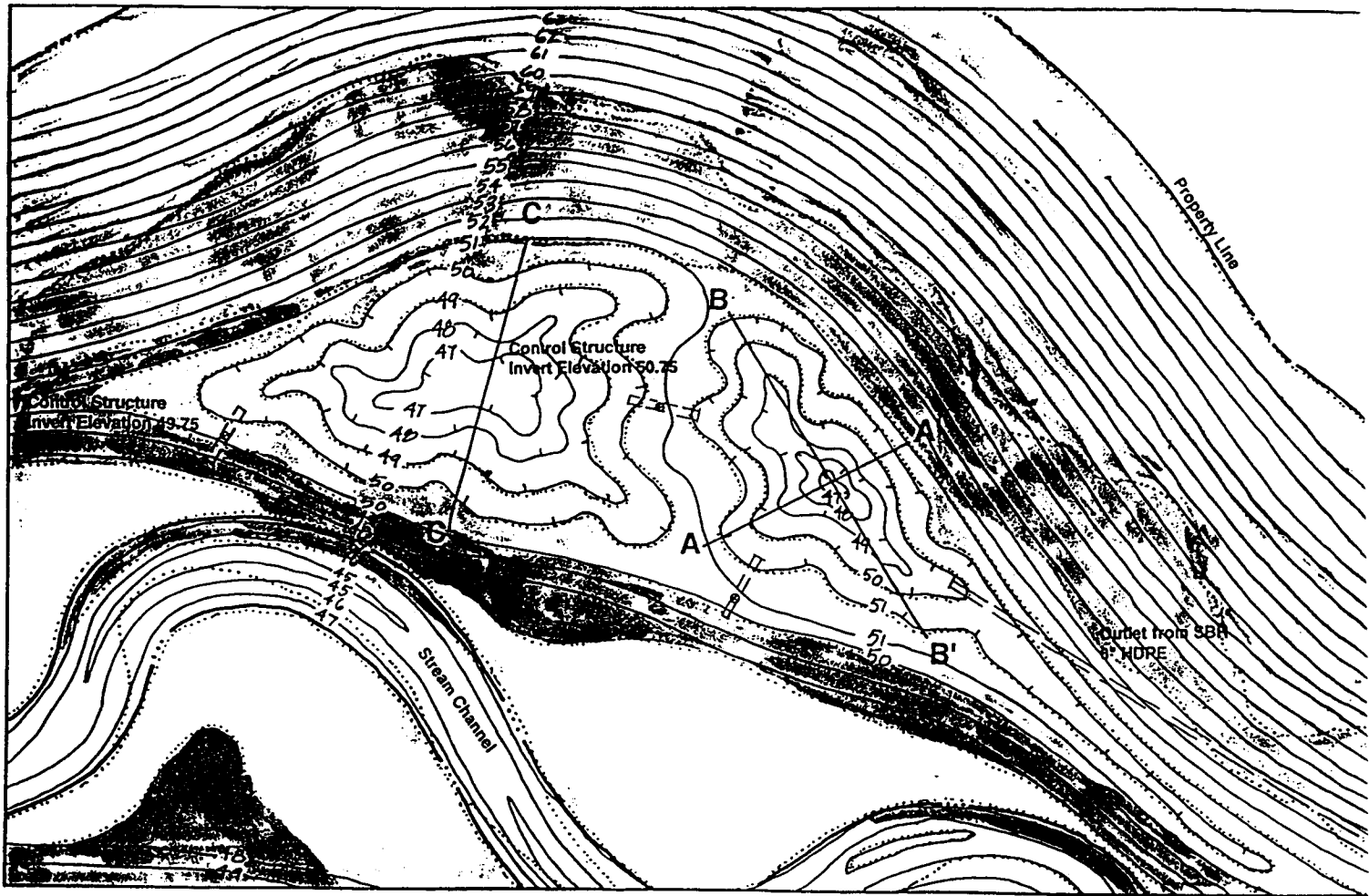
pH
Total Suspended Solids
Total Kjeldahl Nitrogen
Total Phosphorus
Fecal Coliform
Total Organic Carbon
Dissolved Organic Carbon
Dissolved Oxygen
Temperature

C. Plant Community Maintenance

Species composition, percent canopy cover, height, and distribution of fine and coarse woody debris will be measured at permanently established vegetation plots located in each community type with the snake pond habitat and buffer zone. Vegetation plots will be established by a minimal area nested plot technique. Within the larger radius of each plot, all woody species will be sampled for height and percent cover. The locations of all planted woody stock within the plot will have been mapped for the "as-built" report. Within the smaller radius, the dominant herbaceous species will be sampled for height and percent cover. Distribution of fine and coarse woody debris and leaf litter will be sampled by visual estimate.

Snake ponds are designed to maintain an unvegetated open water area (Figure 2). During vegetation monitoring the percent of each pond surface that is vegetated will be estimated by visual survey, supplemented by determination of vegetation cover along each of two pond transects established for hydrologic monitoring.

Figure 2. Snake Habitat Site



SCALE 1" = 40' North ↑

Planting Zone Key

 Palustrine Forest I
Riparian Corridor

 Palustrine Forest II
Point Bar

 Palustrine Scrub-Shrub I
Riparian Corridor

 Palustrine Scrub-Shrub II
Stream Terrace

 Palustrine Emergent V
Snake Ponds

 Palustrine Emergent VII
California Bulrush Zone

 Upland Community I
Coastal Scrub

 Upland Community II
Coastal Prairie

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In addition to data on species composition, canopy cover, and height sampled at vegetation plots, permanent photopoints will be used to record vegetation development over time. Photo points will be established at six locations, 3 per pond, associated with plant sampling plots. All plant community types designed to be snake and frog habitat will be represented in the photographic documentation. Overview photographs of the mitigation site will be taken from two vantage points located on adjacent hillslopes. Representative photographs from each planting zone and multi-year sequences from permanent photo points will be included in the annual reports, as appropriate.

D. Habitat / Faunal Support

Monitoring procedures for the target frog species will include weekly egg mass counts and nightly spotlight counts of adult frogs during February and March. During April and May, dip net samples will be implemented for tadpoles and counts, and population estimates of metamorphosed young of both frog species will occur during July through August.

Pacific tree frog will be sampled using a meter square along the shoreline and observing and counting individuals McGinnis (1995). Red-legged frog juveniles will be sampled by "plop counts" McGinnis (1995).

Monitoring for the presence of the San Francisco garter snake will be accomplished by a qualified herpetologist. In the Spring, low drift fences with California Department of Fish and Game funnel traps at each end will be installed at various angles to the pond edges. Traps will be checked daily and all garter snakes, if found, will be identified, measured, weighed, sexed, and marked by clipping the edge of a specified ventral scale. A general monitoring plan for both the snake and the two frog species is included as Attachment A.

VII. Monitoring Schedule

A proposed monitoring schedule is shown in Table 1. Monitoring shall commence when the construction of the snake habitat and adjacent wetland and riparian habitats are determined to be complete by the chief project engineer. This time shall be designated "Time Zero." Therefore, the first sampling effort will be a full "as-built" assessment of the site, including establishment and initial characterization of the permanent sampling points to be used during the monitoring period. An "as-built" report will be submitted to the California Coastal Commission within 6 months of completion of the wetland restoration.

Along with the reference standards (see L.C. Lee & Associates, Inc. 1995), the baseline report will serve as platform against which future monitoring conditions will be compared. Monitoring is complete when the stipulated time interval lapses, and/or it can be shown that the project targets have been met. In the event of implementation of contingency measures, and depending on specifically what these measures are, monitoring may or may not extend beyond the required interval.

During the first year after completion of construction and prior to stocking the snake habitat with Red-legged frogs, monitoring for hydrology, pond stability, and water quality functions will occur on a twice-yearly basis. After hydrologic, pond stability, and biogeochemical parameters are determined to be suitable for survival of the target animal species, monitoring will occur twice yearly. During the first full growing season after construction, plant community monitoring will take place. During the first full growing season after construction, plant community monitoring will take place twice. Thereafter, plant community data will be collected on an annual basis.

After stocking of the depressional wetlands with Red-legged frog egg-masses occurs in year three, the Red-legged frog populations will be monitored four times per year (Feb, March - April,

July, August - September), and the San Francisco garter snake will be surveyed yearly in the spring of each year beginning year 4 (i.e., the year following the stocking of the ponds).

Table 1. Proposed Schedule for Monitoring Restored Snake Habitat at Calera Creek Wetland Restoration Site.

<u>Parameter to be Monitored</u>	<u>FREQUENCY</u>		
	<u>As Built</u>	<u>First Year</u>	<u>Second and Succeeding Years</u>
HYDROLOGY			
Water Level (staff gauge)	Once	Weekly	Twice/ year
POND STABILITY			
Pond Morphology	Once	Once/ year	Once/ year
WATER QUALITY			
pH			
Total Suspended Solids	Once	Twice/ year	Twice/ year
Total Kjeldahl Nitrogen	Once	Twice/ year	Twice/ year
Total Phosphorus	Once	Twice/ year	Twice/ year
Fecal Coliform	Once	Twice/ year	Twice/ year
Total Organic Carbon	Once	Twice/ year	Twice/ year
Dissolved Organic Carbon	Once	Twice/ year	Twice/ year
Dissolved Oxygen	Once	Twice/ year	Twice/ year
Temperature	Once	Twice/ year	Twice/ year
PLANT COMMUNITY			
Species composition, % Canopy	Once	Twice/ year	Once/ year
Cover, Height, Presence of Debris			
Vegetated Area of Ponds	Once	Twice/ year	Once/ year
Vegetation Development Over Time	Once	Twice/ year	Once/ year
HABITAT / FAUNAL SUPPORT			
Red-Legged Frog Populations	--	--	Four times/year
San Francisco Garter Snake Populations	--	--	Once/year
Pacific Tree Frog Populations	--	--	Four times/year

VIII. Submittal of Monitoring Reports

An annual monitoring report summarizing findings and recommendations will be prepared and submitted to the U.S. Army Corps of Engineers, San Francisco District, the Executive Director of the California Coastal Commission, the California Department of Fish and Game, and the U.S. Fish and Wildlife Service. Monitoring will provide annual feedback regarding progress of the proposed mitigation site toward the project targets. This feedback will clearly illustrate any problems or deficiencies in the implementation of the mitigation plan and trigger contingency measures.

IX. Contingencies Measures

Contingency plans may be triggered based on a failure to meet project standards during the monitoring effort. If contingencies are triggered, federal, state and local agencies will be notified in the annual report. The effectiveness of contingency measures will be incorporated into subsequent monitoring reports. The City of Pacifica will be the responsible party for the implementation of all contingencies.

A. Hydrology

If water levels vary more than 20% from the project standards, closer monitoring of input to ponds and outflow of ponds will be instituted to determine the source of variation. Appropriate measures will be taken to control the cause of variation. If ponds are compromised by extremely high flows, banks will be reconstructed and reinforced, as necessary.

B. Biogeochemistry

If monitoring water quality parameters indicates that measured metrics exceed target conditions, immediate consultation with responsible agency representatives will be scheduled to review the monitoring data and develop practicable strategies for achievement of water quality goals (e.g., vary rate of flow through the ponds).

C. Plant Community Maintenance

In the event that weed populations threaten to outcompete planted stock, several strategies will be considered and the most efficient and least damaging strategy for maintenance of habitat will be employed. Strategies include, but are not limited to (1) mechanical removal by hand or "weed wackers", (2) increased use of mulch or weed barriers, and (3) selected applications of EPA-approved herbicides by a professional applicator. If canopy coverage of weeds becomes greater than 10% and is below 25%, the City will implement mechanical weed removal such as hand pulling, hoeing, or use of weed wackers. If weed canopy coverage reaches 25% to 50% of exotic weeds, the City of Pacifica shall combine spot application of EPA-approved herbicides with mechanical weed removal as described above.

If plant mortality indicates project standards will not be met, a replanting program will be developed, submitted for agency review, and pending approval, implemented.

If herbivory of planted species threatens the establishment and survival of plants, the City of Pacifica will take steps to control the agents of herbivory through trapping or other control measures.

Fire will be controlled on the Calera Creek Wetland Restoration site during the first five years after the construction is complete. After the fifth year, fire will be allowed to occur if such management is consistent with the City of Pacifica's fire management plans.

D. Faunal Habitat

Successful restoration of habitat is closely tied to development of hydrologic and plant community functions. Contingency measures for habitat will depend on the parameter that is in question. These contingencies are addressed under hydrology and plant community

maintenance in this section.

X. Literature Cited

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ATTACHMENT A:

**McGinnis, S. M. 1995. *A restocking and monitoring plan for the new San Francisco garter snake and California frog mitigation ponds to be constructed at the Quarry Site, Pacifica, California.* Consultant's report submitted October 9, 1995.
Manteca, California**

EXHIBIT NO. 12

APPLICATION NO.
1-95-59

Restocking and
monitoring plan for
SFGS habitat area

 California Coastal Commission

Wetlands Monitoring
Plans

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October 9, 1995

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10-13-95

SUBJECT: A restocking and monitoring plan for the new San Francisco garter snake and California red-legged frog mitigation ponds to be constructed at the Quarry Site, Pacifica, California.

1. Restocking Plan

California Red-legged Frogs

Restocking the California red-legged frog (RLF) at the new pond sites should not be attempted until both the aquatic and shoreline vegetation complexes are well established. Proper selection of fast growing sedges, reeds, and wetland forbs should produce an adequate shoreline cover stand in about two years. This is important because the RLF is a shoreline forager on insects and other soil surface invertebrates. It is a lie-in-wait predator which sits motionless in the sun/shade mosaic created by moderately dense shoreline vegetation waiting for prey items to pass by. At the same time it is also highly dependent of the vegetation cover for protection against its own predators such as herons, egrets, and, of course, snakes. I have personally witnessed the demise of a once thriving RLF population at a pond where intense cattle grazing removed essentially all shore vegetation in just a few years. The first part of the pond monitoring program should therefore be directed towards making a sound biological decision as to when this new habitat is ready for the initial RLF stocking.

Because most ranid frogs are notorious wanderers, it would be wise to use only a small number of adults in the restocking effort and instead rely mainly on the introduction of a good number of tadpoles in each pond. If there does indeed exist a strong orientation to a home pond site and a drive to find same if transplanted, then the imprinting of the tadpoles to the new habitats should insure that they remain after metamorphosis. We may even want to transplant one or more complete egg masses to negate the possibility that imprinting to a home pond takes place during early larval life.

I have recently located an excellent source for RLFs for this particular restocking endeavor. Because of the concerns expressed by CDFG and USFWS that such programs maintain the genetic purity of each regional population, frogs from the greater Pacifica area should be used. The most logical source of RLFs would be the Sharp Park area. However, its RLF population was devastated in the late 1980 by the intrusion of sea water through the broken sea wall and into the Laguna Salada habitat. With the construction of the new sea wall, the RLF

population is slowly recovering and may be at sufficient levels to supply at least tadpoles for transplant.

Another Pacifica area source is the population of RLFs at two ponds on the Shamrock Ranch. I am currently monitoring these and have already observed a high degree of predation at one pond site due to an almost complete lack of shoreline cover in late summer and fall. Only by virtue of the presence of two large clumps of tule bulrush do these frogs survive here, and removal of a moderate number tadpoles, adults, and even eggs for restocking would simply be a minor substitute for the intense raccoon and heron predation which takes place here.

As for initial stocking numbers, I believe that a total of eight females and four males introduced at the new pond sites just before the winter dormancy period begins would be a good start. These individuals would hopefully choose winter retreats in or near the new pond sites and then emerge in early spring to spawn. In addition to this planned natural spawning, least two egg masses should then be introduced into each pond as soon as they are obtainable in early spring. Ideally, half should come from the Sharp Park area and half from the Shamrock Ranch ponds. This would then be followed by tadpole introductions of about 50 per pond as soon as they can be easily netted in mid-spring. By means of this three level stocking (eggs, larva, and adults), the various pitfalls which can occur in such an effort should be countered by at least one of the stocking methods.

The success of the initial stocking attempt should be monitored during biweekly pond visits. Those in May and June would be directed primarily to determining how well the tadpole crop is maturing. This should be done through both direct observation and careful sampling with dip nets. Shortly after RLF metamorphosis time in late July and August, the monitoring effort should be directed towards counting young of the year as they forage along the shoreline. Although young RLFs are usually hard to observe within the dense plant cover, most will retreat into the pond as an observer approaches. This is accomplished by usually one good leap which produces a very audible splash or "plop". The magnitude of such plops is far greater than that which could be produced by adult Pacific tree frogs, the only other anurans which would presumably be present at the pond site. Thus the seemingly unscientific method of plop counting is actually a very accurate means of surveying young RLFs on a sunny, warm morning when basking and land foraging is in full progress.

Depending upon the success of the first year stocking program, a decision should then be made as to what extent a second year of stocking should be attempted. Because RLFs don't usually breed until their third year, another spring of egg and/or tadpole introduction may be advisable in order to prepare the best possible foraging conditions for the San Francisco garter snake (SFGS) as soon as possible. Of course while all of the RLF stocking effort is under weigh, the ubiquitous Pacific tree frog will rapidly establish itself as the other resident frog species with no help from us. Its presence is vital to the survival of the SFGS, not only as an alternate food for the adult snakes by as the only food that new born SFGSS will rigorously attempt to

catch and swallow. If all proceeds well, the new ponds with their young populations of the two frog species will be ready to receive SFGSSs between three and four years after they are filled.

San Francisco Garter Snake

The initial decision here is whether or not the new ponds would be colonized naturally by the SFGS. It is my professional opinion that they would not for the following reasons. First, I believe that the complete and rapid destruction of the original quarry ponds and adjacent section of the Calara Creek shoreline area resulted in the total demise of the SFGS population at this site. The combined facts that no suitable feeding habitat remained for this snake plus the lack of any captures during the two months of trapping in the Cal Trans right-of-way after the pond loss supports this belief. I also do not feel that the slowly recovering Sharp Park SFGS population will be at an appropriate level to stimulate wandering out of this home area for many years to come. Restocking with SFGSSs from other sites therefore appears to be the only way in which the end purpose for the new quarry pond mitigation effort can be achieved in the foreseeable future.

The major question posed by the decision to restock SFGSSs is where to obtain the specimens. As with the RLF, the Sharp Park habitat would be the most logical place if it had not been for the near loss of that population in recent years. As frog populations slowly recover at that site, it follows the SFGS should also come back, though at a much slower rate of recovery. This would be the only source of snakes which would be theoretically genetically identical to those lost at the original quarry ponds. A spring trapping survey should therefore be conducted in the area of the "horse stable pond" at the south border of Sharp Park on the year that the new ponds have achieved an established RLF population. The goal of such an effort will be to obtain one adult pregnant female to be transplanted to the new ponds along with one male plus a second pregnant female to be housed in captivity through the birth period. She will then be released back at Sharp Park but the young will be reared in captivity through the mid-fall period and then released into an artificial communal den site near the new ponds at the beginning of the winter hibernation period.

The rationale for this latter procedure is based on experiments in captive rearing of SFGSSs conducted at California State University, Hayward, which strongly indicated that the survival of new borne SFGSSs in the wild may be very low, and only by extensive "pampering" in a captive nursery situation can one expect to see the majority of a litter (15-20 snakes) survive to yearling age. As with the introduction of tadpoles and eggs of the RLF, partial restocking with captive-reared young SFGSSs would counter the possibility that a relocated pregnant female snake from Sharp Park may return to her home area before giving birth.

The above represents a minimal restocking effort for this project and relies heavily upon the hope that the adult introduced male and female SFGSSs will remain at the new site so that cross breeding between the descendants of the natural born and captive born litters will take place. The probability for success in

this endeavor increases with each additional birthing or introduction of captive litters at the new site, and I would strongly recommend that this initial effort be at least doubled if it appears that the Sharp Park population can sustain such a take. If not, I believe that the most genetically logical alternative source for SFGSS is the north marsh habitat at San Andreas Reservoir. Ideally, a combination of pregnant females and captive reared litters from both the Sharp Park and San Andreas sites would be the best. It would theoretically produce the best "hybrid vigor" in future generations and counter the possibility that the Sharp Park SFGS gene pool may have already been constricted to the point where serious inbreeding is already occurring there. All of these decisions should be worked out well in advance of the proposed stocking year with biologists from USFWS and CDFG, and the appropriate permits for the capture, relocation, and captive housing of SFGSS should then be obtained.

Scientific Criteria for Monitoring and Evaluating the Success of the SFGS and RLF Establishment Project at the New Pacifica Quarry Ponds

The three areas of concentration for the 10 year monitoring program should be pond and shoreline vegetation, tree frog and RLF populations, and SFGS population composition and abundance.

1. Vegetation Monitoring

Although this will be the sole focus during the first two years of new pond life, it should continue throughout the entire 10 year monitoring period. During the first few years the primary concern here is the successful establishment of a good shoreline population of low growing wetland forbs, sedges, and reeds. The goal should be a well populated shoreline area with occasional small opens with soil sunlight patches for frog and eventually snake basking. The biological monitor should work closely with the enhancement nursery personnel who are in charge of the actual planting of the site. Re-planting of species which failed to establish or the substitute of alternative species should be of prime concern.

The other area of emphasis should be the prevention of extensive shoreline and inshore zone colonization by aggressive species such as cattail, tule bulrush, and willow. Small, well controlled clumps of these species can persist without any serious effect on either frog or snake populations. However, once the combined total of these species begin to occupy more than 15 to 20 per cent of the total shoreline or pond basin surface, rigorous control measures should be initiated. These may include "wicking" with a translocating herbicide such as "Roundup" or similar product, sever pruning of willow, and hand removal of rhizomes and root systems of cattails. Of these, the careful application of translocating herbicides is by far the most effective and would cause far less disturbance to the establishing frog and snake populations.

Frog Population Monitoring

Populations of both the RLF and the Pacific tree frog (PTF) should be closely monitored. Monitoring procedures should

include weekly egg mass counts in February and March, night spotlight counts of adult frogs during the same period, dip net sampling of tadpoles in April and May, and counts and population estimates of metamorphosed young of both species from July through August. PTF young may be sampled by carefully dropping a meter square counting cage on the soft shoreline vegetation ahead of the observer and then locating all of the young tree frogs with it. Young RLFs are best counted by "plop count" method described earlier in this report. Within two to three years after the initial stocking year for frogs at the new site the populations of both species should reach and begin to oscillate around the carrying capacity of these ponds for each species. By the fifth or sixth year of the monitoring program fairly good estimates of the carrying capacity for each species should have been obtained. These numbers can then be used as a yard stick by which to detect any serious decline in either population.

3. SFGS Monitoring

After the initial stocking year, the new SFGS population should be monitored yearly by trapping the pond edge habitat for one month between April 15 and May 15. This work must be done by an experienced herpetologist who possesses the appropriate USFWS and CDFG permits. Low drift fences with CDFG approved funnel traps at each end should be installed at various angles to the pond edge. Traps should be checked daily, and all garter snake species captured should be identified, measured, weighed, sexed, and marked by clipping the edge of a specific ventral scale. By this process we will not only be able to determine the age classes and sex ratios of the establishing SFGS population but also may be able to make a rough estimate of current numbers using the mark/re-capture (Lincoln Index) method. It will also produce an estimate of the numbers of the other two local garter snake species which may come to the new pond sites. Of these, the Santa Cruz garter snake is the main species of concern since its food preferences include frogs and tadpoles, the sole food source of SFGSs. It may be that the annual spring trapping program is eventually used to control this non-protected, competitive species.

4. Mitigation Reporting

Annual reports should be prepared at the beginning of the hibernation season in early December and filed with the USFWS, CDFG, and City of Pacifica by January 1 of the following year. This will allow for adequate time to discuss possible problems with any of the biotic phases of the establishment process and arrive at appropriate corrective measures before the beginning of the frog breeding season in late February.

Restocking and Monitoring Personnel

The key to success in this most exciting endeavor is to have qualified biologists guiding its progress. The expertise and counsel of these people should take priority over any aspects of the pond design, water flow plan, or planting program which may deter from the successful re-establishment of a viable RLF and SFGS population in the lower Calara Creek Drainage.

Summary Schedule of Stocking and Monitoring Activities

Year 1: Monitor the establishment of aquatic and shoreline plantings on a monthly basis, April through November. Advise restoration nursery of any replanting or adjustments which are needed.

Year 2: Continue vegetation establishment monitoring according to the first year schedule. Locate and make arrangements for obtaining RLFs, tadpoles, and egg masses. Stock adult RLFs in November if vegetation has established well.

Year 3: Continue vegetation monitoring on a bi-monthly basis. Obtain and stock RLF egg masses in February/March, and RLF tadpoles in April/May. Monitor the success of RLF metamorphosis in August/September.

Year 4: Make final arrangements for obtaining SFGSSs from appropriate field sources. Repeat Year 3 RLF spring stocking program if the first year establishment of young frogs appears poor. Monitor vegetation conditions bi-monthly. Conduct a second survey of RLF metamorphosis success in August/September.

Year 5: Make any final RLF stockings which may be necessary. Obtain pregnant SFGSSs and adult males from appropriate sites. Release male/pregnant female pairs into site in June. Retain two pregnant females in captivity until they give birth. Rear young on newly metamorphosed PTFs until November and then release them into an artificial hibernaculum site adjacent to the pond complex.

Year 6: Monitor by trapping the spring compliment of young SFGSSs at the site and repeat the stocking of adults and new borne young if necessary. Continue frog and vegetation monitoring.

Year 7 - 10: Conduct spring trapping surveys of all snake species at the site and continue to monitor frog populations and vegetation establishment at least once a year.

Reporting: December 15-20, each year: Prepare a report covering all procedures and monitoring results obtained that year. Include photos of the vegetation establishment when possible. Make recommendations for any additions or changes for monitoring and stocking the following year.
year