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Commission Action:	

STAFF REPORT: REGULAR CALENDAR

APPLICATION NO.: 4-03-025

APPLICANT: Santa Barbara County Flood Control District

AGENT: Karl Treiberg

PROJECT LOCATION: Atascadero Creek, Goleta; Santa Barbara County.

PROJECT DESCRIPTION: Implement flood control activities that include removal of 2,000–30,000 cu. yds of sediment through annual desilting, discing in late fall, application of herbicide in spring/summer, and revegetation with non-native grass, along a 35 to 40-foot wide, 1.4 mile reach of Atascadero Creek.

SUBSTANTIVE FILE DOCUMENTS: Proposed Final Supplement to the Environmental Impact Report (94-EIR-1) by Santa Barbara County Flood Control District and URS Corporation dated September 2000; Revised Final Environmental Impact Report (94-EIR-1) by Santa Barbara County Flood Control District and Woodward-Clyde Consultants dated July 1994; Seeding Evaluation for Atascadero Creek by Rachel Tierney, August 2001; Coastal Development Permit 4-00-205 (Santa Barbara County Flood Control District); and Coastal Development Permit 4-94-061 (Santa Barbara County Flood Control District.

SUMMARY OF STAFF RECOMMENDATION

The purpose of the proposed desiltation program is to maintain the flood water carrying capacity in Atascadero Creek to reduce the likelihood of flood damage to adjacent residential areas. The subject reach of the creek is identified as environmentally sensitive habitat area by the Santa Barbara County Local Coastal Program and consists of riparian and wetland habitat.

Staff recommends **approval** of the proposed project with nine special conditions regarding: (1) Timing of Operations, (2) Southwestern Pond Turtle Habitat Enhancement and Monitoring Program, (3) Dredging Program, (4) Project Monitoring and Responsibilities, (5) Archaeological Resources and Monitoring, (6) Required Approvals, (7) Assumption of Risk, Waiver of Liability and Indemnity Agreement, (8) Revised Plans, and (9) Permit Expiration.

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EXHIBITS

I. STAFF RECOMMENDATION

MOTION: ***I move that the Commission approve Coastal Development Permit No. 4-03-025 pursuant to the staff recommendation.***

STAFF RECOMMENDATION OF APPROVAL:

Staff recommends a **YES** vote. Passage of this motion will result in approval of the permit as conditioned and adoption of the following resolution and findings. The motion passes only by affirmative vote of a majority of the Commissioners present.

RESOLUTION TO APPROVE THE PERMIT:

The Commission hereby approves a coastal development permit for the proposed development and adopts the findings set forth below on grounds that the development as conditioned will be in conformity with the policies of Chapter 3 of the Coastal Act and 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. Approval of the permit complies with the California Environmental Quality Act because either 1) feasible mitigation measures and/or alternatives have been incorporated to substantially lessen any significant adverse effects of the development on the environment, or 2) there are no further feasible mitigation measures or alternatives that would substantially lessen any significant adverse impacts of the development on the environment.

II. 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. **Interpretation.** Any questions of intent or interpretation of any term or condition will be resolved by the Executive Director or the Commission.

4. **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.

5. **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.

III. SPECIAL CONDITIONS

1. Timing of Operations

A. Except as provided in Sections B-D, below, all project maintenance operations, including discing, operation of equipment, and all other maintenance activities shall occur between October 1 and December 15.

B. The proposed desilting activities shall be allowed during the first season of flood control activities between October 1 through December 15. If the permittee presents evidence to the Executive Director's satisfaction that the flood control capacities have been reduced by 20% or more due to sediment deposition, the Executive Director may authorize desiltation in subsequent years subject to all applicable conditions of this permit.

C. Project operations, including dredging, discing, operation of equipment, and all other maintenance activities shall be prohibited within 50 feet of any ponding/pools along Atascadero Creek, year around. From 50 feet to 100 feet from the ponding/pools, activities shall be conducted with hand tools only. Equipment may not be driven within 50 feet of the ponds.

D. Channel clearing of target emergent vegetation by use of hand tools or mower may be conducted in spring/summer.

2. Southwestern Pond Turtle Habitat Enhancement and Monitoring Program

A. Prior to issuance of the coastal development permit, the applicant shall submit a habitat enhancement and protection plan for review and approval by the Executive Director. This habitat enhancement and protection plan shall be prepared by a qualified biologist or environmental resource specialist with field experience in assessing habitat requirements for the southwestern pond turtle and qualifications acceptable to the Executive Director. The plan shall specify the preferable time of year, consistent with the Timing Restriction described in **Special Condition One (1)** above, to carry out the enhancement project and any potential time constraints. The habitat enhancement plan shall, at a minimum, include the following:

1. The pond at Patterson Avenue Bridge and a location within the designated Atascadero Creek restoration site shall be enhanced to support western pond turtle, including as applicable the addition of basking sites and/or mid-pond refuges, revegetation of adjacent banks with appropriate native vegetation for southwestern pond turtle, improved hydrology to provide year around water feature, and provisions for any maintenance necessary to ensure ponds are not heavily shaded and large algal mats do not accumulate on the pools and are not supplanted by growth of vegetation. The Plan shall require vegetation that supplies maximum habitat, including habitat enhancement for prey resources. The Plan shall include potential annual repair activities after the storm season. Protection measures shall include the avoidance of mosquito abatement activities in the ponds; any such activity shall require a separate coastal

development permit. Recommendations of the Plan shall be supported by known data or applicable research on southwestern pond turtle.

2. Flood control activities shall be prohibited within the ponds. If vegetation in the ponds raises issue with respect to flood control requirements, a separate coastal development permit shall be required for any subsequent flood control activities.

3. Sufficient native vegetation (such as coyote bush and/or blackberry) that upon maturity serves to restrict access shall be planted and maintained at the Patterson Avenue bridge location. Signage shall be placed along the project reach identifying the sensitive nature of the creek and stating that access is restricted.

4. If a qualified academic group or nonprofit agency, with qualifications acceptable to the Executive Director, proposes a southwestern pond turtle recovery project, the applicant shall make the enhancement pond areas available for such purposes. The recovery program would be subject to Executive Director approval and may require a separate coastal development permit.

5. Final plans for the proposed bank revegetation near the Patterson Avenue bridge shall be included within the enhancement plan.

B. The habitat enhancement shall be monitored by the applicant for five years. The habitat enhancement plan shall include a monitoring program, including performance standards and milestones to ensure that such efforts are successful. The program shall be implemented to monitor the project for compliance with the specified guidelines and performance standards. The plans shall identify the species, extent, and location of all plant materials and shall incorporate the following criteria:

1. All revegetation shall consist of native plant species locally endemic to riparian habitat and wetland areas in the watershed. Invasive, non-indigenous plant species shall not be used and invasive species shall be removed concurrent with periodic channel maintenance.

2. Plantings will be maintained in good growing condition throughout the five-year project.

3. The Permittee shall undertake the enhancement in accordance with the final approved plan. Any proposed changes to the approved final plan shall be reported to the Executive Director. No changes to the approved final plan shall occur without a Coastal Commission - approved amendment to the coastal development permit, unless the Executive Director determines that no amendment is required.

C. The applicant shall submit, on an annual basis for a period of five years, a written report prepared by a qualified resource specialist, evaluating the extent of the success or failure of the enhancement project. This report shall include further recommendations and requirements for additional activities in order for the project to meet the specified criteria and performance standards. These reports shall also

include photographs taken from pre-designated sites (annotated to a copy of the site plans) indicating the progress of recovery at each of the sites.

D. At the end of the five-year period, a final detailed report shall be submitted for the review and approval of the Executive Director. If the report indicates that any portion of the project standards are not met, the report shall provide recommendations to compensate for those portions of the original program which were not successful. The applicant shall be responsible for implementing additional remedial actions and provide continued monitoring as the Executive Direction may determine necessary to ensure compliance.

E. The applicant shall implement and complete the habitat enhancement at the first-available, appropriate time of year, as identified in the habitat enhancement and protection plan, after the permit is activated. The Executive Director may grant additional time for good cause.

F. In addition to the above requirements, the County shall encourage the construction of a new pedestrian bridge over Atascadero Creek in the vicinity of the existing Atascadero Creek restoration site. The purpose of the bridge is to provide adequate access to adjacent recreation trails thereby reducing existing patterns of pedestrian trespass through the sensitive creek habitat. An appropriate bridge design would span the creek and would be located as far as feasible from the existing pond.

3. <u>Dredging Program</u>

A. All desilting/dredging shall occur during the first season of flood control activities between October 1 through December 15 unless additional time is granted by the Executive Director for good cause.

B. At least two (2) weeks prior to disposal of excess excavated material, the applicant shall provide evidence to the Executive Director of the location and method of disposal to an approved disposal location either outside the coastal zone or to a site within the coastal zone permitted to receive such fill. The applicant shall submit a determination of the suitability of the sediment for beach/surfzone disposal, including a determination by the U.S. Army Corps of Engineers as to whether the excavated material meets the minimum criteria necessary for placement on the sandy beach or within the surf zone. Material meeting all applicable federal and state beach nourishment or dredge spoil discharge requirements shall be reserved for such use.

C. Permanent stockpiling of material on site shall not be allowed. Sediment shall be retained at the designated temporary stockpile areas for dewatering, up to approximately three months, until removed to an appropriate approved disposal location either outside the coastal zone or to a site within the coastal zone permitted to receive such fill.

D. Stockpiled materials shall be located as far from the stream or wetland areas on the designated site(s) as feasible and in no event shall materials be stockpiled less than 30 ft. in distance from the top edge of the stream bank.

E. Temporary erosion control measures, such as sand bag barriers, silt fencing; and/or swales, shall be implemented for all stockpiled material. These temporary erosion control measures shall be required at the site(s) prior to or concurrent with the initial grading operations and shall be monitored and maintained until all stockpiled fill has been removed from the project site. Successful implementation of erosion control measures will ensure that the material is completely stabilized and held on site.

F. If the permittee presents evidence to the Executive Director's satisfaction that the flood control capacities have been reduced by 20% or more due to sediment deposition, the Executive Director may authorize desiltation in subsequent years subject to all applicable conditions of this permit.

4. Project Monitoring and Responsibilities

A. Prior to issuance of the coastal development permit, the applicant shall retain the services of a qualified biologist or environmental resource specialist with appropriate qualifications acceptable to the Executive Director. All project operations, including channel desilting, discing, operation of equipment, vegetation removal and all other maintenance activities shall be carried out consistent with the following:

1. The environmental resource specialist shall conduct a survey of the project site each day prior to commencement of any desilting, discing, dredging, or mowing activities to determine whether any sensitive wildlife species are present. In the event that any sensitive wildlife species are present in the project area, the environmental resource specialist shall either: (1) initiate a salvage and relocation program prior to any excavation/maintenance activities to move sensitive species and significant wildlife features (such as pond turtles, breeding bird nests, etc.) by hand to safe locations elsewhere along the project reach or (2) as appropriate, implement a resource avoidance program with sufficient buffer areas to ensure adverse effects to such resources are avoided. If the presence of any such sensitive species requires review by the United States Fish and Wildlife Service and/or the California Department of Fish and Game, then no development activities shall be allowed or continue until any such review and authorizations to proceed are received, subject to the approval of the Executive Director.

2. Herbicides shall not be used within any portion of the stream channel as measured from toe of bank to toe of bank. Herbicide use in upland areas outside of the stream channel shall be restricted to the use of Glyphosate Aquamaster™ (previously Rodeo™) herbicide for the elimination of non-native and invasive vegetation for purposes of habitat restoration only. The environmental resource specialist shall conduct a survey of the project site each day prior to commencement of vegetation removal and eradication activity involving the use of herbicide to determine whether any native vegetation is present. Native vegetation shall be clearly delineated on the project site with fencing or survey flags and protected. In the event that non-native or invasive vegetation to be removed or eradicated is located in close proximity to native riparian vegetation or surface water, the applicant shall either: (a) remove non-native or invasive vegetation by hand (Arundo donax shall be cut to a height of

6 inches or less, and the stumps painted with Glyphosate Roundup™ herbicide), or (b) utilize a plastic sheet/barrier to shield native vegetation or surface water from any potential overspray that may occur during use of herbicide. In no instance shall herbicide application occur if wind speeds on site are greater than 5 mph or 48 hours prior to predicted rain. In the event that rain does occur, herbicide application shall not resume again until 72 hours after rain.

3. All accessways on the subject site disturbed as a result of this project shall be planted and maintained for habitat restoration and erosion control purposes as soon as possible after disturbance has occurred. Disturbed areas within the streambed/channel may be planted and maintained with locally native seeds or plants endemic to riparian habitat areas.

B. The environmental resource specialist shall require the applicant to cease work should any breach in permit compliance occur or if any unforeseen sensitive habitat issues arise. If significant impacts or damage occur to riparian and/or wetland environment or to sensitive wildlife species on site beyond the scope of work allowed for by this permit, the applicant shall be required to submit a revised, or supplemental, restoration program to adequately mitigate such impacts. The revised, or supplemental, restoration program shall be processed as an amendment to this coastal development permit.

C. The applicant shall submit an annual post-construction assessment summarizing the maintenance practices, timing of implementation, and whether any sensitive species were observed and any measures taken to avoid or mitigate the disturbance.

5. Archaeological Resources and Monitoring

By acceptance of this permit, if project activities are undertaken within an area known to have archaeological resources, the applicant agrees to have a qualified archaeologist(s) and appropriate Native American consultant(s) present on-site during all desilting/dredging activities which occur within or adjacent to the archaeological sites in the project area. Specifically, if required as described above, the desilting/dredging operations on the project site shall be controlled and monitored by the archaeologist(s) with the purpose of locating, recording and collecting any archaeological materials. Alternately, under the direction of a qualified archaeologist and/or appropriate Native American consultant, the applicant may implement alternative techniques designed to temporarily protect such resources (e.g., placing temporary cap material in accordance with accepted protocols for archaeological resource protection). In the event that any significant archaeological resources are discovered during operations, all work in this area shall be halted and an appropriate data recovery strategy be developed, subject to review and approval of the Executive Director, by the applicant's archaeologist and the native American consultant consistent with CEQA guidelines.

6. Required Approvals

By acceptance of this permit, the applicant agrees to obtain all other necessary State or Federal permits that may be necessary for all aspects of the proposed project (including

the National Marine Fisheries Service, California Department of Fish and Game, California State Lands Commission, Regional Water Quality Control Board, and the U.S. Army Corps of Engineers). Except as stated below, prior to commencement of construction, the applicant shall provide necessary permits and approvals or evidence that no authorization is required. Other portions of the project may commence prior to receipt of NMFS approval of the rock weir.

7. Assumption of Risk, Waiver of Liability and Indemnity Agreement

Prior to issuance of the coastal development permit, the applicant shall submit a written agreement, in a form and content acceptable to the Executive Director, which states that the applicant acknowledges and agrees (i) that the site may be subject to hazards from erosion and flooding; (ii) to assume the risks to the applicant and the property that is the subject of this permit of injury and damage from such hazards in connection with this permitted development; (iii) to unconditionally waive any claim of damage or liability against the Commission, its officers, agents, and employees for injury or damage from such hazards; and (iv) to indemnify and hold harmless the Commission, its officers, agents, and employees with respect to the Commission's approval of the project against any and all liability, claims, demands, damages, costs (including costs and fees incurred in defense of such claims), expenses, and amounts paid in settlement arising from any injury or damage due to such hazards.

8. Revised Plans

Prior to issuance of the coastal development permit, the applicant shall submit, for the review and approval of the Executive Director, two (2) sets of final revised project plans. The revised final project plans and project description shall reflect the following:

1. The Patterson Avenue Accessway shall be relocated downstream of the existing pond at Patterson Avenue Bridge, near the approximate location of the rock weir.
2. Final plans for the proposed rock weir shall be submitted.
3. The plans shall note that invasive, non-indigenous plant species, including Barnyard grass (*Echinochloa crus-galli*) shall not be used anywhere in the project area.

9. Permit Expiration

Authorization granted pursuant to CDP 4-03-025 shall expire five years from the date of Commission action. Any dredging/desilting, excavation, sediment transport, maintenance, or other project activities after the expiration of this permit will require the issuance of a new coastal development permit.

IV. FINDINGS AND DECLARATIONS

The Commission hereby finds and declares:

A. PROJECT DESCRIPTION AND BACKGROUND

The proposed project is for the implementation of an annual desilting program for a 1.4-mile long reach of Atascadero Creek for a term of 10 years. The proposed program includes dredging/removal of 2,000–30,000 cu. yds. of sediment/year and annual maintenance activities. Maintenance activities proposed within the streambed would involve discing in late fall, application of herbicide in spring/summer, and revegetation with non-native grass along a 35 to 40-foot wide stretch of Atascadero Creek.

Desilting/Dredging

The proposed desilting/dredging activities are implemented on an as-necessary basis. The applicant has indicated that excavation/dredging is currently necessary with at least 3,000 cu. yds. of material to be removed. Additionally, dredging of the subject reach of Atascadero Creek may be necessary at an undetermined future point in time in the event that the channel becomes overly sedimented. Future dredging activities are expected to result in the removal of no more than 30,000 cu. yds. of material within the project reach per year. Desilting/dredging activities involve the use of a crane rigged with a clamshell bucket that is operated from the adjacent stream bank. All dredged material will be stockpiled in designated areas adjacent to the creek where it is allowed to dewater. Stockpiles will be set back a minimum of 30 ft. from the top edge of the stream bank. The sediment will be allowed to dewater for several weeks and then it is hauled to a suitable disposal site. The County estimates desilting is typically necessary in the project reach every 5 to 10 years. However, the proposed desilting would occur on as-needed basis because high sediment laden flows can result in sedimentation that requires desilting.

Annual Maintenance Activities

The proposed project also includes annual maintenance activities involving: (1) discing of the channel in late fall, (2) mowing and/or herbicide application in the channel in spring/summer, and (3) revegetation of the channel with non-native grasses in spring/summer. Discing of the streambed is carried out using a bulldozer with a blade or ripper attachment to uproot vegetation and loosen the top layers of soil. Approximately 50 cu. yds. of sediment within the channel is upturned and loosened by discing to facilitate downstream flushing of sediment during the rainy season. The vegetation and some sediment is windrowed along the toe of the north bank. Discing is proposed in order to remove all emerging vegetation in the channel prior to the rainy season (typically late October or November) when stream flow is minimal and the majority of the channel bottom is dry. The area that is disked annually is approximately 10 acres. This includes discing a 35-foot wide swath from the confluence of Hospital Creek to

Patterson Avenue, and a 40-foot wide swath from Patterson Avenue to the check structure located in the vicinity of Ward Drive.

The proposed annual maintenance activities will also include the application of *Aquamaster*™ (formerly Rodeo™ or Round-up™) herbicide to all existing vegetation (both native and non-native) within the stream channel during spring/summer months. Individual plants and clumps of plants are sprayed with hand-held spray wand. Only vegetative material is sprayed; herbicide is not applied to open water. Herbicide would be applied to both non-native and native wetland vegetation, specifically cattails (*Typha sp.*) and bulrush (*Scirpus sp.*). The purpose of the herbicide application is to prevent plant growth within the channel in order to minimize the effort required to later remove vegetation by discing in fall prior to the rainy season. Vegetation growing within the streambed may also be mowed, if necessary, to further inhibit growth and facilitate the discing that takes place in the fall.

In addition, after application of the herbicide, the entire subject reach of Atascadero Creek is then proposed to be seeded with non-native, potentially invasive Barnyard grass *(Echinochloa crus-galli)*. Similar to the application of herbicide, the purpose of the proposed seeding is to inhibit revegetation of the channel by native emergent or woody wetland species during the spring and summer in order to reduce the amount of work necessary to remove vegetation by discing the following fall. The applicant has indicated that the proposed non-native Barnyard grass is a prolific seed producing plant which has a secondary beneficial effect of providing an alternative food source for birds.

Rock Weir

In order to bring the grade of the creek up approximately 18 inches but not eliminate the pool, which is currently occupied by at least one southwestern pond turtle and can also provide good habitat for steelhead moving through the system, the District is proposing to install a rock weir structure approximately 100 feet downstream from the bridge. The structure would be constructed of large rip-rap with keyed-in boulders grouted below grade. The structure will have two outer arms pointing upstream into the flow at an angle of approximately 30 degrees to the banks. The center of the structure will be perpendicular of the flow and occupy approximately 18 inches above grade. This will bring the water surface elevation in the existing pool up 18 inches, thus reducing the jump over the existing impediment to approximately 2 feet.

The District also proposes to restore approximately 3,500 sq. ft. of the south bank immediately downstream of the bridge by planting native habitat consistent with the riparian corridor. The plantings will help hold the bank in place, replace lost habitat and protect the existing habitat bordering the southwestern turtle pool. The construction of the rock weir and bank restoration would be conducted to avoid impacts to the southwestern pond turtle with construction occurring between August and October.

B. PROJECT LOCATION AND BACKGROUND

The project site is a 1.4 mile long segment of Atascadero Creek beginning approximately 4,400 ft. upstream from the mouth of Goleta Slough at a point immediately south of the terminus of Ward Drive and extending upstream to a point immediately south of the terminus of Via Miguel Avenue (Exhibit 2). Public access is available along the entire length of the project site via an existing bicycle/pedestrian path located adjacent to Atascadero Creek.

The channel for Atascadero Creek is approximately 40-75 ft. in width as measured from toe of bank to toe of bank. The proposed project includes periodic desilting/dredging by dragline method and maintenance of an approximately 35-40 ft. wide portion of the total channel. The remaining unmaintained portion of the channel (which is at a higher elevation than the maintained portion of the channel and is, therefore, only subject to streamflow during high-flow events) will remain as undisturbed area. Atascadero Creek is designated as an environmentally significant habitat area by the Santa Barbara County Local Coastal Program. In addition, the entire creek channel on site is also identified as wetlands. A public bicycle/pedestrian trail is located adjacent to and north of the top bank of the creek. Two identified archaeological sites (SBA-45 and SBA-1588) are located within the project reach adjacent to areas where desiltation and maintenance activities will occur.

The project site has been subject to past Commission action. Coastal Development Permit (CDP) 4-94-061 was previously approved by the Commission for the initial removal of 30,000 cu. yds. of sediment and vegetation from the subject portion of Atascadero Creek. A 35-40 ft. wide channel was deepened within Atascadero Creek. The permit also provided for annual maintenance activities including discing the streambed and channel in late fall to remove vegetation and the use of herbicide within stream channel in spring and summer. As mitigation for the adverse effects to the wetland and riparian habitat on site, the project previously approved pursuant to CDP 4-94-061 included the acquisition and enhancement of 26 acres of existing riparian habitat and wetland areas located adjacent to a portion of the subject site. CDP 4-94-061 was approved pursuant to five special conditions regarding acquisition of approximately 26 acres of adjacent existing wetland habitat areas to be enhanced, dredging monitoring reports, other required approvals, timing of dredging activities. Special Condition Two of CDP 4-94-061 also specifically stated that the Commission's approval of the proposed project was for a limited duration of five years from the date of Commission action and would expire on November 16, 1999.

Additionally, CDP 4-00-205 was approved by the Commission for annual desilting and maintenance in the subject reach, subject to seven special conditions regarding revegetation program, dredging program, project monitoring and responsibilities, limited duration and long-term solution alternatives, archaeological monitoring, required approvals, and assumption of risk. The CDP approved the flood control activities for the 2000/2001 winter storm season with the requirement that an evaluation of feasible alternatives be submitted as part of any future permit applications. Furthermore, CDP 4-

00-205 specified that herbicides and non-native plants shall not be used in the course of the flood control activities.

C. ENVIRONMENTALLY SENSITIVE HABITAT AND MARINE RESOURCES

Section **30230** of the Coastal Act states:

> ***Marine resources shall be maintained, enhanced, and where feasible, restored. Special protection shall be given to areas and species of special biological or economic significance. Uses of the marine environment shall be carried out in a manner that will sustain the biological productivity of coastal waters and that will maintain healthy populations of all species of marine organisms adequate for long-term commercial, recreational, scientific, and educational purposes.***

Section **30231** of the Coastal Act states that:

> ***The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain optimum populations of marine organisms and for the protection of human health shall be maintained and, where feasible, restored through, among other means, minimizing adverse effects of waste water discharges- and entrainment, controlling runoff, preventing depletion of ground water supplies and substantial interference with surface water flow, encouraging waste water reclamation, maintaining natural vegetation buffer areas that protect riparian habitats, and minimizing alteration of natural streams.***

Section **30236** of the Coastal Act states:

> ***Channelizations, dams, or other substantial alterations of rivers and streams shall incorporate the best mitigation measures feasible, and be limited to (l) necessary water supply projects, (2) flood control projects where no other method for protecting existing structures in the floodplain is feasible and where such protection is necessary for public safety or to protect existing development, or (3) developments where the primary function is the improvement of fish and wildlife habitat.***

Section **30240** of the Coastal Acts states:

> ***(a) Environmentally sensitive habitat areas shall be protected against any significant disruption of habitat values, and only uses dependent on those resources shall be allowed within those areas.***
>
> ***(b) Development in areas adjacent to environmentally sensitive habitat areas and parks and recreation areas shall be sited and designed to prevent impacts which would significantly degrade those areas, and shall be compatible with the continuance of those habitat and recreation areas.***

Section 30231 requires that the biological productivity and quality of coastal waters be maintained. Section 30230 requires that uses of the marine environment be carried out in a manner that will sustain the biological productivity of coastal waters for long-term

commercial, recreational, scientific, and educational purposes. Section 30236 allows for alterations to streambeds when required for flood control projects where no other less damaging alternative is feasible and when necessary to protect public safety or existing development. In addition, Section 30240 of the Coastal Act states that environmentally sensitive habitat areas shall be protected and that development within or adjacent to such areas must be designed to prevent impacts which could degrade those resources.

The proposed project is for the implementation of an annual desilting program for a 1.4-mile long reach of Atascadero Creek. The program will involve dredging/removal of 2,000 to 30,000 cu. yds. of sediment/year. Sediment removal will occur on an as-need basis. The applicant has indicated that approximately 3,000 cu. yds. need to be dredged from the subject reach as soon as possible. Additionally, the proposed project includes several additional components which are implemented as part of an annual maintenance program including discing of the streambed in late fall, application of herbicide to the streambed in spring/summer, and revegetation of the streambed with non-native exotic Barnyard grass after herbicide application.

The proposed desilting and maintenance activities will be located within Atascadero Creek, a perennial waterway. The subject reach of the creek is identified as an environmentally sensitive habitat area by the Santa Barbara County Local Coastal Program and consists of riparian and wetland habitat. The segment of Atascadero Creek subject to this application begins approximately 2,000 ft. upstream from the Goleta Slough (one of the 19 major wetland habitats specifically identified in Chapter 3 of the Coastal Act) and extends approximately 1.4 miles further upstream.

The proposed project, including the proposed annual maintenance activities, will result in several adverse effects to the above species due to significant disturbance to existing riparian habitat and wetland areas on site. The proposed discing of the streambed, which will occur each fall, consists of the operation of a bulldozer with a blade or ripper attachment which uproots all vegetation (native and non-native) within the stream channel and upturns and loosens the top 18-24 inches of soil. Approximately 50 cu. yds. of sediment within the channel is upturned and loosened by discing to facilitate downstream flushing of sediment during the rainy season. In addition, the proposed use of herbicide to eliminate native riparian and wetland vegetation also results in the loss of such vegetation and potential adverse effects to water quality on site and to downstream Goleta Slough. Further, the subsequent seeding of the streambed with non-native, exotic Barnyard grass results in adverse effects to wetland habitat on site by inhibiting the growth of native riparian and wetland species as well as by promoting the spread of invasive plant species in a sensitive habitat area and the surrounding community.

The subject site provides habitat for Steelhead trout, a federally listed endangered species. In addition, the subject reach of Atascadero Creek has been identified as providing habitat for several other species of special concern. The Revised Final Environmental Impact Report (94-EIR-1) by Santa Barbara County Flood Control District and Woodward-Clyde Consultants dated July 1994, indicates that the project

site is dominated by emergent wetland habitat and that a large number of and variety of wildlife species occur within the subject area including:

- ***Various riparian migrant birds that are of limited distribution, including the tree swallow and blue grosbeak, state listed rare species (and possibly the southwestern willow flycatcher, a state listed endangered species).***
- ***Rare breeding birds such as yellow warbler, a CDFG "Species of Special Concern."***
- ***Breeding habitat for the rare white-tailed kite at the nearby More Mesa grasslands (currently a wintering population).***
- ***Habitat for resident populations of the southwestern pond turtle, a CDFG "Species of Special Concern" and federal candidate species.***

The 1994 EIR for the Atascadero Creek Maintenance project describes the habitat resources for avifauna:

> ***Atascadero Creek supports a variety of riparian and wetland habitats despite its proximity to residential areas and routine channel maintenance activities over the past few decades. The riparian and wetland areas along the creek provide excellent habitat to a wide diversity of avifauna species. The majority of these species are migrants passing through in spring and fall, including many rare fall migrant birds...Atascadero Creek supports a variety of common riparian breeding birds such as northern rough-winged swallow, black-headed grosbeak, Hutton's vireo, common yellowthroat and song sparrow. The only sensitive species possibly breeding within the project reach is yellow warbler; one to two males have summered here the last two years.***

The 1994 Project EIR reports that several sensitive bird species occur along the project reach, including great blue heron, northern harrier, white-tailed kite, Cooper's hawk, sharp-shinned hawk, merlin, yellow-billed cuckoo, willow flycatcher, purple martin, tree swallow, loggerhead shrike, yellow warbler, least Bell's vireo, blue grosbeak, and Belding's savannah sparrow. To avoid impact to avian species during the breeding season (March 15 through August 31), Special Condition One (1) restricts flood control maintenance activities in and along Atascadero Creek, on an annual basis. Special Condition 1 allows maintenance activities to occur between October 1 and December 15 to avoid sensitive species timing constraints. However, to allow adequate flood control activities, target vegetation may be removed by hand tools or mowing in spring or summer as proposed.

The Commission notes that the proposed project may result in potential adverse effects to surrounding habitat due to unintentional disturbance from construction equipment and desilting activity. Therefore, to ensure that all recommendations of the environmental consultant are properly implemented, and to ensure that any potential adverse effects to sensitive riparian habitat and wetlands, are minimized, Special Condition Four (4) requires that a qualified environmental resource specialist shall conduct a survey of the project site each day prior to commencement of any excavation/dredging, or maintenance activity (including discing and mowing) to determine whether any sensitive wildlife species are present. In the event that any

sensitive wildlife species are present on the project site, the environmental resource specialist shall either: (1) initiate a salvage and relocation program prior to any excavation/maintenance activities to move sensitive species and significant wildlife features (such as southwestern pond turtles, breeding bird nests, etc.) by hand to safe locations elsewhere along the project reach or (2) as appropriate, implement a resource avoidance program with sufficient buffer areas to ensure adverse effects to such resources are avoided. The monitor shall have the authority to require the applicant to cease work should any breach in permit compliance occur, or if any unforeseen sensitive habitat issues arise. If significant impacts or damage occur to the beach, slough, or marine environment on site beyond the scope of work allowed for by this permit, the applicant shall be required to submit a revised, or supplemental, restoration program to adequately mitigate such impacts. The revised, or supplemental, restoration program shall be processed as an amendment to this coastal development permit.

The proposed project will involve work within a stream. Any changes or alterations within a streambed require a streambed alteration agreement from the California Department of Fish and Game. In addition, the proposed development, will also require approval from the United States Army Corps of Engineers and from the California State Lands Commission. Therefore, Special Condition Six (6) requires the applicant to agree to obtain all necessary approvals from the California Department of Fish and Game and the U.S. Army Corps of Engineers for the proposed project.

Furthermore, the project includes access ramps for equipment which requires cutting back the riparian vegetation to reach the stream and also includes bank restoration near the Patterson Avenue Bridge. Special Condition Four (4) requires all accessways on the subject site disturbed as a result of this project to be planted and maintained for habitat restoration and erosion control purposes as soon as possible after disturbance has occurred. While not required, Special Condition 4 allows disturbed areas within the streambed/channel may be planted and maintained with locally native seeds or plants endemic to riparian habitat areas. The applicant has requested a ten-year maintenance term. However, given the variable nature of the riparian and wetland habitat, presence of sensitive species, and the extent of necessary flood control activities, the Commission finds it necessary to limit the term of the permit. To ensure that the ESHA is protected to the maximum extent feasible concurrent with assessment of the success of the flood control program, Special Condition Nine (9) provides for permit expiration five-years from the date of Commission approval.

The applicant estimates that desilting activities are only necessary every five to ten years, or potentially during severe flood seasons. In order to assess the success of the annual maintenance activities without the use of herbicide and barnyard grass as described below, the Commission finds it necessary to restrict the subject permit to one year of desiltation activities as described under Special Condition Three (3), except where subject to review and approval by the Executive Director a showing is made that severe storm events have decreased the channel capacity by 20%. By limiting the desilting to only unusual and severe circumstances, the post-construction assessment will allow further evaluation of the adequacy of the flood control activities, as revised,

and allow controlled evaluation of the success of the implementation of the mitigation measures.

1. Herbicide

As mentioned above, the proposed annual maintenance activities include the application of *Aquamaster*™ (formerly Rodeo™ or Round-up™) to existing vegetation within the dry portions of Atascadero Creek streambed during spring/summer months. The active ingredient in *Aquamaster*™ is glyphosate. *Aquamaster*™ is applied with a surfactant to enhance its effectiveness by spreading and retaining the herbicide on plant surfaces, and by promoting absorption. Surfactants are blends of petroleum-based oils that reduce surface tension on the leaf surface. The surfactant used by the applicant would be LI-700.

Herbicide would be applied to both non-native and native wetland vegetation. Individual plants and clumps of plants are sprayed with hand-held spray wand. Only vegetative material is sprayed; herbicide is not applied to open water. Herbicide would be applied to both non-native and native wetland vegetation, specifically *Typha sp.* and *Scirpus sp.* The purpose of the herbicide application is to prevent plant growth within the channel in order to minimize the effort required to later remove vegetation by discing in fall prior to the rainy season. Glyphosate herbicide is currently registered by the United States Environmental Protection Agency (EPA) as a non-selective herbicide of relatively low toxicity suitable for use in wetland and riparian areas. The Glyphosate Environmental Assessment Report by the EPA dated September 1993 states:

> ***Glyphosate is of relatively low oral and dermal acute toxicity. It has been placed in Toxicity Category III for these effects (Toxicity Category I indicates the highest degree of acute toxicity, and Category IV the lowest)...Based on current data, EPA, has determined that the effects of glyphosate on birds, mammals, fish, and invertebrates are minimal....Glyphosate adsorbs strongly to soil and is not expected to move vertically below the six inch soil layer...Glyphosate is readily degraded by soil microbes...However, glyphosate does have the potential to contaminate surface waters due to its aquatic use patterns...If glyphosate reached surface water, it would not be broken down readily by water or sunlight.***

The applicant asserts that "...it is impossible to ignore the fact that using herbicide to control silt trapping vegetation in Atascadero Creek is the far superior alternative with negligible impacts to the most sensitive aquatic wildlife (salmonids)" (Santa Barbara County Flood Control, correspondence dated February 17, 2004). The applicant maintains that without the application of herbicide, achieving the same results by mowing or hand crews would cost significantly more money and time. It would take two crew members with backpack sprayers approximately one day on foot applying herbicide. Although the County estimates that it would take approximately the same amount of time to mow the vegetation instead of spraying herbicide, it would likely require at least one additional operation because the plants would begin to grow back immediately.

The County has prepared a Routine Maintenance Program EIR (November 2001) for Flood Control practices throughout Santa Barbara County. The EIR reports the following regarding Glyphosate:

> ***1. Since glyphosate is a non-selective herbicide capable of controlling a variety of species of plant life, it can impact plants that are considered to be rare or of regional significance. Non-target plants located in and around flowing channels subject to Aquamaster TM treatment would be especially vulnerable.***
>
> ***2. Glyphosate application can result in ecological upset for avian species that have considerable interaction with creek channel environments.***
>
> ***3. A low potential exists for bioconcentration of glyphosate in aquatic organisms.***
>
> ***...12. Non-target plants outside the intended spray area may also be affected due to herbicide drift from aerial application.***

The Routine Maintenance Program EIR (November 2001) further states:

> ***The primary water quality impact is the potential for elevated levels of herbicide (and its active ingredient, glyphosate) in the water of a drainage. Herbicides can only be introduced to the drainage water by three mechanisms: (1) overspray that deposits herbicide directly into open water; (2) overspray that deposits herbicide on dry substrates where it may be dissolved by flowing water at a later time; and (3) herbicide dripping from a plant leaf onto water below due to excessive application.***

In addition, the Final Supplement to Environmental Impact Report (94-EIR-1) by URS Corporation dated September 2000 indicates that the "slightly toxic" threshold for Glyphosate herbicide requires concentrations in water between 10 and 100 mg/L for rainbow trout and oyster larvae. Acute toxicity in trout was only observed with 96-hour dosages of over 1,000 mg/L. The Supplemental EIR also indicates that there is only a very low potential for the compound to build up in the tissues of aquatic invertebrates or other aquatic organisms. The half-life of Glyphosate herbicide in water varies from 35 to 65 days. The Santa Barbara County Flood Control District has sampled water in the creek within the subject reach of Atascadero Creek to determine the concentration of Glyphosate herbicide after spraying had occurred. Results are shown below in Table 1:

Table 1
Concentrations of Herbicide in Atascadero Creek after Spraying (mg/L)

Location	August 14, 1995	March 27, 1996
Confluence with Hospital Creek	38	0.42
Near Via Miguel St.	1.9	30
Upstream of Patterson Ave.	14	No Data
Downstream of Patterson Ave.	23	No Data

From the Final Supplement to Environmental Impact Report (94-EIR-1) by URS Corporation dated September 2000

The Final Supplement to Environmental Impact Report (94-EIR-1) by URS Corporation dated September 2000 asserts that the above data indicates that the proposed use of herbicide will have no significant adverse effects to fish and wildlife within Atascadero

Creek because the results indicate levels of herbicide within the creek at "slightly toxic" levels or lower only. The Supplemental EIR states:

> ***These data indicate that maximum concentrations of Rodeo™ in the surface waters of the creek are below the EPA thresholds for aquatic invertebrates and fish under prolonged exposure (i.e., 48 hours or more), and significant below acute toxicity thresholds. Rodeo™ concentrations at greater distances from the application site would be much lower because of dilution, and because the herbicide will adsorb onto sediment particles in the creek bottom and suspended in the water***

Additionally, the County has submitted a water quality testing summary which provides results from a previous application of Glyphosate herbicide (1% solution) on Atascadero Creek. A pre-test was conducted to determine if there was any glyphosate present in the system prior to spraying. After the spraying occurred, the County measured glyphosate concentrations: (a) 1-2 hours after application; (b) the morning following application; and (c) several weeks later. All pre-testing was non-detectable for glyphosate. The results for the *1-2 hour* sampling indicated a low of .026 mg/l and a maximum of 2.0 mg/l within the sprayed area. The results for the *following morning* detected glyphosate concentrations between .016 mg/l and .095 mg/l within the sprayed area. Glyphosate was not detected within the sprayed area several weeks later. The results for downstream monitoring were all non-detect except for concentrations measured at Patterson Avenue Bridge the *following morning* at concentration of .051 mg/l. Based on this information, the County considers the impact of herbicide spraying to be minimal to habitat and wildlife since residual levels are negligible to LC50 for the rainbow trout (>1,000 mg/l for glyphosate for 96-hour exposure), the levels are generally below safe drinking water standards even at the *1-2 hour* testing period, and break down completely in subsequent weeks.

Correspondence with the County Flood Control (February 17, 2004) states:

> ***One acre-foot (af) of water equals 326,700 gallons. If a 1% solution of glyphosate [Aquamaster™] and LI-700 [surfactant] is applied over 1 af of water and none of it is taken up by plants or adheres to soil particles (the typical fate of glyphosate until it breaks down), then the residual concentration of glyphosate is 1.6 mg/l and for LI-700 it is 2.4 mg/l. Typical depths when herbicide is applied in Atascadero Creek are closer to 0.1'. Therefore, maximum concentrations of glyphosate and LI-700 are 16 mg/l and 24 mg/l respectively. Considering the facts that most of the herbicide is taken up by plants, salmonids cannot live in 0.1' of water, and it is impossible to maintain these concentrations for 96 hours without constantly adding herbicide, potential impacts to salmonids are negligible. Furthermore, water quality samples taken in Atascadero Creek and others after herbicide applications frequently indicate residual levels well below safe drinking water standards (0.7 mg/l for glyphosate) let alone LC50s for salmonids.***

In previous permit actions, the Commission has allowed for the use of Glyphosate herbicide (*Aquamaster™*) within sensitive wetland and riparian when it was found that use of an herbicide was necessary for habitat restoration and that there were no feasible alternatives that would result in fewer adverse effects to the habitat value of the site. However, the Commission notes Glyphosate herbicide, although determined by the EPA to be low in toxicity, is still toxic and will still result in some adverse effects to

wildlife when used in sensitive habitat areas such as the subject site. Even if it is assumed that the above data can be extrapolated to encompass applications of herbicides in all subsequent years, it appears that in at least one case (Patterson Avenue Bridge) the herbicide did migrate downstream, and although levels are considered relatively low and breakdown over time, they are still present on a temporary basis within the environmentally sensitive habitat and wetland area of Atascadero Creek. Additionally, there is direct impact (loss of non-target vegetation) to surrounding habitat from overspray.

In the case of the proposed project, Glyphosate herbicide (*Aquamaster*™) is only proposed for use during spring and early summer when stream flow is minimal. The applicant has indicated that the herbicide is only applied to patches of vegetation (primarily emergent willows and cattails) located within dry portions of the creek channel where no flow activity is present. The purpose of the herbicide spraying is to decrease the amount of vegetation present in the channel that will need to be removed the following fall during the annual discing activity.

The Commission notes that some level of flood control maintenance is necessary within the subject reach of Atascadero Creek. In addition, the Commission notes that alteration of streambeds, as proposed by this project, is consistent with Section 30236 of the Coastal Act when required for flood control projects and when necessary to protect public safety or existing development. However, the Commission further notes that Section 30236 also requires that such projects shall incorporate the best mitigation measures feasible. In addition, Section 30240 of the Coastal Act requires that all development within environmentally sensitive habitat areas must be carried out in a manner designed to minimize or prevent potential adverse effects to those resources. As such, the Commission notes that flood control activities on the subject site should be carried out in the least environmentally damaging manner. In this case, alternatives may exist to the proposed annual maintenance activities which would reduce adverse effects to wetland and riparian habitat on site, such as mechanical or hand removal of vegetation (or mowing and cutting of vegetation) within the stream channel instead of utilizing herbicide in the stream channel.

Staff notes that there is a certain amount of overspray that will result from the application of the herbicide that cannot be avoided even with the proper application. There is a potential for the herbicide to be introduced to the aquatic environment and there is a potential for other non-targeted vegetation to receive overspray. Given that this is designated environmentally sensitive wetland habitat and that other methods of removal may be implemented, the Commission requires Special Conditions Four (4) and Eight (8) to minimize adverse effects to habitat from the implementation of the annual flood activities. Special Condition 4 restricts the application of herbicide within any portion of the stream channel as measured from toe of bank to toe of bank. Herbicide use in upland areas outside of the stream channel shall be restricted to the use of Glyphosate (Roundup™) herbicide for the elimination of non-native and invasive vegetation for purposes of habitat restoration only, and conducted according to the specified guidelines as described in Special Condition 4 Project Responsibilities. Native

vegetation shall be clearly delineated on the project site with fencing or survey flags and protected.

2. Barnyard Grass

In addition, the proposed maintenance activities also include revegetation of the stream channel in spring (after spraying with herbicide has been completed) with non-native, Barnyard grass seed. The grass is subsequently disced the following fall. Barnyard grass *(Echinochloa crus-galli),* also known as cockspur grass or barnyard millet, is a non-native and potentially invasive plant species which originated from Europe and Asia. *Echinochloa crus-galli* is a densely growing grass which grows to 3 ft. or more in height. Seed from this species can remain viable up to 15 years. The success of this non-native exotic grass in colonizing new areas is attributed to its ability for prolific seed production, rapid growth, and its relatively high resistance to herbicides.

The applicant has indicated that the proposed revegetation of the stream channel with Barnyard grass is necessary in order to inhibit the growth of native woody riparian and wetland vegetation within the channel in order to facilitate easier clearance of the creek channel the following fall when discing occurs. The intent is for the introduced grass to outcompete the native species, thereby inhibiting the natural return growth of wetland species within the channel. In addition, the applicant has also indicated that the exotic grass, which is noted for prolific seed production, provides a source of food for migrant birds. The Commission notes that regardless of whether non-native grass is planted within the channel in spring or not, all vegetation within the subject reach of Atascadero Creek will be subsequently removed by discing activities the following fall prior to the rainy season.

The Commission notes that some level of flood control maintenance is necessary within the subject reach of Atascadero Creek. In addition, the Commission notes that alteration of streambeds, as proposed by this project, is consistent with Section 30236 of the Coastal Act when required for flood control projects and when necessary to protect public safety or existing development. However, the Commission further notes that Section 30236 also requires that such projects shall incorporate the best mitigation measures feasible. In addition, Section 30240 of the Coastal Act requires that all development within environmentally sensitive habitat areas must be carried out in a manner designed to minimize or prevent potential adverse effects to those resources. As such, the Commission notes that flood control activities on the subject site should be carried out in the least environmentally damaging manner. In this case, alternatives may exist to the proposed annual maintenance activities which would reduce adverse effects to wetland and riparian habitat on site, such as revegetating with low-growing or low-mass native plant species suitable for riparian and wetland habitat areas instead of with non-native grass species.

Pursuant to the 2000 Commission approval, the applicant submitted an analysis of native alternatives (see Exhibit 3) to the planting of non-native Barnyard grass that would serve to inhibit vegetative growth within the stream and serve as potential food source to migrating birds. In particular, alternatives were thought to be successful if they

could mature quickly, flower and/or produce seed within 4 to 6 months following germination in order to produce seed/food source for birds by the following October. Thirteen candidate native seeds were considered for use in Atascadero Creek. A key limitation was that seed of the selected species must be available each year in adequate quantities. Plants considered but found to have poor availability include several native annual *Carex, Cyperus*, and *Juncus* species. A number of native annual grasses that may be adapted to the existing conditions were also examined. These include *Eragrostis mexicana* subsp. *Virescens, E. pectinacea, Paspalum distichum,* and *Phalaris lemonii.* However, a commercial source for these seeds was not found to be available and collections of any useful amount of seed on an annual basis would be difficult, if not impossible.

Barnyard grass is identified as a weed species in the University of California, Agriculture and Natural Resources Statewide Integrated Pest Management Program. The alternatives analysis considered the invasive potential at the project site and concluded that it does not appear that Barnyard grass is spreading; however, it has not been conclusively demonstrated that the barnyard grass is not invasive at this site since it is too soon to make such a determination (Rachel Tierney Consulting, August 2001):

> ***An important factor in determining the usefulness of changing the current seed mix is whether or not barnyard grass is invading nearby resources. At this time it does not appear that it is. However, the six years since the seed has been introduced in the creek may be too short of a time period to observe its spread. Barnyard grass is a tall plant with coarse (relatively wide) leaves and would be apparent even in a small cluster.***
>
> ***The second benefit of seeding natives in lieu of barnyard grass would be in increase habitat value by providing a more diverse association of plants. This enhancement would be in addition to the successful mitigation already completed as part of the environmental review of impacts to vegetation associated with annual maintenance program, and their effect on wildlife.***
>
> ***If the District decides to pursue the use of native species as part of their annual maintenance program, a small test plot containing the recommended rates for a mixture of the alternative seed would help clarify which species are best adapted to this particular set of environmental parameters. A suggested seed mix is attached to this letter. Due to the prohibitive cost, only a small area should be sowed until the performance can be evaluated. The mixture can be seeded at the recommended rate and also at one-half the recommended rate. Small test plots containing individual species would also provide important information regarding the ability to reduce the growth of cattails.***
>
> ***If barnyard grass continues to display little to no invasion into surrounding areas, this species would be an appropriate component of a final seed mix, along with lesser amounts of native species that perform well in the trial seeding plot.***

Though the alternative species and recommended native seed mix considered in the analysis are considered to be expensive and/or infeasible for various other reasons, the Commission finds that the Sections 30236 and 30240 of the Coastal Act require maximum protection of the wetland and ESHA habitat. As stated above, the alternatives

analysis concluded that Barnyard grass does not appear to be invading surrounding areas but even so, it may be too soon to gauge the impacts. Additionally, there are alternatives to planting Barnyard grass, including the "no project" alternative. The use of Barnyard grass was only added to the routine maintenance activities in 1995. The Commission finds that the use of non-native, and potentially invasive, Barnyard grass does not protect the habitat to the maximum extent feasible and may be detrimental to the local stream ecology in ways that are yet unknown. The potential benefit to migrating birds is minimal when compared to the potential long-term impacts to the habitat. Furthermore, it may be argued that such a transition in the habitat, i.e. support of non-native flora, would be of little value to the native species, instead encouraging further competition and use of the area by non-native wildlife species. For the above reasons, the Commission finds it necessary to eliminate the use of Barnyard grass from the annual maintenance routine, as required by Special Condition Eight (8). The applicant may implement a native alternative or not plant the channel area at all.

3. Steelhead

In August 1997, the National Marine Fisheries Service (NMFS) designated populations of the southern steelhead (*Oncorhynchus mykiss*) along the coast of Santa Barbara (within the South-Central Evolutionary Significant Unit) as endangered. The subject site also provides habitat for Steelhead trout. Southern steelhead are anadromous (migrating from freshwater to the ocean as juveniles and returning to freshwater as an adult to spawn). Spawning occurs from December through June when higher winter stream flows occur. The Final Supplement to Environmental Impact Report (94-EIR-1) by Santa Barbara County Flood Control District and URS Corporation dated September 2000, indicates that although no evidence of migration and spawning of steelhead has been observed in Atascadero Creek, individual steelhead have been observed in Maria Ygnacio Creek (an upstream tributary of Atascadero Creek which converges within the project reach). As such, the Supplemental EIR determined that steelhead may potentially be present within the subject reach of Atascadero Creek as the steelhead migrate upstream in search of spawning habitat.

The Supplemental EIR states that the potential occurrence of steelhead within the project reach is expected to be rare, and would generally consist of migrating fish. Adults typically migrate upstream during the period December through March, while juveniles typically travel downstream between February through May. The proposed dredging or discing activity within the subject reach of Atascadero Creek during identified seasonal migratory periods may result in potential adverse effects to steelhead. The Final Supplement to Environmental Impact Report (94-EIR-1) by Santa Barbara County Flood Control District and URS Corporation dated September 2000 states:

> ***The current maintenance program includes only two physical disturbances to the creek bed that could directly affect any fish or aquatic organisms in the creek: annual discing and periodic channel desilting. Both activities occur in October or November when the channel is mostly devoid of water, and steelhead are not migrating. Hence, there would be no direct effect on steelhead from these activities.***

As noted above, the proposed project may result in adverse effects to steelhead (a federally listed endangered species) if the proposed desiliting activities or maintenance activities occur while steelhead are migrating. Therefore, Special Condition One (1) requires that all project operations, with the exception of hand clearing and mowing of target emergent vegetation, occur only during the period between October 1 and December 15, to avoid sensitive species timing constraints. This timing will ensure that project activities do not occur between December 15 through June 30 when high winter stream flows occur, to avoid adverse effects to steelhead trout.

In addition, to further mitigate adverse effects to fish populations within Atascadero Creek from the proposed project, the applicant provided an analysis of the feasibility of removing or modifying all existing grade stabilizer "check" structures within Atascadero Creek to better facilitate passage, as part of the alternatives analysis required by Special Condition 4 of CDP 4-00-205. Two existing grouted rock rip-rap and concrete "check" structures or grade stabilizers are located within Atascadero Creek south of Ward Drive (near the western terminus of the project reach) and at the base of the Patterson Avenue Bridge. These structures extend across the entire width of the active stream channel (ranging in height from 6 inches to 6 feet) and present obstacles (although not impassable barriers during high-flow events) to fish movement up and downstream. The County has indicated that the date of construction of the structures is unknown but that they have existed on site prior to the passage of the Coastal Act.

Based on discussions with NMFS staff, the applicant concluded that the only grade control structure within the project boundaries that poses an impediment to fish is located at the Patterson Avenue Bridge. "The check structure located near the end of Ward Drive does not pose an impediment to fish under most flow conditions and does not need to be considered for modification according to Mr. Stan Glowacki of the National Marine Fisheries Service (NMFS)" (Alternatives Analysis dated February 2003).

The Patterson Avenue Bridge, abutments and concrete apron within the creek invert essentially act as a grade control structure at the confluence of Maria Ygnacio and Atascadero Creek, however, downcutting immediately downstream of the bridge has created a large pool (50' x 40' and approximately 7' deep) and associated fish impediment, rather than a barrier. The Flood Control District met with Stan Glowacki to discuss possible modifications to eliminate this impediment and make this structure passable under most of the flow conditions.

In order to bring the grade of the creek up approximately 18 inches but not eliminate the pool, which is currently occupied by at least one southwestern pond turtle and can also provide good habitat for steelhead moving through the system, the District is proposing to install a rock weir structure approximately 100 feet downstream from the bridge. The structure would be constructed of large rip-rap with keyed-in boulders grouted below grade. The structure will have two outer arms pointing upstream into the flow at an angle of approximately 30 degrees to the banks. The center of the structure will be

perpendicular of the flow and occupy approximately 18 inches above grade. This will bring the water surface elevation in the existing pool up 18 inches, thus reducing the jump over the existing impediment to approximately 2 feet.

The District also proposes to restore approximately 3,500 sq. ft. of the south bank immediately downstream of the bridge by planting native habitat consistent with the riparian corridor. The plantings will help hold the bank in place, replace lost habitat and protect the existing habitat bordering the southwestern turtle pool. The construction of the rock weir and bank restoration would be conducted to avoid impacts to the southwestern pond turtle with the applicant requesting construction between August and October.

NMFS generally recommends an 18-inch jump height for adults and 6-inch jump height for juveniles. Though not considered an outright barrier to fish passage, the Patterson Avenue Bridge is considered a substantial impediment to fish passage because on average in represents approximately a 4-foot jump height. Technically, the Patterson Avenue Bridge is considered "take" of this species. According to NMFS staff, the proposed rock weir would require hydraulic analysis evaluated by NMFS specialists to ensure that the pond would not be adversely affected, while also bringing the water elevation up 18 inches. NMFS would normally recommend two rock weir structures in the project reach order to bring the elevation up further. However, given the concern for the existing ponds to remain, the benefit of one structure should not be ignored.

A structure of this nature would extend from bank to bank, up to approximately 80 feet in this case. Additionally, NMFS estimates that such a structure would be approximately 20 feet wide on the bottom, as excavated into the streambed, and 5 to 10 feet wide on the visible portion at the top of the structure. This substantial configuration is necessary because such structures are required to withstand the 100-year flood levels.

The applicant has not provided project plans for the rock weir and bank restoration components of the project. To ensure that the project is implemented in a manner consistent with the project description and protective of the stream resources and ponds, the Commission finds it necessary to require final plans for the proposed rock weir and bank revegetation, as described in Special Conditions Two (2) and Eight (8). Prior to construction the rock weir, the applicant shall submit final project plans, reviewed and approved by the National Marine Fisheries Service, as required by Special Condition Six (6). Special Condition 6 requires the applicant to obtain all other necessary State or Federal permits that may be necessary for all aspects of the proposed project, including the National Marine Fisheries Service and California Department of Fish and Game. Other portions of the project may commence prior to receipt of NMFS approval of the rock weir.

4. Southwestern Pond Turtle

The southwestern pond turtle is classified as a Species of Special Concern by the Department of Fish and Game, and previously classified as a Category 2 species by the USFWS. Southwestern pond turtle has been observed within the project reach. Habitat

requirements for adults include permanent freshwater lakes, ponds, and low-flowing streams, rivers, and irrigation ditches. These water sources must be fairly deep, support adequate growths of aquatic vegetation, as well as a diverse invertebrate fauna, and possess suitable protected basking sites (rocks, ledges, logs, etc.). Breeding habits are poorly known.

Southwestern pond turtles were observed during biological surveys in the project reach in 1991, 1994, and 1999 in ponds located between Turnpike Road and Patterson Avenue. Informally, Flood Control staff have fairly routinely observed southwest pond turtles within the project reach (Karl Treiberg, pers. comm.). Five fairly persistent ponds which may support southwestern pond turtle occur along the project reach. Based on June 1994 field surveys by John Storrer and Paul Collins for the District, the southwestern pond turtle occurs in very limited numbers along the creek due to poor quality habitat. A total of three turtles were observed during four visits: one at the "elbow" and two at Patterson Avenue bridge. Non-native turtles, such as northern diamond-back terrapin and three-toed box turtles are also present and may be displacing native turtles. A single southwestern pond turtle was observed during the November 4, 1999 survey downstream of the Patterson Avenue Bridge. Attempts to trap the animal were unsuccessful.

There is every indication that the population of pond turtles in this area is very small. Even so, it should be noted that the seasonal timing of the pre-construction biological surveys were not optimal for observing turtles, but were conducted to ensure that southwest pond turtles were not in the project reach prior to invasive flood control activities. In general, pond turtle activity is greatly reduced by early fall and most individuals would be expected to have left the stream channel in favor of upland winter retreats by this time. Channel maintenance is intentionally timed to coincide with this period of inactivity, in order to reduce the potential for incidental mortality. (Storrer Environmental Services, November 8, 1995)

The 1994 Project EIR states that the project would result in several potentially significant impacts to biological resources: (1) including temporary and permanent loss of several riparian/wetland habitat types; (2) potential reduction in the amount and quality of habitat for aquatic organisms, breeding or migrating birds, and pond turtles; (3) potential direct mortality to pond turtles; (4) potential sedimentation impacts affecting downstream species in Goleta Slough; and (5) enhancement of riparian and wetland habitats at the mitigation areas.

The 1994 EIR lists the "clearing of emergent wetlands from the channel bottom on an annual basis would remove habitat for the southwestern pond turtle, and possibly cause mortality" as an avoidable significant impact of the project. The practical impacts to the habitat as a result of the project were confirmed in the Post-maintenance Assessment prepared by Storrer Environmental Services (June 18, 1995):

> ***No pond turtles were observed during the course of the June 10, 1995 survey. Sites that were previously considered suitable for turtles; including the Hospital/Atascadero Creek confluence, bend at Via Miguel, and Patterson Avenue Bridge had declined in***

> ***overall habitat value due to the maintenance activities and streambed scour that resulted from storm runoff. There were disjunct pools of sufficient depth to provide refuge for pond turtles, however much of the protective cover vegetation associated with these features was not longer present. There was evidence of frequent visitation by children, dogs, cats, and raccoons in the vicinity of the pools. These factors negatively influence the potential for pond turtles to occur...***
>
> ***The results of the survey are not conclusive with respect to presence or absence of southwestern pond turtles in lower Atascadero Creek. However, overall habitat quality has declined since the last sightings in June of 1994. It is possible that pond turtles were simply not detected; given the low population level with Atascadero Creek, this is a distinct possibility. Restocking of this lower reach from upstream is feasible, particularly in light of the restoration potential afforded by the mitigation sites.***

Additionally, there is a clear nexus between the ongoing flood control maintenance activities and the additional degradation of the habitat due to modification to the habitat and the additional trespass. Without the project activities, Atascadero Creek would be a densely vegetated area which would hinder trespass by humans and animals.

As part of the 1994 approval (CDP 4-94-061), the project included the creation and restoration of approximately 28 acres of upland and wetland habitats at three mitigation sites adjacent to the project reach to compensate for the loss of habitat in the Atascadero Creek channel: 14.57 acres of riparian woodland to be established on the vacant land between the creek and bike path; 11.04 acres of emergent and forested wetlands to be established and/or protected on a parcel adjacent to the creek that was purchased by the District; and 2.23 acres of emergent and forested wetlands to be established on existing County owned property adjacent to the project reach. This restoration was intended to offset the impacts of the channel clearance and provide long-term protection to habitats subject to modification and disturbance.

This restoration was completed in phases over four years: commencing in 1994 with the excavation of emergent wetland basins and continued planting of the wetland and riparian woodland through 1997. This restoration has been successfully implemented in accordance with the performance criteria as provided in the annual monitoring reports, 1995-1999. However, this mitigation was not intended to address the impact to the southwestern pond turtle. The 1994 Project EIR specifically states:

> ***Removal of emergent wetlands from the channel bottom on an annual basis would directly affect the southwestern pond turtle because it would remove known turtle habitat and food supply. Suitable aquatic and emergent wetland habitat for the turtle would not be created at the mitigation sites.***

The Flood Control District has indicated that the above-mentioned restoration project is intended to fully mitigate all past, present, and future impacts associated with the project. Though the restoration project was successful, Commission staff does not agree that the impact to the southwestern pond turtle has been fully mitigated. CDP 4-94-061 was approved pursuant to five special conditions, including Special Condition Two which specifically stated that the Commission's approval of the proposed project was for a limited duration of five years from the date of Commission action and would expire on November 16, 1999. The findings of CDP 4-94-061 state:

The project also has the potential to adversely affect sensitive species such as the Southwestern Pond Turtle. The County has proposed to survey the areas to be dredged or cleared prior to undertaking these activities to locate and temporarily relocate any turtles until the channel clearing has been completed. To ensure that these and other mitigation measures adequately protect sensitive species, it is necessary to limit the time of the permit and to monitor the effectiveness of the mitigation measures. Accordingly, this permit is conditioned to limit the permit to no more than five years, and to require annual monitoring of the channel clearing activities.

It is important to note that the proposed activities are annual and ongoing. Past Commission action does not support the idea that uncertain future impacts are mitigated by one-time habitat restoration projects, when specific measures within the project area itself (in this case Atascadero Creek) could be taken to mitigate the impacts of the project.

Current mitigation includes avoidance of activities within 50 feet of the ponds and pre-construction surveys to determine presence and take subsequent action to temporarily relocate turtles. To mitigate potential impacts to resident turtles that might result from dredging and clearing operations a "Southwestern Pond Turtle Salvage and Reintroduction Plan" (Collins and Storrer 1994) was developed. Following this protocol, prior to construction, an attempt would be made to capture any individuals sighted, per the approved salvage and reintroduction plan. These specimens would be temporarily held in captivity, then released near their point of capture following completion of channel maintenance operations. Therefore, to ensure that the potential disturbance from construction equipment and desilting activity on pond turtles is minimized and to ensure that all recommendations of the environmental consultant are properly implemented, Special Condition Four (4) requires that a qualified environmental resource specialist shall conduct a survey of the project site each day prior to commencement of any excavation/dredging, or maintenance activity (including discing and mowing) to determine whether any sensitive wildlife species are present. In the event that any sensitive wildlife species are present on the project site, the environmental resource specialist shall either: (1) initiate a salvage and relocation program prior to any excavation/maintenance activities to move sensitive species and significant wildlife features (such as southwestern pond turtles, breeding bird nests, etc.) by hand to safe locations elsewhere along the project reach or (2) as appropriate, implement a resource avoidance program with sufficient buffer areas to ensure adverse effects to such resources are avoided. The monitor shall have the authority to require the applicant to cease work should any breach in permit compliance occur, or if any unforeseen sensitive habitat issues arise. If significant impacts or damage occur to the beach, slough, or marine environment on site beyond the scope of work allowed for by this permit, the applicant shall be required to submit a revised, or supplemental, restoration program to adequately mitigate such impacts. The revised, or supplemental, restoration program shall be processed as an amendment to this coastal development permit.

As a result of the evident impacts to the southwestern pond turtle and habitat, in this case, the impact of the project to pond turtles from the annual flood control activities is

not fully mitigated. Discussion with Flood Control staff indicate that there is an opportunity to modify a portion of the Atascadero Creek restoration site to allow a perennial, protected pond habitat area. A benefit of this setup is its proximity to the southbank of Atascadero Creek which may provide potential nesting habitat. Additionally, there is opportunity to protect the known pond turtle habitat at the Patterson bridge, including the relocation of the existing access ramp for flood control equipment further downstream and the planting of a vegetative barrier to discourage further trespass into these areas. To ensure protection of pond turtle habitat consistent with Section 30240 of the Coastal Act, Special Condition Two (2) requires a Southwestern Pond Turtle Habitat Enhancement and Monitoring Program, prepared by a qualified biologist or environmental resource specialist with qualifications acceptable to the Executive Director, which shall include the pond at Patterson Avenue Bridge and a location within the designated Atascadero Creek restoration site. As applicable, the enhancement program shall include a shrub barrier to discourage trespass into the ponds, prohibition of flood control activities within the ponds, and improved hydrology.

Special Condition 2 further provides that if a qualified academic group or nonprofit agency, with qualifications acceptable to the Executive Director, proposes a southwestern pond turtle recovery project, the applicant shall make the enhancement pond areas available for such purposes. The recovery program would be subject to Executive Director approval and may require a separate coastal development permit. The habitat enhancement shall be monitored by the applicant for five years, and shall preclude the planting of non-native species within the enhancement areas. The applicant shall submit, on an annual basis for a period of five years, a written report prepared by a qualified resource specialist, evaluating the extent of the success or failure of the enhancement project. At the end of the five-year period, a final detailed report shall be submitted for the review and approval of the Executive Director. If the report indicates that any portion of the project standards are not met, the report shall provide recommendations to compensate for those portions of the original program which were not successful. The applicant shall be responsible for implementing additional remedial actions and provide continued monitoring as the Executive Direction may determine necessary to ensure compliance. Special Condition 2 requires that the enhancement measures be implemented at the first-available, appropriate time of year, as identified in the habitat enhancement and protection plan, after the permit is activated. The Executive Director may grant additional time for good cause.

In addition to the above requirements, Special Condition 2 provides that the County should encourage the construction of a new pedestrian bridge over Atascadero Creek in the vicinity of the existing Atascadero Creek restoration site. The purpose of the bridge is to provide adequate access to adjacent recreation trails thereby reducing existing patterns of pedestrian trespass through the sensitive creek habitat. An appropriate bridge design would span the creek and would be located as far as feasible from the existing pond.

As noted above, the proposed project may result in adverse effects to southwestern pond turtle if the proposed desilting activities or maintenance activities occur in and

along Atascadero Creek in the project area during the southwestern pond turtle breeding season. Therefore, the Commission requires Special Condition One (1) which requires that all project operations, with the exception of hand clearing and mowing of target emergent vegetation, occur only during the period between October 1 and December 15, to avoid sensitive species timing constraints. Special Condition 1 specifically provides the proposed practice to prohibit flood control activities within 50 feet of any ponding/pools along Atascadero Creek, year around. From 50 feet to 100 feet from the ponding/pools, activities shall be conducted with hand tools only. Equipment may not be driven within 50 feet of the ponds. Therefore, prior to issuance of the coastal development permit, Special Condition Eight (8) requires the applicant to submit, for the review and approval of the Executive Director, final revised project plans which show that the existing Patterson Avenue accessway shall be relocated downstream of the existing pond at Patterson Avenue Bridge, near the approximate location of the rock weir.

As required in the 1994 CDP, to ensure that these and other mitigation measures adequately protect sensitive species, it is necessary to limit the time of the permit and to monitor the effectiveness of the mitigation measures. Therefore Special Condition Nine (9) provides that the all authorizations granted pursuant to CDP 4-03-025 shall expire five years from the date of Commission action. Any dredging/desilting, excavation, sediment transport, maintenance, or other project activities after the expiration of this permit will require the issuance of a new coastal development permit.

Therefore, the Commission finds that the proposed project, as conditioned, is consistent with Sections 30230, 30231, 30236, and 30240 of the Coastal Act.

D. HAZARDS AND SHORELINE PROCESSES

Section **30253** of the Coastal Act states in part that new development shall:

> ***(1) Minimize risks to life and property in areas of high geologic, flood, and fire hazard.***
>
> ***(2) Assure stability and structural integrity, and neither create nor contribute significantly to erosion, geologic instability, or destruction of the site or surrounding area or in any way require the construction of protective devices that would substantially alter natural landforms along bluffs and cliffs.***

Section 30253 of the Coastal Act mandates that new development shall minimize risks to life and property in areas of high geologic, flood, and fire hazard. The purpose of the proposed desiltation program is to maintain the floodwater carrying capacity in Atascadero Creek to reduce the likelihood of flood damage to adjacent residential areas. In general, Atascadero Creek is an area of sediment deposition primarily because the gradient of the creek is substantially reduced in the project reach, which in turn, decreases the velocity of water and allows sediments to drop out. The annual

removal of vegetation in the channel by discing removes channel obstructions and ensures that creek velocities are maintained.

The proposed project includes desilting/dredging activities to be implemented on an as-necessary basis. The applicant has indicated that excavation/dredging is currently necessary with at least 3,000 cu. yds. of material to be removed. Additionally, dredging of the subject reach of Atascadero Creek may be necessary at an undetermined future point in time in the event that the channel becomes overly sedimented. Future dredging activities are expected to result in the removal of no more than 30,000 cu. yds. of material within the project reach per year. Desilting/dredging activities involve the use of a crane rigged with a clamshell bucket that is operated from the adjacent stream bank. All dredged material will be stockpiled in designated areas adjacent to the creek where it is allowed to dewater. Stockpiles will be set back a minimum of 30 ft. from the top edge of the stream bank. The sediment will be allowed to dewater for several weeks and then it is hauled to a suitable disposal site. The County estimates desilting is typically necessary in the project reach every 5 to 10 years. However, the proposed desilting would occur on as-needed basis because high sediment laden flows can result in sedimentation that requires desilting.

The applicant has stated that the stockpiled material shall be removed to a suitable disposal site, and such site(s) have not been determined. Staff notes that a suitable sites is one that has all the necessary federal, state, and local approvals to receive such material. Additionally, no information regarding the suitability of sediment to be removed to be used for beach nourishment has been submitted as part of this application. Therefore, Special Condition Three (3) requires that prior to disposal of excess excavated material, the applicant shall provide evidence to the Executive Director of the location and method of disposal to an approved disposal location either outside the coastal zone or to a site within the coastal zone permitted to receive such fill. The applicant shall submit a determination of the suitability of the sediment for beach/surfzone disposal, including a determination by the U.S. Army Corps of Engineers as to whether the excavated material meets the minimum criteria necessary for placement on the sandy beach or within the surf zone. Material meeting all applicable federal and state beach nourishment or dredge spoil discharge requirements shall be reserved for such use.

As stated above, all dredged material will be stockpiled in designated areas adjacent to the creek for dewatering, approximately 30 to 100 ft. in distance from the top of the bank. However, the Commission notes that excavated materials that are placed in stockpiles are subject to increased erosion and potential adverse effects to adjacent streams and wetland areas from resedimentation and increased turbidity. The Commission also notes that additional landform alteration would result if the excavated material were to be retained on site. Therefore, in order to ensure that dredged material will not be permanently stockpiled on site and that erosion and resedimentation of the streams on site are minimized during any temporary stockpiling activities, Special Condition Three (3) also requires that any stockpiled materials shall be located as far from the stream or wetland areas on site as feasible and in no event shall materials be

stockpiled less than 30 ft. in distance from the top edge of the stream bank. Temporary erosion control measures (such as sand bag barriers, silt fencing; swales, etc.) shall be implemented in the event that temporary stockpiling of material is required. These temporary erosion control measures shall be monitored and maintained until all stockpiled fill has been removed from the project site. Permanent stockpiling of material on site shall not be allowed.

The applicant estimates that desilting activities are only necessary every five to ten years, or potentially during severe flood seasons. In order to assess the success of the annual maintenance activities without the use of herbicide and barnyard grass as described throughout this report, the Commission finds it necessary to restrict the subject permit to one year of desiltation activities as described under Special Condition Three (3), except where subject to review and approval by the Executive Director a showing is made that severe storm events have decreased the channel capacity by 20%. By limiting the desilting to only unusual and severe circumstances, the post-construction assessment will allow further evaluation of the adequacy of the flood control activities, as revised, and allow controlled evaluation of the success of the implementation of the mitigation measures.

In addition, the Commission notes, based on the information submitted by Santa Barbara County Flood Control District, that the proposed development is located in an area of the Coastal Zone which has been identified as subject to potential hazards from flooding. The applicant has indicated that the areas surrounding Atascadero Creek have previously been subject to substantial damage as the result of seasonal flood events during the winter storm season. As such, the Commission notes that evidence exists that the project site is subject to potential risks due erosion, and flooding.

The Commission further notes that although the proposed development is intended as a flood control project and will serve to reduce the potential for flooding of the developed areas immediately upland of the project site, there remains some inherent risk to any flood control projects. The Coastal Act recognizes that certain types of development, such as the proposed project, may involve the taking of some risk. Coastal Act policies require the Commission to establish the appropriate degree of risk acceptable for the proposed development and to determine who should assume the risk. When development in areas of identified hazards is proposed, the Commission considers the hazard associated with the project site and the potential cost to the public, as well as the individual's right to use his property. As such, the Commission finds that due to the unforeseen possibility of erosion and flooding, the applicant shall assume these risks as a condition of approval. Therefore, Special Condition Seven (7) requires the applicant to waive any claim of liability against the Commission for damage to life or property which may occur as a result of the permitted development. The applicant's assumption of risk, will show that the applicant is aware of and appreciates the nature of the hazards which exist on the site, and which may adversely affect the stability or safety of the proposed development.

Therefore, the Commission finds that the proposed project, as conditioned, is consistent with Coastal Act Section 30253.

E. PUBLIC ACCESS AND VISUAL RESOURCES

Coastal Act Section **30210** states that:

> ***In carrying out the requirement of Section 4 of Article X of the California Constitution, maximum access, which shall be conspicuously posted, and recreational opportunities shall be provided for all the people consistent with public safety needs and the need to protect public rights, rights of private property owners, and natural resource areas from overuse.***

Coastal Act Section **30211** states:

> ***Development shall not interfere with the public's right of access to the sea where acquired through use or legislative authorization, including, but not limited to, the use of dry sand and rocky coastal beaches to the first line of terrestrial vegetation.***

In addition, Section **30251** of the Coastal Act states that:

> ***The scenic and visual qualities of coastal areas shall be considered and protected as a resource of public importance. Permitted development shall be sited and designed to protect views to and along the ocean and scenic coastal areas, to minimize the alteration of natural land forms, to be visually compatible with the character of surrounding areas, and, where feasible, to restore and enhance visual quality in visually degraded areas. New development in highly scenic areas such as those designated in the California Coastline Preservation and Recreation Plan prepared by the Department of Parks and Recreation and by local government shall be subordinated to the character of its setting.***

Coastal Act sections 30210 and 30211 mandate that maximum public access and recreational opportunities be provided and that development not interfere with the public's right to access the coast. In addition, Coastal Act Section 30251 requires that visual qualities of coastal areas shall be considered and protected, landform alteration shall be minimized, and where feasible, degraded areas shall be enhanced and restored.

The proposed project will be located adjacent to and within public recreational areas including the Atascadero Creek Bikeway system. A public bicycle/pedestrian trail is located adjacent to several of the creek where dredging will occur. The proposed dredging activities will result in some potential temporary disruption to the public's ability to use the bicycle/pedestrian trail on site resulting from construction vehicles crossing the bicycle path during dredging operations. Disruptions are expected to be minor and would not result in the closure of any bicycle or pedestrian paths.

Dredged material will be stockpiled in designated areas adjacent to the creek for dewatering, approximately 30 to 100 ft. in distance from the top of the bank. Temporary stockpiles would be expected to remain on site for several months until all material has been adequately dewatered and removed to a suitable disposal site. Stockpiled materials, which would be visible from several public viewing areas including the

bicycle/pedestrian trails on site, would result in some adverse temporary impacts to public views.

The Commission notes that excavated materials that are placed in stockpiles are subject to increased erosion and that additional landform alteration would result if the excavated material were to be permanently retained on site. The resulting landform alteration and increased erosion on site would adversely impact public views along the Atascadero Creek Bikeway. Therefore, in order to ensure that the adverse impacts to public views are minimized Special Condition Three (3) requires that stockpile sites be temporary, and only as long as necessary for the dewatering process to be complete. In addition, stockpiled materials shall be located as far from the stream or wetland areas on site as feasible and in no event shall materials be stockpiled less than 30 ft. in distance from the top edge of the stream bank. Temporary erosion control measures (such as sand bag barriers, silt fencing; swales, etc.) shall be implemented in the event that temporary stockpiling of material is required. These temporary erosion control measures shall be monitored and maintained until all stockpiled fill has been removed from the project site. Permanent stockpiling of material on site shall not be allowed. The applicant shall provide evidence to the Executive Director of the location of the permanent disposal site for all excavated material prior to removal of the material from the project site. Should the dump site be located in the Coastal Zone, a coastal development permit shall be required. In addition, to ensure that all disturbed areas (including temporary stockpile areas) are adequately revegetated, Special Condition Four (4) requires that all accessways on the subject site disturbed as a result of this project be planted and maintained for habitat restoration and erosion control purposes as soon as possible after disturbance has occurred. Disturbed areas within the streambed/channel may be planted and maintained with locally native seeds or plants endemic to riparian habitat areas.

Therefore, the Commission finds that the proposed project, as conditioned, is consistent with Sections 30210, 30211, and 30251 of the Coastal Act.

F. ARCHAEOLOGICAL RESOURCES

Coastal Act Section 30244 of the Coastal Act states that:

> ***Where development would adversely impact archaeological or paleontological resources as identified by the State Historic Preservation Officer, reasonable mitigation measures shall be required.***

Archaeological resources are significant to an understanding of cultural, environmental, biological, and geological history. The Coastal Act requires the protection of such resources to reduce the potential adverse impacts through the use of reasonable mitigation measures. Degradation of archaeological resources can occur if a project is not properly monitored and managed during earth moving activities and construction. Site preparation can disturb and/or obliterate archaeological materials to such an extent that the information that could have been derived would be permanently lost. In the past, numerous archaeological sites have been destroyed or damaged as a result of

development. As a result, the remaining sites, even though often less rich in materials, have become increasingly valuable as a resource. Further, because archaeological sites, if studied collectively, may provide information on subsistence and settlement patterns, the loss of individual sites can reduce the scientific value of the sites which remain intact.

The applicant has submitted Environmental Impact Report (94-EIR-1) by Santa Barbara County Flood Control District and Woodward-Clyde Consultants dated July 1994 which indicates that Native American Archaeological resources have been identified within three separate areas (SBA-45 and SBA-1588). In order to minimize the potential for adverse effects to cultural resources, the proposed dredging will only occur in the same areas of stream channel where dredging has occurred in previous years. In addition, in order to avoid disturbance to cultural resources on site, the buffer areas have been delineated adjacent to all identified resource areas where dredging activities shall be prohibited. However, the Commission notes that potential adverse effects to those resources may still occur due to inadvertent disturbance during dredging activity. To ensure that impacts to archaeological resources are minimized, Special Condition Five (5) requires that if project activities are undertaken within an area known to have archaeological resources, the applicant agrees to have a qualified archaeologist(s) and appropriate Native American consultant(s) present on-site during all desilting/dredging activities which occur within or adjacent to the archaeological sites in the project area. Specifically, if required as described above, the desilting/dredging operations on the project site shall be controlled and monitored by the archaeologist(s) with the purpose of locating, recording and collecting any archaeological materials. Alternately, under the direction of a qualified archaeologist and/or appropriate Native American consultant, the applicant may implement alternative techniques designed to temporarily protect such resources (e.g., placing temporary cap material in accordance with accepted protocols for archaeological resource protection). In the event that any significant archaeological resources are discovered during operations, all work in this area shall be halted and an appropriate data recovery strategy be developed, subject to review and approval of the Executive Director, by the applicant's archaeologist and the native American consultant consistent with CEQA guidelines.

Therefore, the Commission finds that the proposed project, as conditioned, is consistent with Section 30244 of the Coastal Act.

G. CEQA

Section 13096(a) of the Commission's administrative regulations requires Commission approval of Coastal Development Permit application 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)(A) 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 effect which the activity may have on the environment.

The Commission finds that, the proposed project, as conditioned will not have significant adverse effects on the environment, within the meaning of the California Environmental Quality Act of 1970. Therefore, the proposed project, as conditioned, has been adequately mitigated and is determined to be consistent with CEQA and the policies of the Coastal Act.

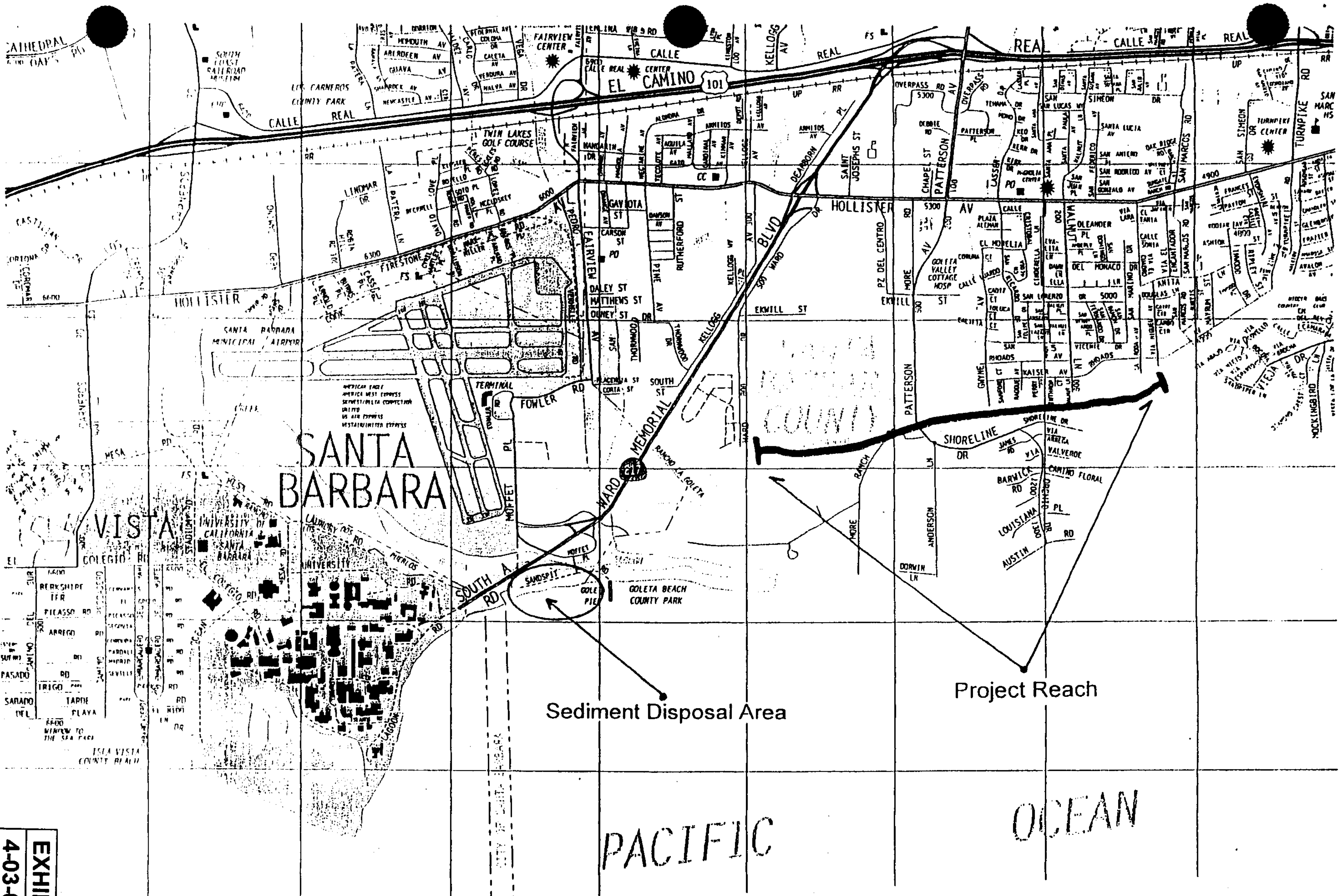
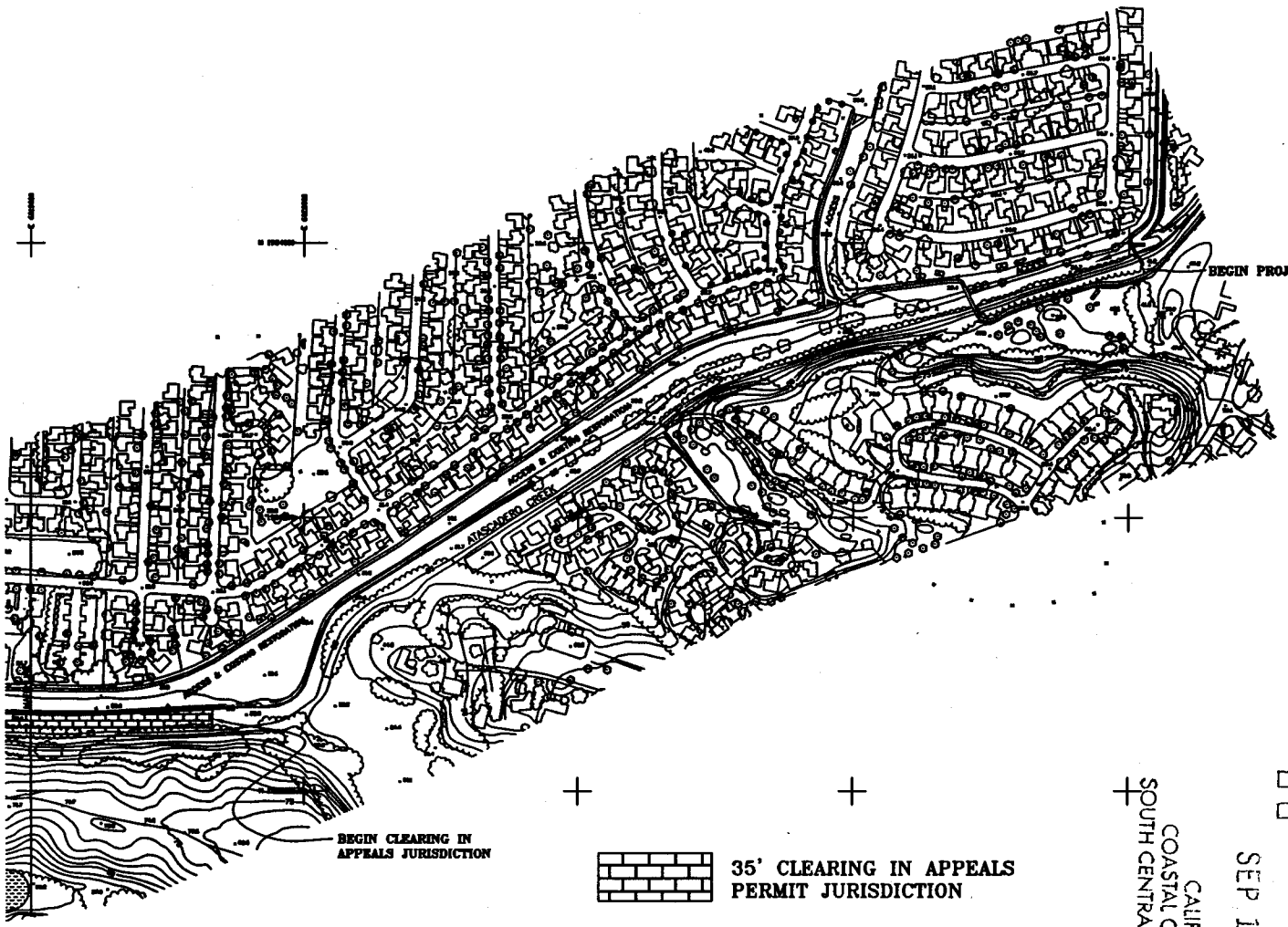


EXHIBIT 1
4-03-025
Vicinity Map



SCALE: 1" = 200'

35' CLEARING IN APPEALS PERMIT JURISDICTION

RECEIVED
SEP 12 2003
CALIFORNIA COASTAL COMMISSION
SOUTH CENTRAL COAST DISTRICT

EXHIBIT 2a
4-03-025
Site Plan (Upstream Portion of Reach)

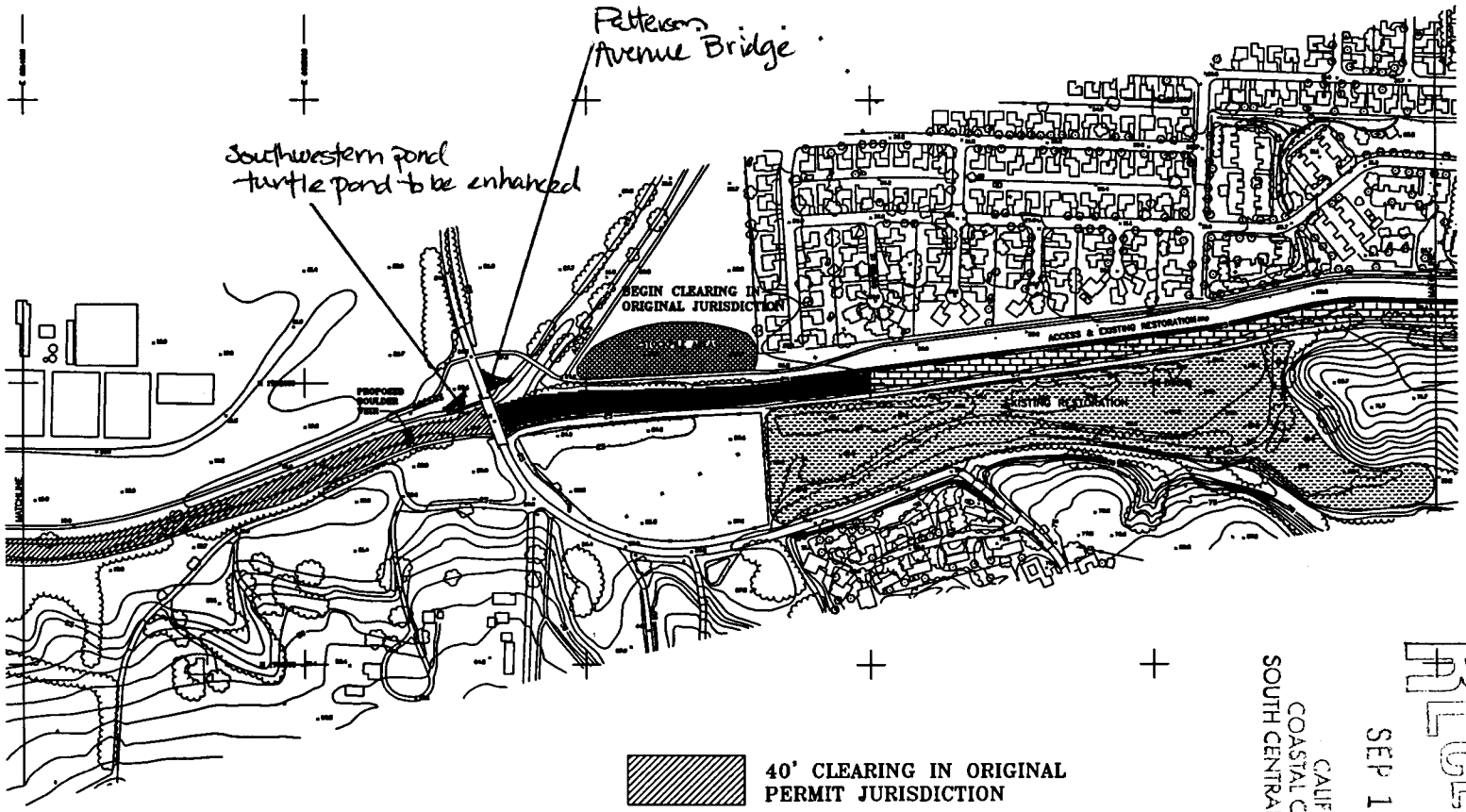
SANTA BARBARA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
123 E. ANAPAMU STREET
SANTA BARBARA, CA 93101
(805) 568-3440

ATASCADERO CREEK
SANTA BARBARA COUNTY, CALIFORNIA

LOWER ATASCADERO CREEK PROJECT

DESIGNED BY: KT
DRAWN BY: JT
CHECKED BY: JF

SHEET 1 OF 3



RECEIVED
SEP 12 2003
CALIFORNIA
COASTAL COMMISSION
SOUTH CENTRAL COAST DISTRICT

EXHIBIT 2b
4-03-025
Site Plan

SANTA BARBARA COUNTY
FLOOD CONTROL
AND
WATER CONSERVATION DISTRICT
123 E. ANAPAMU STREET
SANTA BARBARA, CA 93101
(805) 568-3440

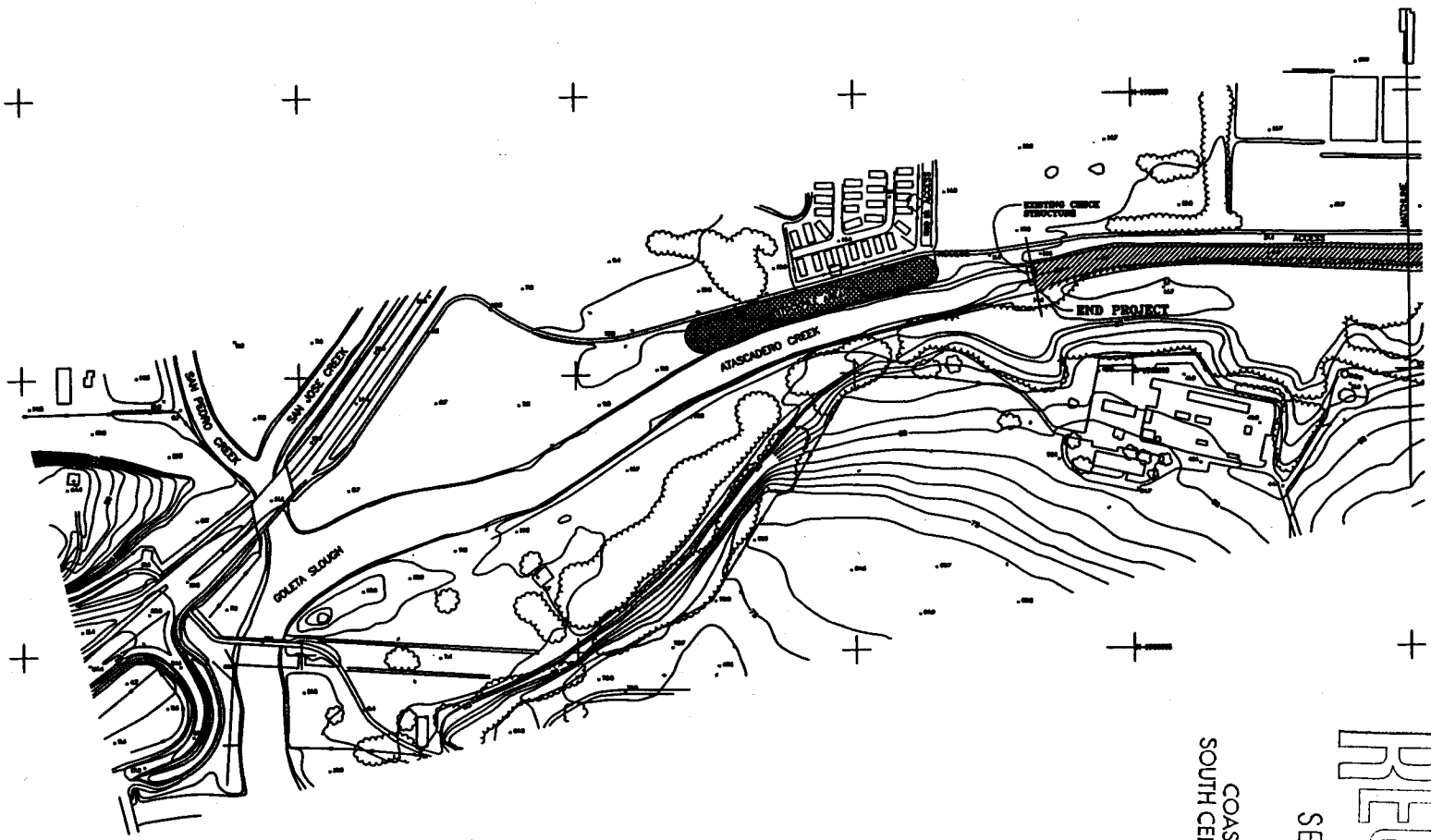
ATASCADERO
CREEK

SANTA BARBARA COUNTY, CALIFORNIA

LOWER ATASCADERO
CREEK PROJECT

DESIGNED BY: KT
DRAWN BY: JT
CHECKED BY: JF

SHEET 2 OF 3



SCALE: 1" = 200'

40' CLEARING IN ORIGINAL PERMIT JURISDICTION

SANTA BARBARA COUNTY
FLOOD CONTROL
AND
WATER CONSERVATION DISTRICT
123 E. ANAPAMU STREET
SANTA BARBARA, CA 93101
(805) 568-3440

ATASCADERO
CREEK

SANTA BARBARA COUNTY, CALIFORNIA

LOWER ATASCADERO
CREEK PROJECT

DESIGNED BY: KT
DRAWN BY: JT
CHECKED BY: JF

SHEET 3 OF 3

EXHIBIT 2c
4-03-025
Site Plan
(Downstream Portion
of Reach)

RACHEL·
TIERNEY
CONSULTING

August 22, 2001

Maureen Spencer
Santa Barbara Flood Control
123 East Anacapa Street
Santa Barbara, CA 93101

RE: Seeding Evaluation for Atascadero Creek

Dear Maureen,

This letter describes the results of a study to determine an effective native alternative to seeding barnyard grass (*Echinochloa crus-galli*) within the lower stretch of Atascadero Creek in Goleta, California. The Santa Barbara Flood Control District agreed to fund this study in response to comments to a recent supplemental EIR covering the District's maintenance program within Atascadero Creek.

BACKGROUND

The District disks a 2 mile long, 35 foot wide (approximate) ribbon of the Atascadero Creek bed (from the confluence of Hospital Creek to Ward Drive) in October/November as part of their annual creek maintenance program. Disking allows dislodged vegetation; primarily cattails (*Typha sp.*), willow saplings (*Salix sp.*) and bulrush (*Scirpus sp.*), to be flushed during winter rains, and also reduces sediment accumulation.

Since 1995, the routine maintenance program also includes sowing commercially grown barnyard grass within the bed of Atascadero Creek in May/June prior to the fall disking. The fast growing, annual non-native grass provides a food source for fall migrating birds and also reduces the growth of cattails, bulrush and willows, making the fall disking a less arduous task.

Post Office Box 1113
Santa Barbara
California
93102

Tel 805.957.1100
Fax 805.957.2050

METHODS

Lists of potential alternative species were developed from plants known to naturally occur in similar habitats, and by combing commercial seed sources for readily available seed adapted to hydrophytic-to-mesic conditions. Local botanists were contacted to discuss potential species. Local wildlife experts were asked to evaluate potential species as a food resource for wildlife. Application rates were developed with S&S Seed, Carpinteria, California. Current prices were also quoted from this major native seed grower and distributor. The site, and an extensive mitigation area created to offset impacts of the annual program, was visited twice: on May22 and August 3, 2001.

Alternative seed species were selected based on a number of required or preferred characteristics, including adaptation to wet conditions ability to inhibit the growth of undesirable species, and value to wildlife. These criteria are more fully described below.

1. Adapted to the hydrologic regime (required).

Seed must be able to germinate in saturated and/or inundated soil and mature in saturated to mesic conditions. The lower reaches of Atascadero Creek undergo notable hydrologic change from spring to fall. The creek bed is often completely inundated in May. By late summer, transitory sandbars and more stable higher ground outside of the creek invert dry as the water table recedes. Although these seasonal changes are generally dependable, the duration and depth of inundation is not.

2. Native (required).

The alternative species must be naturally occurring, preferably native to coastal Santa Barbara County. The worst choice would be a non-native species that could aggressively invade surrounding wetland resources.

3. Provide food source for wildlife, especially local and/or migratory birds.

Seeded species should be valuable to wildlife, preferably as a food source for avian species. The barnyard grass now used develops a robust seed head prior to annual disking and is an important food source to migrating buntings, grosbeaks and other birds. Alternatively, the selected plants may attract rodents, lizards, bees and other insects, which in turn provide an important food source for many avian species.

4. Annual, producing seed by October to provide food for wildlife.

Since the seeded material will be disked each year in the fall, the selected species should mature quickly, flower and/or produce seed within 4 to 6 months following germination. Species that mature more slowly, or do not flower the first year, would not provide a food resource prior to annual disking.

Exhibit 3

Annual species, which flower, set seed and die within one year following germination, are the obvious choice. Perennial and biennial plants, which survive in a vegetative state for two or more years, often do not flower during the first year following germination.

5. Potential ability to outcompete emergent vegetation.

The fast growing, tough tissue of cattails, willow and mulefat saplings makes the fall disking an arduous task. The select species should be able to reduce the growth of naturally-occurring woody or fibrous emergent vegetation by outcompeting for a limited resource most likely light. This may conceivably be accomplished by a thick cover of robust, broad leaf species, or by a dense growth of grasses and/or glasslike plants similar in effects to the barnyard grass now used. The selected species must also not produce woody or fibrous tissue.

6. Availability (required) and Cost.

Seed of the selected species must be available each year in adequate quantities. Seeding rates, usually expressed in pounds per acre, are determined by the average germination rate, the percentage of impurities (non-seed material such as chaff, leaves and other plant parts), and the seed count (number of seeds pre unit weight). All of these characteristics vary from species to species. Germination and purity rates may also vary between seed batches.

The option of conducting yearly special field collections of seed that are not available from commercial sources was examined. Unfortunately, unless a large, fairly contiguous population can be located and harvested, the likelihood of procuring the required quantity of seed is low. As a result, a number of well suited plant species (fast growing, herbaceous, adapted to wet conditions, and providing high food value) had to be eliminated. Plants considered but found to have poor availability include several native, annual *Carex*, *Cyperus*, and *Juncus* species. A number of native annual grasses that may be adapted to the existing conditions were also examined. These include *Eragrostis mexicana* subsp. *virescens*, *E. pectinacea*, *Paspalum distichum*, and *Phalaris lemonii*. However, a commercial source for these species is not available and collections of any useful amount of seed on an annual basis would be difficult, if not impossible.

RESULTS

Candidate native seed for use in Atascadero Creek are listed in Table 1, along with a description of the plant, the distribution within Santa Barbara County, wildlife usage, seeding rate and cost. All of the plants in this table are annuals, or are fast growing, herbaceous perennials that are expected to produce seed the first year following germination. Adaptability to the inundated-to-dry conditions of the creek bed is presumed for all species listed in the Table based on their known habitats.

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TABLE 1: ALTERNATIVE SEED FOR ANNUAL MAINTENANCE PRACTICES WITHIN THE LOWER REACHES OF ATASCADERO CREEK

	DESCRIPTION, RANGE AND COMMENTS	VALUE AS WILDLIFE FOOD SOURCE *	RATE **	COST/LB	COST/AC
PRESENTLY SEEDED					
Barnyard Grass (*Echinochloa crusgalli*)	Non native, variable Eurasian annual. Considered a troublesome weed in cultivated fields (especially in rice fields). Occasionally found locally about vernal pools and other wet places. **Does not appear to be spreading outside of seeded area.**	Excellent seed source for many songbirds. Grass seed is especially important to ducks, rails, redwing blackbirds, grosbeaks, buntings and sparrows.	50-60 lbs/ac	$5/lb	$1,000/ac
ALTERNATIVE SPECIES All of the alternative species have the following required characteristics: 1. Native to Santa Barbara County (Smith, 1998). 2. Adapted to wet-to-mesic conditions (Smith, 1998; Hickson, 1996; personal observation). 3. Annual growth habit, and/or does not develop woody or fibrous tissue. (Smith, 1998; Hickson, 1996). 4. Commercially available (S&S Seed, 2001).					
BROADLEAF SPECIES					
Arroyo Lupine (*Lupinus succulentus*)	Robust, showy legume, to 2 feet, found in many coastal upland habitats (grassland, scrub), often in disturbed places. Tolerates short saturated conditions. **May not tolerate prolonged inundation.**	Lupine seed is an important food source for California quail (5-10% of total diet). Showy flowers attract insects and possibly rodents.	10-20 lbs/ac	$6/lb	$60 – $120 /ac
Seep Monkeyflower (*Mimulus guttatus*)	Showy yellow flower, commonly seen in coastal and inland marshy areas and along creeks. Variable forms. **May not inhibit growth of larger emergent cattails and bulrush.**	Not a particularly useful seed source for birds. Flowers attract insects and possibly rodents.	5-10 lbs/ac	$120/lb	$600 - $1,200 /ac

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TABLE 1: ALTERNATIVE SEED FOR ANNUAL MAINTENANCE PRACTICES WITHIN THE LOWER REACHES OF ATASCADERO CREEK

	DESCRIPTION AND DISTRIBUTION	VALUE AS WILDLIFE FOOD SOURCE *	RATE **	COST/ LB	COST/AC
BROADLEAF SPECIES (continued)					
Marsh Fleabane (*Pluchea odorata*)	Collected in Ventura and Santa Clara Rivers (near mouth) and upper Cuyama Valley. Often found in saline environments. Up to 3 feet. **Seed may exhibit dormancy unless treated.**	Important food source for rodents.	5-10 lbs/ac	$60/lb	$300 - $600 /ac
Dotted Smartweed (*Polygonum punctatum*)	Common in coastal creeks and inland to the Santa Ynez River. Sprawling, 1-3 feet tall. **Seed may exhibit dormancy unless treated.**	Seeds are important to ducks (especially mallards) and are also eaten by brown towhees, goldfinches and sparrows.	20-30 lbs/ac	$60/lb	$1,200 - $1,800 /ac
Creek Clover (*Trifolium obtusiflorum*)	Typically found in moist places about inland creeks (Juncal Dam, Sespe and Matilija Creeks). Growing 10-24 inches. **May not tolerate high degree of salinity often occurring at lower creek reach.**	Seeds eaten by sparrows and nuthatch. Foliage preferred by rabbits, skunk raccoons and deer. Flowers will attract bees and other insects.	20-30 lb/ac	$20/lb	$400 – $600 /ac
GRASS AND GRASSLIKE SPECIES					
Native Sedges including: *Carex barbarae* *Carex praegracilis*	Note: Many sedges are not adapted to wet places. Listed hydrophytic species are found in: Coastal creeks, seeps, marshes and springs **May be too slow growing.**	Small seeds important to many rodents and small birds.	Not available from commercial source. Not available in large quantities.		
Native Nutsedge *Cyperus acuminatus* *C. eragrostis (peren)* *C. esculentus (peren)* *C. nigra (peren)*	Found in coastal creeks, seeps and along ditches. **Many are perennials (noted) and my not be fast growing. C. esculentus is a noxious when cultivated near fields)**	Small seeds important to many rodents and small birds.	Not available from commercial source. Not available in large quantities.		

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TABLE 1: ALTERNATIVE SEED FOR ANNUAL MAINTENANCE PRACTICES WITHIN THE LOWER REACHES OF ATASCADERO CREEK

	DESCRIPTION, RANGE AND COMMENTS	VALUE AS WILDLIFE FOOD SOURCE *	RATE **	COST/LB	COST/AC
Love Grass *Eragrostis mexicana* subsp. *virescens*	Widespread annual native grass (Oregon, Colorado, and Arizona, California). Found in moist places, irrigated farmlands. Grows 6 to 24 inches in height.	Grass seed important to many rodents and small birds.	Not available from commercial source. Not available in large quantities.		
Love Grass *(E. pectinacea)*	Widespread annual native grass (Idaho, Texas, Mexico, and California). Found in moist places, irrigated farmlands. Grows 6 to 24 inches in height. Grows 3 to 20 inches in height.	Grass seed important to many rodents and small birds.	Not available from commercial source. Not available in large quantities.		
Alkali Barley *(Hordeum depressum)*	Found in coastal salt marshes and alkali flats from Carpinteria to the mouth of the Santa Maria River. Grows to 16 inches. **May not inhibit growth of larger emergent cattails and bulrush.**	Grass seed important to many rodents and small birds.	10-20 lbs/ac	$30/lb	$300 - $600 /ac
Toad Rush *(Juncus bufonis)*	Common in seasonal damp meadows and along creeks. Grows up to 1 foot. Other native rushes are typically fibrous, large perennials. **May not inhibit growth of larger emergent cattails and bulrush.**	Seeds eaten by California quail and pocket gopher.	10-20 lbs/ac	$120/lb	$1,200 - $2,400 /ac
Knot Grass *(Paspalum distichum)*	Perennial native grass to 30 inches. **May be too slow growing (often spreads via rhizomes)**	Grass seed important to many rodents and small birds.	Not available from commercial source. Not available in large quantities.		
Lemmon's Canary Grass *(Phalaris lemonii)*	Annual native grass to 30 inches. Found in moist isolated areas within Isla Vista, Buellton, More Mesa, and Burton Mesa.	Grass seed important to many rodents and small birds.	Not available from commercial source. Not available in large quantities.		

* Sources: Martin, A.C. et al, 1951; Peterson, R. 1941.

** Recommended Rates: Lower rates for use in a seed mix containing a number of species. Higher rate should be used in a monoculture (single species).

DISCUSSION

The greatest benefit of using a native seed mixture in the program is to provide more varied vegetation (and thus supply the highest degree of habitat value by serving the largest number of wildlife species), and to eliminate the threat of aggressive invasion of barnyard grass into neighboring wetlands and creeks. Unfortunately, none of the six alternative species appears a perfect fit for both the particular site conditions and the required attributes. Potential problems include expected seed dormancy (which will greatly reduce the first year's germination), probable inability to outcompete cattails and other large emergent species, and questionable compatibility to soil salinity or continued saturation. These issues are highlighted in bold within Table 1 under the column labeled "Description, Range and Comments."

Wildlife usage has been documented for all of the species, however most of the local biologists specializing in ornithology agree that the large seed heads of barnyard grass provide a very important food source. Naturally-occurring species such as bulrush (*Scirpus californica*) would have provided this food source in the past. The overall benefit of providing a large quantity of grass seed would be eliminated if only natives were seeded. Other than the Alkali Barley, there are no grass species among the candidates.

Cost is another limiting factor. The cost of the mixture at the recommended rates is $4,060 for each acre ($32,480 for the 8 acre site). The cost for seeding barnyard grass is $2,250 *for the entire site.*

CONCLUSIONS

An important factor in determining the usefulness of changing the current seed mix is whether or not barnyard grass is invading nearby resources. At this time is does not appear that it is. However, the six years since the seed has been introduced in the creek may be too short of a time period to observe its spread. Barnyard grass is a tall plant with coarse (relatively wide) leaves and would be apparent even in a small cluster.

The second benefit of seeding natives in lieu of barnyard grass would be to increase habitat value by providing a more diverse association of plants. This enhancement would be in addition to the successful mitigation already completed as part of the environmental review of impacts to vegetation associated with annual maintenance program, and their effect on wildlife.

If the District decides to pursue the use of native species as part of their annual maintenance program, a small test plot containing the recommended rates for a mixture of the alternative seed would help clarify which species are best adapted to this particular set of environmental perimeters. A suggested seed mix is attached to this letter. Due to the prohibitive cost, only a small area should be sowed until the performance can be

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evaluated. The mixture can be seeded at the recommended rate and also at one-half the recommended rate. Small test plots containing individual species would also provide important information regarding the ability to reduce the growth of cattails.

If barnyard grass continues to display little to no invasion into surrounding areas, this species would be an appropriate component of a final seed mix, along with lesser amounts of native species that perform well in the trial seeding plot.

Sincerely,

Rachel Tierney

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PERSONS CONTACTED

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Jim Greaves. Consulting ornithologist. Santa Barbara, CA.

Mark Holmgren. Curator of the Vertebrate Museum. University of California at Santa Barbara, Santa Barbara, CA.

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Natasha Lohmus. Biologist with the California Department of Fish and Game, Santa Barbara and Ventura Counties, CA.

David Magney. Consulting botanist. Ventura, CA.

Jody Schaff. S & S Seed, Carpinteria, CA.

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Suggested Seed Mix For Trial Test

SPECIES	LBS/ACRE	PRICE/LB*	Extended Price
Arroyo Lupine (*Lupinus succulentus*)	10	$6/lb	$60
Alkali Barley (*Hordeum depressum*)	10	$30/lb	$300
Seep Monkeyflower (*Mimulus guttatus*)	5	$120/lb	$600
Marsh Fleabane (*Pluchea odorata*)	5	$60/lb	$300
Dotted Smartweed (*Polygonum punctatum*)	20	$60/lb	$1,200
Creek Clover (*Trifolium obtusiflorum*)	20	$20/lb	$400
Toad Rush (*Juncus bufonius*)	10	$120/lb	$1,200
TOTAL	**80 lbs/acre**		**$4,060.00/ac**

* Prices quoted August 2001. S&S Seed, Carpinteria, Ca.

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