local, state and federal agency personnel on site prior to implementation. During this initial site review and response, the CDFG State Agency Coordinator will determine the amounts and types of assistance required to properly collect and clean any affected animals. The State Agency Coordinator will then notify the required personnel of the situation and what is needed. The CDFG maintains a current listing of individuals throughout the state qualified to assist in this type of work, and will thereby be able to mobilize the necessary qualified people immediately. Such mobilization could include local veterinarians and additional agency personnel, depending on their individual capabilities.

Likewise, once a determination has been made by the CDFG State Agency Coordinator as to the nature of the impact to the animals, animal cleanup equipment necessary to carry out the job, for the largest part, is provided by CDFG, supplemented as need be by SPPL under direction of the CDFG State Agency Coordinator. The CDFG maintains mobile trailers equipped for the purpose of cleaning wildlife following spills. Such trailers can be set up either on-site, given that warm water is provided, or at nearby armories or schools. All other agency representatives (local, state and federal) will assist, as directed by the CDFG State Agency Coordinator, in the implementation of whatever animal cleanup plans are developed by the CDFG State Agency Coordinator, by providing people and equipment where needed. Often times, the CDFG calls on and receives assistance from the California Conservation Corps. SPPL's District Maintenance Crew will also be available to assist in whatever manner requested. SPPL will apply for all necessary permits to capture and hold wildlife for the purposes of removal from contaminated areas and/or for cleaning.

In the event of a major spill, SPPL's District Manager will contact Ms. Alice Berkner, Director of the International Bird Rescue Research Center, Aquatic Park, Berkeley, California 94710, 415/841-9086, a recognized expert in the organization and direction of collection, cleaning and care of affected birds, and will make arrangements for her to be on-site as quickly as possible. Ms. Berkner's assistant is Mr. Jay Holcomb, equally capable of carrying out this role in Ms. Berkner's absence. In the case of minor spills, determination as to need will be as specified by the CDFG State Agency Coordinator. Regardless of the situation, all animal recovery and cleanup will be carried out as directed by the CDFG State Agency Coordinator, as will final approval to SPPL regarding the removal of spilled product and actions necessary to lessen impacts.

As part of SPPL's environmental compliance responsibilities, SPPL will keep current in new developments in bird and wildlife cleaning and rehabilitation techniques, in order to properly advise the Spill Coordinator on impacts to the habitat due to

spills and cleanup activities, and to assist the CDFG State Agency Coordinator.

As is their practice, CDFG, as part of their supervisory function, will document effects of the spill and any attendant cleanup activities on the habitat. SPPL will assist the CDFG in whatever way requested.

Upon containment and removal of the spill, SPPL will work with CDFG in the development of a habitat recovery plan, addressing both damage resulting from the spill and from the cleanup effort as well.

2.3.4 Corrosion Protection

SPPL will use pipe that is covered with a protective coating specifically designed to prevent external corrosion. In addition, the pipeline will be equipped with a cathodic protection system. The cathodic protection system is designed to counteract natural corrosive forces between the steel pipeline, the earth, and foreign structures. The route was engineered to maintain a required 12-inch separation from other metal pipes. If for some reason this separation must be violated (e.g., during a crossing of another pipeline, it is determined that the pipeline is closer to the proposed pipeline than the substructure drawings show), special precautions will be taken such as additional wrapping or micarta block shielding. The 12-inch separation should be adequate to prohibit the cathodic protection system from causing corrosion to other pipelines in the area. It will be SPPL's responsibility to contact the pipeline operators and make necessary tests to ensure that the pipeline does not affect other pipelines in the area. If SPPL finds other pipelines will be affected, then special measures will be taken such as wrapping or bonding to protect the pipelines.

2.3.5 Construction Controls

Installation of the pipeline will be performed under contract with a pipeline contractor. SPPL maintains a select list of contractors qualified for this work and only those will be solicited. SPPL will specify that all work will be done in accordance with 49 CFR 195 and with applicable sections of Section I, Chapter 5.5 of the California Pipeline Safety Act, paragraphs 51010 - 51020. SPPL will provide qualified inspectors, independent of the contractor, to ensure the installation is performed in accordance with these requirements including, for example, that backfilling is done correctly to prevent settling and that the street or ground is put back to

original conditions. In addition to the SPPL-supplied inspectors, the cities or counties may send their own inspectors to verify that all specifications relating to their interests are followed.

Since most pipeline accidents are caused by excavation activities during construction, the following measures will be taken to mitigate the possibility of pipeline damage.

- Research of pipelines - SPPL and/or a qualified pipeline engineering firm hired by SPPL will research the substructures (undergound pipes, conduits, etc.) along the proposed routes in detail. All such underground structures, their sizes, locations, depths, commodities carried, and ownership will be identified. Based on this information, the exact route will be selected, including depth, to avoid these structures. As required by 49 CFR 195, a separation of at least 12-inches is maintained from all metal pipes.

- Underground Service Alert - Contractors will be required to call Underground Service Alert (USA) prior to commencing any excavation. USA procedures are explained below under 2.3.6.

- Potholing - The installation contractor will conduct potholing wherever it is deemed necessary to locate the exact position of underground structures. Potholing is the advance digging in an area to locate underground structures. This digging is performed very carefully, with hand digging when it is believed that a pipeline is near.

2.3.6 Operations Right-of-Way Identification

After a pipeline is installed and operational, the majority of incidents are caused by excavation or construction activities of persons unaware of the pipeline's location. The specific mitigation measures in effect to identify such activities and to notify the operators of pipelines in the area are as summarized below.

- City/County excavation permits - Before any organization is allowed to dig in a particular city or county, a permit is usually required. At this time, the city or county involved reviews the plans and makes available substructure drawings of the area.

- Line markers - SPPL will install pipeline markers along the pipeline route, where practicable and feasible, to identify the pipeline location. These markers will state that the pipeline is owned by SPPL and transports petroleum products and will also provide a telephone number where SPPL personnel can be reached at all times.

- Line rider - The proposed pipeline route will be, at a minimum, inspected weekly by line riders covering the route by car. The job of the line rider is to look for any activity in the vicinity of the route which should be investigated further. The route will also have aerial inspection twice per month, weather permitting.

- Underground Service Alert - SPPL is a member of Underground Service Alert (USA). USA is a service organization which can be called by any company or individual planning an excavation. The organization or individual can call USA toll-free and tell them the location of the proposed excavation. USA then notifies all member companies with underground lines in the area of the impending excavation. Upon notification from USA of construction near pipelines owned by SPPL, SPPL will contact the person performing the work to ensure that no pipeline damage occurs.

2.3.7 Testing and Maintenance

SPPL will perform all testing and maintenance activities as required by 49 CFR 195 and the California Pipeline Safety Act. In addition, SPPL will prepare and maintain a pipeline testing and maintenance record plan. Some of the specifics for which such a plan provide are listed below.

- Initial testing - Before the pipeline is put into service, it will be hydrostatically tested, using water as a test medium, to a minimum pressure of 1896 psi.

  In addition, the pipeline monitoring system and all other aspects of the pipeline system will be tested where feasible.

- Maintenance testing and inspection - SPPL will conduct tests annually on the pipeline system to determine whether cathodic protection is adequate. In addition, SPPL will, at intervals not exceeding six months, inspect each mainline valve to determine that it is functioning properly.

For initial testing, approximately 3.8 acre-feet of water will be purchased from the city of Richmond and will be withdrawn from the fire main closest to the end of the pipeline (where line filling will be carried out). The water will be piped directly from the water main to the injection port on the pipeline, thereby preventing the introduction of any contaminants into the test water. At no time will oil or grease be introduced either to the test water or to the inside of the pipe to be tested. Neither will any other chemicals (e.g. rust inhibitors) be added to the test water. Once the line has been tested, the water will be discharged onto SPPL Concord Station property. At time of discharge, generally a small amount of soil will be suspended in the first several minutes of discharge, soil which inadvertently got into the pipe prior to welding. To prevent this suspended material from being carried into downstream waterways, a retention wall, usually "C" shaped, will be erected, if required as indicated at time of discharge, of either sand bags or hay bales, to hold back and reduce the velocity of the discharge, thereby allowing suspended material to drop out of suspension. In addition, the sand bags (or hay bales) act as energy dissipaters, reducing the probability of erosion due to excessive discharge velocity.

ATTACHMENT B

Notification No. 1151-87 THP No. _____

AGREEMENT REGARDING PROPOSED STREAM OR LAKE ALTERATION

THIS AGREEMENT, entered into between the State of California, Department of Fish and Game, hereinafter called the Departm
nd Southern Pacific Pipe Lines, Inc - J.A.Whitelaw
Los Angeles, State of California, hereinafter called the operator, is as follows:

extensions granted

WHEREAS, pursuant to Division 2, Chapter 6 of California Fish and Game Code, the operator, on the 2nd day of October, 87, notified the Department that he intends to substantially divert or obstruct the natural flow of, or substantially change the bed, annel, or bank of, or use material from the streambed of, the following water: various, in the County of ntra Costa, State of California, S_____ T_____ R_____.

WHEREAS, the Department (represented by M. Buelna) has made an inspection of subject area on the 7th day of July, 19 88, and) has determined that ch operations may substantially adversely affect existing fish and wildlife resources including game and nongame fish, birds mmals, invertibrates, and water quality

THEREFORE, the Department hereby proposes measures to protect fish and wildlife during the operator's work. The operator hereby grees to accept the following recommendations as part of his work: Numbers 1,2,8,9,10,11,12,19,20,21 om the list of recommendations on the back of this page and the following special recommendations:

1. All work in or near the stream or lake shall be confined to the period July 15,1988 to October 15,1988.
2. ~~Loring of the creek crossings listed(San Pablo Cr., Rheem Cr.) should cauco no major damage in those areas~~
3. ~~The project at Gurrity Creek will need to be dammed both up stream and down stream. The down stream protection will be needed to eliminate tidal flows from San Pablo Bay. Water from up stream will have to be diverted around the project.~~
4. All other crossings will be made according to the list submitted on 1/25/88.

The operator, as designated by the signature on this agreement, shall be responsible for the execution of all elements of this agreement. A copy of this agreement must be provided to contractors and subcontractors and must be in their possession at the work site.

If the operator's work changes from that stated in the notification specified above, this agreement is no longer valid and a new otification shall be submitted to the Department of Fish and Game. Failure to comply with the provisions of this agreement and with other rtinent Code Sections, including but not limited to Fish and Game Code Sections 5650, 5652 and 5948, may result in prosecution.

Nothing in this agreement authorizes the operator to trespass on any land or property, nor does it relieve the operator of responsibility or compliance with applicable federal, state, or local laws or ordinances.

THIS AGREEMENT IS NOT INTENDED AS AN APPROVAL OF A PROJECT OR OF SPECIFIC PROJECT EATURES BY THE DEPARTMENT OF FISH AND GAME. INDEPENDENT REVIEW AND RECOMMENDATIONS WILL E PROVIDED BY THE DEPARTMENT AS APPROPRIATE ON THOSE PROJECTS WHERE LOCAL, STATE, OR EDERAL PERMITS OR OTHER ENVIRONMENTAL REPORTS ARE REQUIRED.

his agreement becomes effective on Signature of operator and terminates on October 15,1988

perator	M. Buelna Department Representative
itle Manager - Pipeline Construction	Title Warden
rgani ation SOUTHERN PACIFIC PIPE LINES, INC.	Department of Fish and Game, State of California
ate 8/17/88	Date July 15,1988

ll inspection was not made, cross out words within parentheses.

FG 1082(5-67) 67 [illegible]

RECOMMENDATIONS

1. Disturbance or removal of vegetation shall not exceed the minimum necessary to complete operations. The disturbed portions of any stream channel or lake margin within the high water mark of the stream or lake shall be restored to as near their original condition as possible.

2. Restoration shall include the revegetation of stripped or exposed areas.

3. Rock, riprap, or other erosion protection shall be placed in areas where vegetation cannot reasonably be expected to become reestablished.

4. Installation of bridges, culverts, or other structures shall be made such that water flow is not impaired and upstream or downstream passage of fish is assured at all times. Bottoms of temporary culverts shall be placed at or below stream channel grade. Bottoms of permanent culverts shall be placed below stream channel grade.

5. Plans for design of concrete sills and other features that could potentially impede fish migrations must be approved by Department engineers.

6. When any dam (any artificial obstruction) is being constructed, maintained, or placed in operation, sufficient water shall at all times be allowed to pass downstream to maintain fishlife below the dam.

7. An adequate fish passage facility must be incorporated into any barrier that obstructs fish passage.

8. Any temporary dam (any artificial obstruction) constructed shall only be built from material such as clean gravel which will cause little or no siltation.

9. No equipment will be operated in live stream channels.

10. Equipment shall not be operated in the stream channels of flowing live streams except as may be necessary to construct crossings or barriers and fills at channel changes.

11. When work in a flowing stream is unavoidable, the entire streamflow shall be diverted around the work area by a barrier, temporary culvert, and/or a new channel capable of permitting upstream and downstream fish movement. Construction of the barrier and/or the new channel shall normally begin in the downstream area and continue in an upstream direction, and the flow shall be diverted only when construction of the diversion is completed. Channel bank or barrier construction shall be adequate to prevent seepage into or from the work area. Channel banks or barriers shall not be made of earth or other substances subject to erosion unless first enclosed by sheet piling, rock riprap, or other protective material. The enclosure and the supportive material shall be removed when the work is completed and the removal shall normally proceed from downstream in an upstream direction.

12. Temporary fills shall be constructed of nonerodible materials and shall be removed immediately upon work completion.

13. Equipment shall not be operated in the lake or its margin except during excavation and as may be necessary to construct barriers or fills. If work in the lake is unavoidable, a certain enclosure to prevent siltation of the lake beyond the immediate working area shall be installed. The enclosure and any supportive material shall be removed when the work is completed.

14. Silt settling basins shall be located away from the stream or lake to prevent discolored, silt-bearing water from reaching the stream or lake.

15. Preparation shall be made so that runoff from steep, erodible surfaces will be diverted into stable areas with little erosion potential. Frequent water checks shall be placed on dirt roads, cat tracks, or other work trails to control erosion.

16. Wash water containing [illegible] ing or other operations shall not be allowed to enter a lake or flowing streams.

17. a) A silt catchment basin shall be constructed across the stream immediately below the project site. This catchment basin shall be constructed of gravel which is free from mud or silt.

b) Upon completion of the project and after all flowing water in the area is clear of turbidity, the gravel along with the trapped sediment shall be removed from the stream.

18. If operations require moving of equipment across a flowing stream, such operations shall be conducted without substantially increasing stream turbidity. For repeated crossings, the operator shall install a bridge, culvert, or rock fill crossing as specified in comments below.

19. If a stream channel has been altered during the operations, its low flow channel shall be returned as nearly as possible to its natural state without creating a possible future bank erosion problem, or a flat wide channel or sluiceslike area. If a lake margin has been altered, it shall be returned as nearly as possible to its natural state without creating a future bank erosion problem. The gradient of the streambed or lake margin shall be as nearly as possible the same gradient as existed prior to disturbance.

20. Structures and associated materials not designed to withstand high seasonal flows shall be removed to areas above the high water mark before such flows occur.

21. No debris, soil, silt, sand, bark, slash, sawdust, rubbish, cement or concrete or washings thereof, oil or petroleum products or other organic or earthen material from any logging, construction, or associated activity of whatever nature shall be allowed to enter into or placed where it may be washed by rainfall or runoff into waters of the State. When operations are completed, any excess materials or debris shall be removed from the work area. No rubbish shall be deposited within 150 feet of the high water mark of any stream or lake.

22. The operator will notify the Department of Fish and Game of the date of commencement of operations and the date of completion of operations at least two days prior to such completion.

ATTACHMENT C

SENSITIVE BOTANICAL SPECIES SURVEY

FOR

PROPOSED PIPELINE INSTALLATION

FROM RODEO TO CONCORD

Contra Costa County, California

May 1991

Prepared for:

Santa Fe Pacific Pipeline
888 South Figueroa Street
Los Angeles, California 90017

Prepared by:

Beak Consultants Incorporated
2717 Cottage Way, Suite 20
Sacramento, California 95825

INTRODUCTION

PROJECT DESCRIPTION

Southern Pacific Pipe Lines, Inc. (SPPL) is proposing to install a 16-inch refined petroleum products pipeline extending approximately fifteen miles between the town of Rodeo, California and SPPL's storage and pumping facilities located on Solano Way north of Concord, California. The proposed pipeline route will be primarily within existing railroad, powerline, pipeline, and transportation rights-of-way.

STUDY

To evaluate potential effects of the proposed pipeline on sensitive native vegetation, a botanical survey was conducted to locate, identify, and map any populations of proposed rare, threatened, or endangered federal and state listed plant species which may occur within the study corridor.

Field work for this study was conducted in the fall of 1990 and in the spring of 1991 to ensure complete coverage and accurate identification of both early and late-blooming sensitive species. The results of this study, accompanied by a vegetation map of the project area are included in this report.

ENVIRONMENTAL SETTING

The proposed pipeline route is entirely within Contra Costa County, California. The alignment varies in elevation from near-sea level at the termini to 600 feet where the route crosses Cañada Del Hambre y Las Bolsas coastal range. These coastal foothills extend southeasterly from south of Crockett to just north of the City of Martinez. Vegetated primarily by non-native grasslands, the hills support scattered stands of valley and coastal live-oak woodlands, particularly in the ravines.

As the proposed pipeline route descends from the coastal foothills into the town of Martinez, only isolated plant communities are encountered due to the extensive urbanization in the area. Two urban streams, Walnut Creek and Grayson Creek are traversed near the Concord end of the proposed pipeline route. These urban creeks and their associated floodplains, even though severely disturbed, do support a variety of both riparian and upland vegetation.

METHODS

Information was obtained and reviewed from the California Department of Fish and Game Natural Diversity Data Base and from an environmental assessment report which was prepared for SPPL to cover the initial project proposal from Richmond, California to

Concord, California (Monn 1987). This information was used to determine if plant species of special status have been reported to occur within or near the proposed pipeline corridor. Results of this background investigation are presented in Table 1.

A botanical survey was conducted through the project corridor by Beak biologists Debby Martin and Dennis Hood in October and in May, to determine whether sensitive species occur within the project area and if so, to map their locations. The entire project corridor which supports vegetation was covered by walking meandering transects within a 100-foot wide corridor along the pipeline route or by windshield survey in those accessible areas where little variation was observed in the vegetation type. A complete vegetation list of plants encountered during both fall and spring field surveys are presented in Table 2.

RESULTS

None of the sensitive plant species listed in Table 1 were encountered within the proposed pipeline corridor.

During the 1990 fall survey, appropriate habitat for *Helianthella castanea, Holocarpha macradenia* and *Eriogonum truncatum* was found to exist within a significant stretch of the proposed pipeline corridor; on the hillsides of non-native grassland.

Holocarpha macradenia, Santa Cruz tarplant, blooms from June through October. Although other tar weeds were present, this species was not found during the October survey.

The grass covered hillsides and exposed rocky areas were surveyed again in the spring of 1991 to cover potential habitat areas for the *Helianthella* and the *Eriogonum* during their normal blooming period. Neither plant was found.

Several vegetative community types are represented within the fifteen mile span of the proposed pipeline study corridor. Seventy-two percent of the total acreage within the corridor consists of non-native grassland which lies within existing pipeline rights-of-way, with an additional seven percent of non-native grassland in relatively undisturbed hillside areas. Four percent of the total acreage is within creek-side drainages, and three percent is classified as coastal scrub community. The remaining fourteen percent of the corridor acreage is considered unvegetated and lies within previously developed areas.

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POTENTIAL SENSITIVE SPECIES WITHIN THE PROJECT AREA

Table 1

Species Common Name	Species Scientific Name	Status: Legal, Fed, CA other Special Status	Closest Proximity (location)	Sensitive Period or Specialized Habitat	Relevance, Comment
Suisun marsh aster	*Aster chilensis* var *lentus*	Federal Candidate 2 No CA status CNPS List 1B	Southampton Bay 3 mi NE across Carquinez Strait	Requires brackish/ marsh habitats	No appropriate habitat present within project area.
Soft bird--beak	*Cordylanthus mollis* ssp *mollis*	Federal Candidate 1 CA Rare CNPS List 1B	Southampton Marsh, Benicia State Park 3 mi NE across Carquinez Strait	Coastal salt marshes	No appropriate habitat present within project area.
Mt Diablo buckwheat	*Eriogonum truncatum*	Federal Candidate 2 No CA status CNPS List 1A	East of Mt. Diablo exact location not known	Dry, exposed clay or rock surfaces April - June	Low-presumed extinct. Not encountered in project corridor.
Diablo rock-rose	*Helianthella castanea*	Federal Candidate 2 No CA status CNPS List 1B	2.5 mi North of Lawson Peak	Foothill grasslands April - May	Appropriate habitat - Not encountered in project corridor.
Santa Cruz tarplant	*Holocarpha macradenia*	Federal Candidate 1 CA Endangered CNPS List 1B	Scow Canyon 5.2 mi SW near NE arm of San Pablo Reservoir	Foothill grasslands sandy clay soil June - October	Other tarweeds present. This species not encountered in project corridor.

STATUS CODES USED	EXPLANATION
Federal Candidate 1	USFWS has sufficient biological information to support a proposal to list as or Threatened or Endangered
Federal Candidate 2	May warrant federal listing, but more biological information needed
CA - Threatened	Likely to become endangered without protection
CA Rare	Threatened with extinction
CNPS List 1A	Plant presumed to be extinct
CNPS List 1B	Plants rare, threatened, or endangered in CA & elsewhere

Continued on next page

POTENTIAL SENSITIVE SPECIES WITHIN THE PROJECT AREA

Table 1

Species Common Name	Species Scientific Name	Status: Legal, Fed, CA other Special Status	Closest Proximity (location)	Sensitive Period or Specialized Habitat	Relevance, Comment
Delta tule pea	*Lathrys jepsonii* ssp. *jepsonii*	Federal Candidate 2 No CA status CNPS List 1B	East of Martinez Marina - 1.75 mi NE of Southampton Bay 3 mi NE across Carquinez Strait	Marshes, brackish water	No appropriate habitat present within project area
California black rail	*Laterallus jamaicensis coturniculus*	Federal Candidate 1 CA Threatened	Southampton Bay 3 mi NE across Carquinez Strait	Marshes	No appropriate habitat present within project area
Suisun shrew	*Sorex ornatus sinuosus*	Federal Candidate 1	Southampton Bay 3 mi NE across Carquinez Strait	Requires tidal marshes habitat	Within 3 miles of project but no appropriate habitat available.

STATUS CODES USED	EXPLANATION
Federal Candidate 1	USFWS has sufficient biological information to support a proposal to list as or Threatened or Endangered
Federal Candidate 2	May warrant federal listing, but more biological information needed
CA - Threatened	Likely to become endangered without protection
CA - Rare	Threatened with extinction
CNPS List 1A	Plant presumed to be extinct
CNPS List 1B	Plants rare, threatened, or endangered in CA & elsewhere

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Table 2

Plant Species Identified Within Project Area.

Non-Native Grassland Plant Community

Common Name	Scientific Name
Black mustard	*Brassica nigra*
Blow wives	*Achyrachaena mollis*
California blackberry	*Rubus ursinus*
California blue-eyed grass	*Sisyrinchium bellum*
California buttercup	*Ranunculus canifornicus*
California laurel	*Umbellularia californica*
California manroot	*Marah fabaceus*
California poppy	*Eschscholzia californica*
Cardoon	*Cynara cardunculus*
Clasping henbit	*Lamium amplexicaule*
Clover sp.	*Trifolium* sp.
Coast live oak	*Quercus agrifolia*
Cocklebürr	*Xauthium strumarium*
Coyote bush	*Baccharis pilularis*
Curly dock	*Rumex crispus*
Dog tail	*Sitanion* sp.
Dwarf plantain	*Plantago erecta*
Fiddleneck	*Amsinckia sp.*
Forked peppergrass	*Lepidium oxycarpum*
Groundsel sp.	*Senecio* sp.
Hedge mustard	*Sisymbrium altissimum*
Knotweed	*Polygonum* sp.
Lupine	*Lupinus sp.*
Milk spurge	*Chamaesyce* sp.
Milkweed	*Asclepias fascicularis*
Mule ears	*Wyethia angustifolia*
Pineapple weed	*Matricaria matricarioides*
Poison oak	*Toxicodendron diversilobum*
Red maids	*Calandrinia ciliata*
Salt grass	*Distichlis* sp.
Star thistle	*Centaurea solstitialis*

Table 2, Non-Native Grassland Plant Community (continued)

Storksbill	*Erodium botrys*
Sunflower	*Helianthus californicus*
Tarweed	*Hemizonia fitchii*
Tower mustard	*Arabis glabra*
Toyon	*Heteromeles arbutifolia*
Turkey-mullein	*Eremocarpus setigerus*
Valley oak	*Quercus lobata*
Whorled dock	*Rumex conglomeratus*
Wild oats	*Avena fatua*
Yarrow	*Achillea sp.*

Table 2 (continued)

Coastal Scrub - Disturbed

Common Name	Scientific Name
Blue dicks	*Brodiaea pulchella*
Broom	*Cytisus sp.*
Buckeye	*Aesculus californica*
Chamise	*Adenostoma* sp.
Cheeseweed	*Malva parviflora*
Clasping henbit	*Lamium amplexicaule*
Cream sacs	*Orthocarpus lithospermoides*
Coast live oak	*Quercus agrifolia*
Cocklebur	*Xanthium strumarium*
Common fennel	*Foeniculum vulgare*
Coyote bush	*Baccharis pilularis*
Curly dock	*Rumex crispus*
Elderberry	*Sambucus* sp.
Goldback fern	*Pityrogramma sp.*
Iceplant	*Mesembryanthemum* sp.
Long stalked clover	*Trifolium longipes*
Mayweed	*Tanacetum sp.*
Milk spurge	*Chamaesyce* sp.
Parry's mallow	*Malvastrum parryi*
Poison oak	*Toxicodendron diversilobum*
Poison sanicle	*Sanicula bipinnata*
Purple sanicle	*Sanicula bipinnatifida*
Shepherd's purse	*Capsella bursa-pastoris*
Shield peppergrass	*Lepidium perfoliatum*
Star thistle	*Centaurea solstitialis*
Tarweed	*Hemizonia fitchii*
Tom cat clover	*Trifolium tridentatum*
Tower mustard	*Arabis glabra*
Toyon	*Heteromeles arbutifolia*
Wally basket	*Brodiaea laxa*
Wild oats	*Avena fatua*
Yarrow	*Achillea* sp.

Table 2 (continued)

Severely Disturbed Non-Native Grassland with Freshwater Seep

Common Name	Scientific Name
Birdsfoot lotus	*Lotus corniculatus*
Black mustard	*Brassica nigra*
Bristly ox tongue	*Picris echioides*
Buckeye	*Aesculus californica*
Bull thistle	*Cirsium vulgare*
Bur clover	*Medicago polymorpha*
California blackberry	*Rubus ursinus*
Cattail	*Typha latifolia*
Cheeseweed	*Malva parviflora*
Common fennel	*Foeniculum vulgare*
Common catchfly	*Silene gallica*
Cut-leaved geranium	*Geranium dissectum*
Douglas's lupine	*Lupinus nanus*
Duck salad	*Heteranthera limosa*
Elderberry	*Sambucus* sp.
Field bindweed	*Convolvulus arvensis*
Fillaree	*Erodium spp.*
Hawkweed	*Hieracium sp.*
Juncus sp.	*Juncus* sp.
Knotweed	*Polygonum* sp.
Marsh marigold	*Caltha leptosepala*
Nutgrass	*Scirpus* sp.
Paspalum sp.	*Paspalum* sp.
Poison oak	*Toxicodendron diversilobum*
Prickly lettuce	*Lactuca serriola*
Scarlet pimpernel	*Anagallis arvensis*
Senecio sp.	*Scenecio* sp.
Spanish lotus	*Lotus purshianus*
Speedwell	*Veronica* sp.
Spring vetch	*Vicia sativa*
Star thistle	*Centaurea solstitialis*
Tarweed	*Hemizonia fitchii*
Teasle	*Dipsacus fullonum*
Tower mustard	*Arabis glabra*
Water cress	*Rorippa* sp.

Table 2, Severely Disturbed Non-Native Grassland with Freshwater Seep (continued)

Wild carrot	*Daucus carota*
Wild oats	*Avena fatua*
Wild radish	*Raphanus sativus*
Wild rye	*Lolium sp.*
Willows	*Salix* sp.

Table 2 (continued)

Walnut Creek Drainage - Disturbed Riparian

Common Name	Scientific Name
Barnyard grass	*Echinochloa crusgallia*
Bedstraw	*Galium* sp.
Canarygrass	*Phalaris* sp.
Cattail	*Typha latifolia*
Cheeseweed	*Malva parviflora*
Cocklebur	*Xauthium strumarium*
Common dandelion	*Taraxacum officinale*
Common fennel	*Foeniculum vulgare*
Cudweed	*Gnaphalium purpureum*
Curly dock	*Rumex crispus*
Eucalyptus sp.	*Eucalyptus* sp.
Field bindweed	*Convolvulus arvensis*
Mare's tail	*Conyza canadensis*
Milk spurge	*Chamaesyce* sp.
Oleander	*Horticulture variety*
Panicgrass	*Panicum* sp.
Paspalum sp.	*Paspalum* sp.
Pimpernel	*Anagalis* sp.
Poverty weed	*Monolepis nuttalliana*
Prickly lettuce	*Latuca serriola*
Prostrate pigweed	*Amaranthus blitoides*
Rabbitfoot grass	*Polypogon monspeliensis*
Russian thistle	*Salsola iberica*
Salt grass	*Distichlis* sp.
Sand-verbena	*Abronia maritima*
Sedge	*Scirpus robusta*
Smartweed	*Polygonum lapathifolium*
Sowthistle	*Sonchus oleraceus*
Star thistle	*Centaurea solstitialis*
Sweetclover	*Melilotus indica*
Toyon	*Heteromeles arbutifolia*
Tree tobacco	*Nicotiana glauca*
Tumble pigweed	*Amaranthus albus*
Umbrella sedge	*Carex* sp.
Wild oats	*Avena fatua*
Wild radish	*Raphanus sativus*

Table 2 (continued)

Grayson Creek Drainage - Disturbed Riparian

Common Name	Scientific Name
Alder	*Alnus rhambifolia*
Barnyard grass	*Echinochloa crusgallia*
Buckhorn plantain	*Plantago lanceolata*
Canadian thistle	*Cirsium arvense*
Canarygrass	*Phalaris* sp.
Cattail	*Typha latifolia*
Cheeseweed	*Malva parviflora*
Cockleburr	*Xauthium strumarium*
Curly dock	*Rumex crispus*
Devil's claw	*Ibicella lutea*
Gumweed	*Grindelia camporum*
Iceplant	*Mesembryanthemum* sp.
Lady's thumb	*Polygonum* sp.
Milk spurge	*Chamaesyce* sp.
Nightshade	*Solanum nigrum*
Prickly lettuce	*Latuca serriola*
Prostrate pigweed	*Amaranthus blitoides*
Rabbitfoot grass	*Polypogon monspeliensis*
Smartweed	*Polygonum lapathifolium*
Sweetclover	*Melilotus indica*
Teasle	*Dipsacus fullonum*
Umbrella sedge	*Carex* sp.
Valley oak	*Quercus lobata*
Wild radish	*Raphanus satiuns*

EXHIBIT D

MITIGATION MONITORING PLAN
SANTA FE PACIFIC PIPELINE PROJECT

1. Impact: During and following construction, the pipeline right of way will be prone to erosion from both water and wind.

Project Modifications:

a. The project right-of-way will be returned to original grade upon completion of the pipe lay, and will be revegetated to control potential erosion.

b. During construction, spoils removed from the trench will be stabilized, and stockpiled away from drainage areas.

c. Construction will be limited during periods of rain.

d. Spoils will be returned promptly to the trench after the pipe is placed, and will be layered and compacted quickly.

Monitoring: SLC inspector will ensure that the project modifications are in effect during construction.

2. Impact: Dust from earthmoving activities will occur.

Project Modification: A fugitive dust control program will be used during construction, including suppression spraying.

Monitoring: SLC inspector will ensure that the right of way is being adequately sprayed.

3. Impact: Increase in noise levels during construction.

Project Modification: All construction equipment will be equipped with noise suppression equipment. During weekdays, construction activities will be limited to between the hours of 6:00 a.m. to 6:00 p.m., except for emergency operations.

Monitoring: SLC inspector will ensure that the equipment has noise suppression equipment installed and that construction activities occur only between the hours of 6:00 a.m. to 6:00 p.m.

4. Impact: Impacts to presently unknown archaeological resources within the proposed pipeline right-of-way.

Project Modification: All known cultural sites as identified by a literature review and ground survey have been

avoided. If any new cultural sites are encountered during construction, construction will immediately stop in the subject area and consultation with the State Historical Preservation Office (SHPO) will be initiated. Construction will commence only after clearance by the SHPO.

Monitoring: SLC inspector will ensure adherence to this procedure.

5. Impact: Rupture of pipeline caused by fault movement.

Project Modifications: Prior to construction, a definitive study of the route will be carried out by an outside professional geotechnical consulting firm in order to ensure that all appropriate measures are incorporated into the final engineering design and route. The following construction procedures will be employed in areas identified in the above study:

The pipeline will be constructed with extra length (slack) to improve its resistance to seismic motion.

The pipeline will be oriented with respect to strike-dip faults in such a way as to maintain the line in tension, instead of compression.

Pipeline burial depth will be minimized in known fault zones, to reduce soil pressures on the pipe during strong earth motions.

Thicker walled pipes will be used within 1,000 feet of known faults, and epoxy coatings will be used to reduce soil-pipe friction during seismic motion.

Backfill used within 50 feet of known faults will not contain boulders or cobbles.

Block valves (check valves) will be placed to contain the pipeline's contents in case of pipe rupture. These valves will be placed to prevent flows or backflows into watercourses or wetlands.

Monitoring: SLC inspectors will review and comment on the geotechnical report prepared by the applicant's consulting firm, and make necessary suggestions/changes.

SLC inspectors will ensure compliance with recommendations made in the geotechnical report.

6. Impact: Potential impacts to water quality from construction activities.

Project Modifications: The proposed pipeline will cross fourteen waterways. The methods of crossing are detailed in Exhibit I of the Negative Declaration. Seven of the crossings are by means of concrete lined channels, spanning, tunneling or boring techniques. The other seven channels are to be trenched. For those seven crossings of intermittent streams where trenching will occur, the construction will take place when there is no water flowing in the creek. For those crossings with small or minimal flows, a fluming method, as discussed in the Negative Declaration, will be used to avoid impacts to the stream.

Monitoring: The SLC inspector will ensure that stream crossings are accomplished in accordance with the requirements detailed in the Negative Declaration and also as enumerated in the Streambed Alteration Agreement issued by the California Department of Fish and Game.

7. Impact: Impacts to water quality caused by operation activities.

Project Modification: Block valves (check valves) will be placed to contain the pipeline's contents in case of pipe rupture. These valves will be placed to prevent flows or backflows into watercourses or wetlands.

Monitoring: SLC will ensure that block valves are located as indicated on the construction drawings included in the Negative Declaration.

8. Impact: Potential impacts to rare plants along the pipeline route.

Project Modification: Preliminary rare plant surveys were done prior to preparation and circulation of the Negative Declaration. No individuals of the candidate species were found within the proposed right-of-way.

Monitoring: Before construction begins, another survey will be conducted by Beak Consultants, Incorporated, in consultation with State Lands Commission staff and the Natural Heritage Division of the California Department of Fish and Game (CDFG) to ensure that no impacts will occur. If species of concern are encountered, they will either be avoided, replanted, the area bored, or other measures implemented as deemed necessary by the CDFG. The SLC inspector will ensure that species of concern receive appropriate treatment as indicated by CDFG.

9. Impact: Contaminated soils along right-of-way may be disrupted during construction.

Project Modification: Where contaminated soils are uncovered, they will be removed and transported to an appropriate landfill. The pipeline will be covered with clean soil.

Monitoring: SLC inspector will ensure that this procedure is followed in areas where contaminated soils are located.

(ADDED 6/29/92)