

MINUTE ITEM
This Calendar Item No. C22
was approved as a Minute Item
No. 22 by the State Lands
Commission by a vote of 3
to 0 at its 6-30-92
meeting.

CALENDAR ITEM

C 2 2

A 11

S 7

06/30/92
PRC 5439
N. Smith

ADDENDUM NO. 5 TO MASTER LEASE PRC 5439

LESSEE:

Santa Fe Pacific Pipeline, L.P.
888 South Figueroa
Los Angeles, California 90017

AREA, TYPE LAND AND LOCATION:

A 0.10-acre parcel of tide and submerged land located in
Grayson Creek, City of Pacheco, Contra Costa County.

LAND USE:

Installation, operation, and maintenance of one 8-inch-
diameter pipeline and one 12-inch-diameter pipeline for the
transportation of refined petroleum products.

TERMS OF MASTER LEASE:

Lease period:

Twenty (20) years beginning January 1, 1978.

Renewal options:

Two successive periods of ten years each.

Public liability insurance:

\$1,000,000 per occurrence for bodily injury and
\$2,000,000 for property damage.

Consideration:

\$63,180 per annum; ten-year rent review.

TERMS OF PROPOSED AMENDMENT:

The addition of one pipeline crossing to Master Lease
PRC 5439.

CALENDAR PAGE	<u>232</u>
MINUTE PAGE	<u>233</u>

CALENDAR ITEM NO 0 2 2 (CONT'D)

CONSIDERATION:

The annual rent to remain the same.

BASIS FOR CONSIDERATION:

Pursuant to 2 Cal. Code Regs. 2003.

APPLICANT STATUS:

Applicant is lessee of upland.

PREREQUISITE CONDITIONS, FEES AND EXPENSES:

Filing fee and environmental costs have been received.

STATUTORY AND OTHER REFERENCES:

A. P.R.C.: Div. 6, Parts 1 and 2; Div. 13.

B. Cal. Code Regs.: Title 3, Div. 3; Title 14, Div. 6.

AB 884:

10/10/92

OTHER PERTINENT INFORMATION:

1. A Negative Declaration was prepared and adopted by Contra Costa County on May 10, 1988 for this project. That document was not circulated through the State Clearinghouse.

Subsequent to Contra Costa County's action, staff determined that further consideration of the proposed project, pursuant to the CEQA, was necessary because the following new informatior became available:

(a) Discussion of the Diablo buckwheat, a federal candidate plant species, was not included in the analysis of the county's document.

(b) Staff consultation with the Department of Fish and Game's Natural Heritage Division revealed that it was necessary to resurvey, in the Spring, for the Mt. Diablo rock rose to enable the USFWS and CDFG to determine what impacts the proposed project would have on each of these plants.

(c) A cultural survey (both literature search and field survey) was completed.

CALENDAR ITEM NO. 22 (CONT'D)

2. Pursuant to the Commission's delegation of authority and the State CEQA Guidelines (14 Cal. Code Regs. 15025), the staff has prepared a Proposed Negative Declaration identified as EIR ND 594, State Clearinghouse No. 91053081. Such Proposed Negative Declaration was prepared and circulated for public review pursuant to the provisions of CEQA.

Based upon the Initial Study, the Proposed Negative Declaration, and the comments received in response thereto, there is no substantial evidence that the project will have a significant effect on the environment. (14 Cal. Code Regs. 15074(b))

EXHIBITS:

- A. Land Description
- B. Location Map
- C. Negative Declaration
- D. Mitigation Monitoring Plan

IT IS RECOMMENDED THAT THE COMMISSION:

1. CERTIFY THAT A NEGATIVE DECLARATION, EIR ND 594, STATE CLEARINGHOUSE NO. 91053081, WAS PREPARED FOR THIS PROJECT PURSUANT TO THE PROVISIONS OF THE CEQA AND THAT THE COMMISSION HAS REVIEWED AND CONSIDERED THE INFORMATION CONTAINED THEREIN.
2. ADOPT THE PROPOSED NEGATIVE DECLARATION AND DETERMINE THAT THE PROJECT, AS APPROVED, WILL NOT HAVE A SIGNIFICANT EFFECT ON THE ENVIRONMENT.
3. ADOPT THE MONITORING PROGRAM ATTACHED AS EXHIBIT "D", WHICH HAS BEEN PREPARED PURSUANT TO P.R.C. SECTION 21080.6.
4. AUTHORIZE THE AMENDMENT OF MASTER LEASE PRC 5439 (ADDENDUM NO. 5), EFFECTIVE JULY 1, 1992; ALL REMAINING TERMS AND CONDITIONS OF LEASE PRC 5439 TO REMAIN UNCHANGED AND IN FULL FORCE AND EFFECT.

EXHIBIT "A"

WP 5439

LAND DESCRIPTION

A strip of tide and submerged land 16.5 feet wide in the bed of Grayson Creek, Contra Costa County, California, lying 8.25 feet on each side of the following described centerline:

COMMENCING at the westerly corner of Parcel "B", as shown on the Parcel Map filed August 25, 1972 in Book 23 of Parcel Maps at page 43, Official Records, Contra Costa County; thence along the westerly line of said Parcel "B", N 18° 42' 13" E, 30.95 feet; thence N 71° 17' 47" W, 54.00 feet; thence thence S 62° 43' 00" W, 124.02 feet to the POINT OF BEGINNING; thence from said true point of beginning S 62° 43' 00" W, 35.98 feet to a point which lies S 71° 17' 47" E, 50.83 feet from the southwesterly line of the Contra Costa County Flood Control and Water Conservation District described in Book 4089, page 272, Official Records of Contra Costa County.

EXCEPTING THEREFROM any portions lying landward of the ordinary high water mark of Grayson Creek.

END OF DESCRIPTION

PREPARED OCTOBER, 1991 BY LLB

CALENDAR PAGE	235
MINUTE PAGE	233

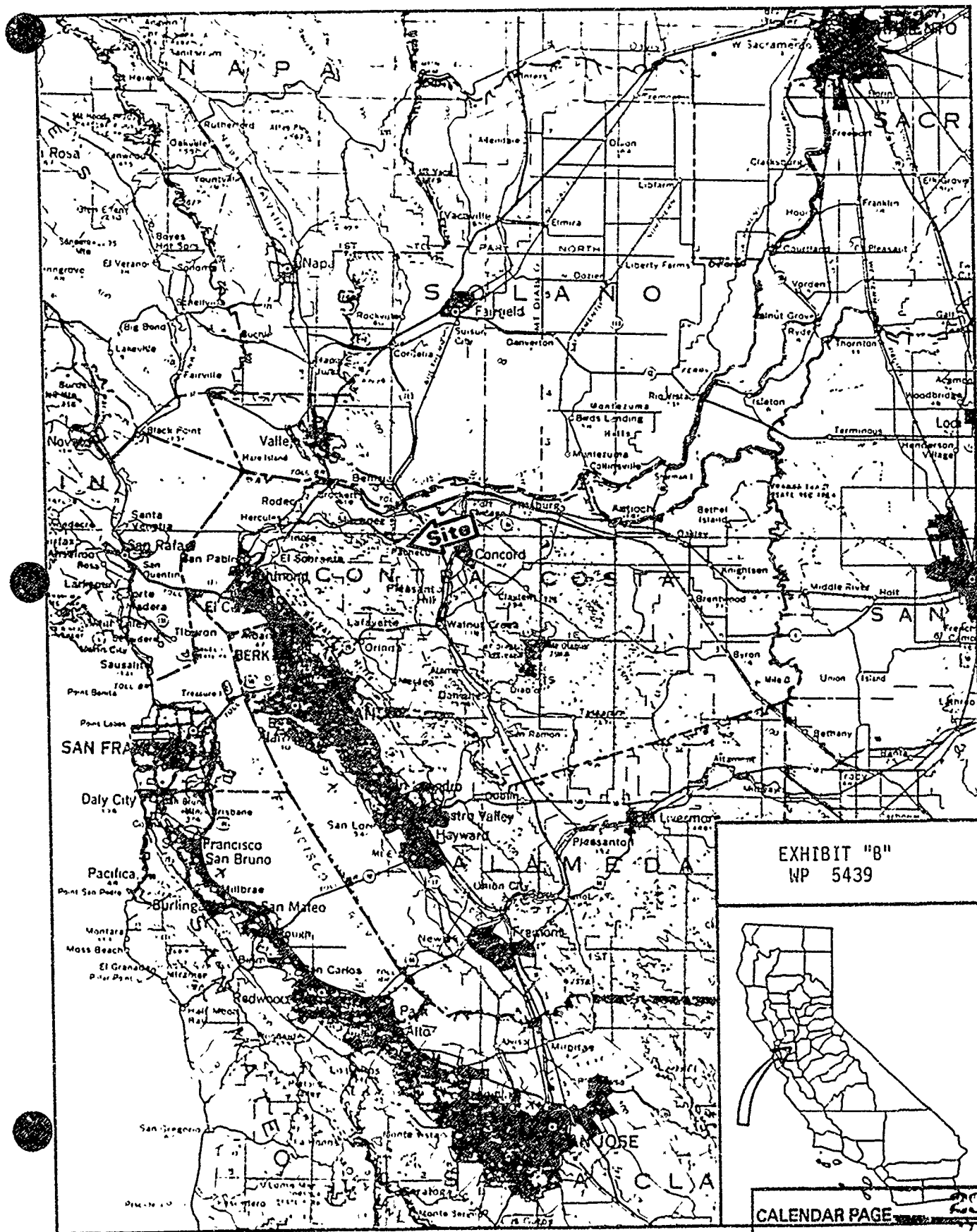


EXHIBIT "B"
WP 5439



CALENDAR PAGE

203

MINUTE PAGE

203-1

EXHIBIT "C"

STATE OF CALIFORNIA

PETE WILSON, Governor

STATE LANDS COMMISSION

LEO T. McCARTHY, *Lieutenant Governor*
GRAY DAVIS, *Controller*
THOMAS W. HAYES, *Director of Finance*

EXECUTIVE OFFICE
1807 - 13th Street
Sacramento, CA 95811

CHARLES WARREN
Executive Officer

May 28, 1992
File: WP 5439
ND 594

**NOTICE OF PUBLIC REVIEW OF A PROPOSED NEGATIVE DECLARATION
(SECTION 15073 CCR)**

A Negative Declaration has been prepared pursuant to the requirements of the California Environmental Quality Act (Section 21000 et seq., Public Resources Code), the State CEQA guidelines (Section 15000 et seq., Title 14, California Code Regulations), and the State Lands Commission Regulations (Section 2901 et seq., Title 2, California Code Regulations) for a project currently being processed by the staff of the State Lands Commission.

The document is attached for your review. Comments should be addressed to the State Lands Commission office shown above with attention to the undersigned. All comments must be received by June 27, 1992.

Should you have any questions or need additional information, please call the undersigned at (916) 322-0354.

Mary Griggs

MARY GRIGGS
Division of Environmental
Planning and Management

Attachment

CALENDAR PAGE	207
MINUTE PAGE	207

STATE LANDS COMMISSION

LEO T. McCARTHY, Lieutenant Governor
GRAY DAVIS, Controller
THOMAS W. HAYES, Director of Finance

EXECUTIVE OFFICE
1807 - 13th Street
Sacramento, CA 95814

CHARLES WARREN
Executive Officer

PROPOSED NEGATIVE DECLARATION

File: WP 5439
ND 594
SCH No. 91053081

Project Title: Santa Fe Pacific Pipeline L.P. Richmond to Concord Pipeline Project

Proponents: Santa Fe Pacific Pipeline L.P.

Project Location: Start in City of Richmond, Contra Costa County, route extends 24 miles north, then east paralleling San Pablo Avenue, Cummins Skyway and State Hwy. 4 to City of Concord.

Project Description: Install 12 miles of 16-inch and 13 miles of 12-inch refined petroleum products pipeline along a 25-mile route with the pipe to be installed underground along existing road and railroad rights-of-way.

Contact Person: Mary Griggs Telephone: 916/322-0354

This document is prepared pursuant to the requirements of the California Environmental Quality Act (Section 21000 et seq., Public Resources Code), the State CEQA Guidelines (Section 15000 et seq., Title 14, California Code Regulations), and the State Lands Commission regulations (Section 2901 et seq., Title 2, California Code Regulations).

Based upon the attached Initial Study, it has been found that:

 / this project will not have a significant effect on the environment.

 X / mitigation measures included in the project will avoid potentially significant effects.

CALENDAR PAGE	233
MINUTE PAGE	235

A Negative Declaration was prepared and adopted by Contra Costa County on May 10, 1988 for this project. That document was not circulated through the State Clearinghouse.

Since that time, new information has become available which requires further consideration of the proposed project under CEQA as follows:

- Discussion of the Diablo buckwheat, a federal candidate species, was not included in the analysis of the County's document.
- Staff consultation with the Department of Fish and Game's Natural Heritage Division revealed that it was necessary to resurvey in the Spring for the Mt. Diablo rock rose in order that the USFWS and CDFG could determine what impacts the project would have on these plants.
- A cultural survey (both literature search and field survey) was completed.

DESCRIPTION OF THE PROPOSED PROJECT

PROPOSED PIPELINE ROUTING

Santa Fe Pacific Pipeline Partners, L. P. (SFPP) proposes to construct a twenty five (25) mile refined petroleum products pipeline in order to expand its northern California pipeline system. This new port 12 and port 16 inch pipeline will extend from the SFPP Richmond Facility in Richmond, California north, then east to the SFPP facility located on Solano Way, near Concord, California.

The proposed pipeline expansion is intended to increase carrying capacity of SFPP's northern California pipeline system between Richmond and Concord. This expansion is intended to accommodate an increased demand for transportation of refined petroleum products from Bay area sources to the Northern California existing pipeline network and keep pace with growing demand for product delivery from the area.

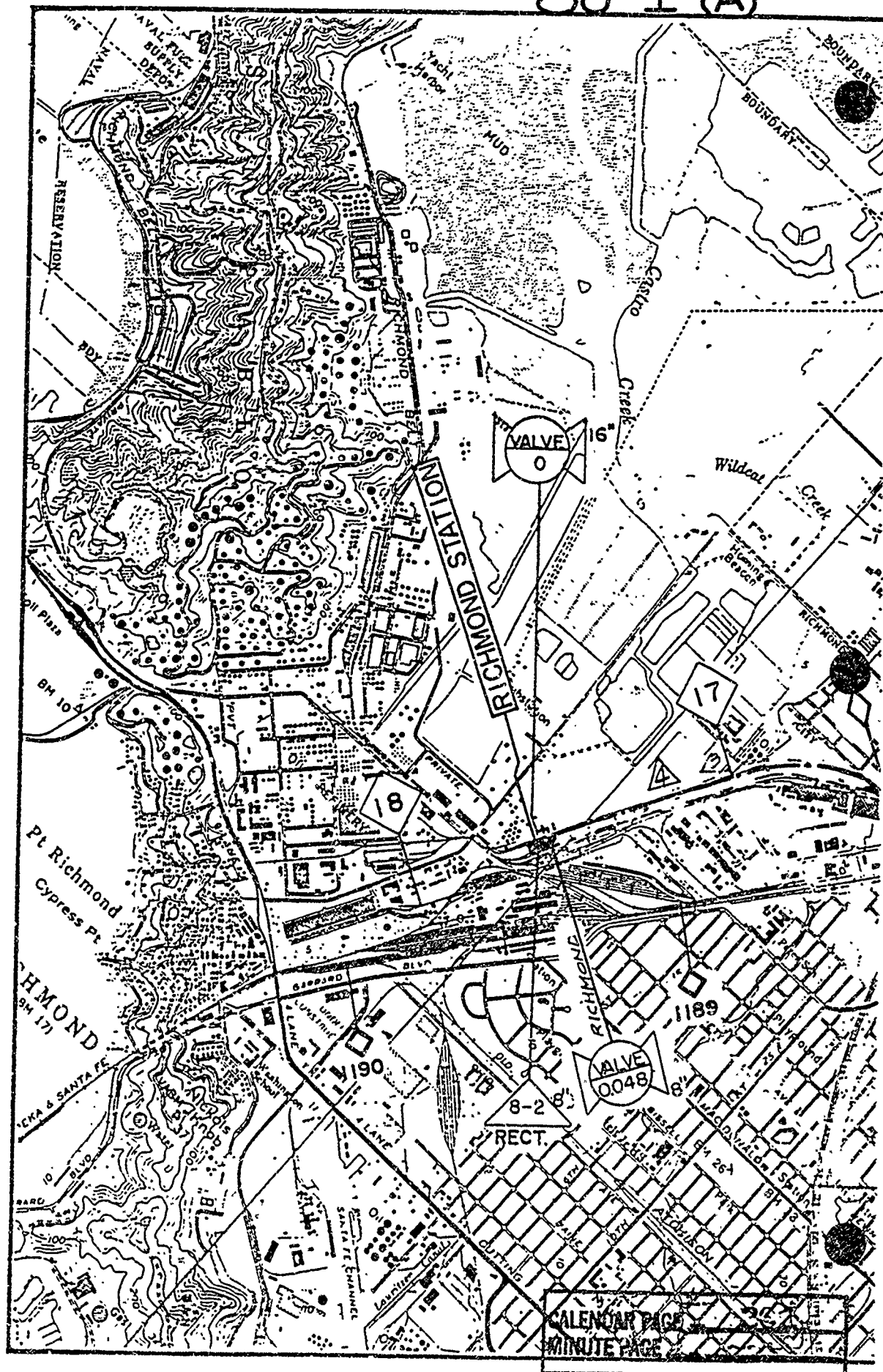
Approximately 70,000 barrels per day of refined product is projected to be initially transported through the dual-line pipeline system increasing at about 4% per year to 82,000 barrels per day by the fifth year.

The proposed route for the new buried pipeline between Richmond and Concord is shown on the enclosed drawings (Exhibits A and B). The pipeline will begin at the SFPP pumping facilities northeast of Point Richmond in the City of Richmond. The route begins by following Castro St. north from the Richmond Station to the intersection of Vernon Ave., and turning easterly in Vernon Ave., to the Southern Pacific Railroad (SPRR) right-of-way. The pipeline leaves the street at Mile Post (MP) 1 and connects with the SPRR right-of-way continuing north through the City of Richmond until MP 3.5 where the pipeline crosses to the east side of the SPRR right-of-way and continues in a northeasterly direction along the San Pablo Bay shoreline to the town of Hercules. At Hercules, MP 8.5, the pipeline leaves the SPRR right-of-way to parallel the right-of-way along the east side on private lands, reentering SPRR right-of-way immediately outside the town of Rodeo. At the intersection of Parker Avenue and San Pablo Avenue, at approximately MP 10.6, the pipeline leaves the SPRR right-of-way and enters San Pablo Avenue continuing northerly to the Union Oil Refinery crossing through the Union Oil Refinery to the SFPP manifolds within the Union Oil Refinery.

At this point the pipeline reduces to a 12-inch size pipeline the 16-inch portion of the pipeline ending at the manifold. This 11.8 mile segment of the route crosses seven creeks. The crossings include Wildcat Creek, San Pablo Creek, Rheem Creek, Garrity Creek, Pinole Creek, Refugio Creek and Rodeo Creek.

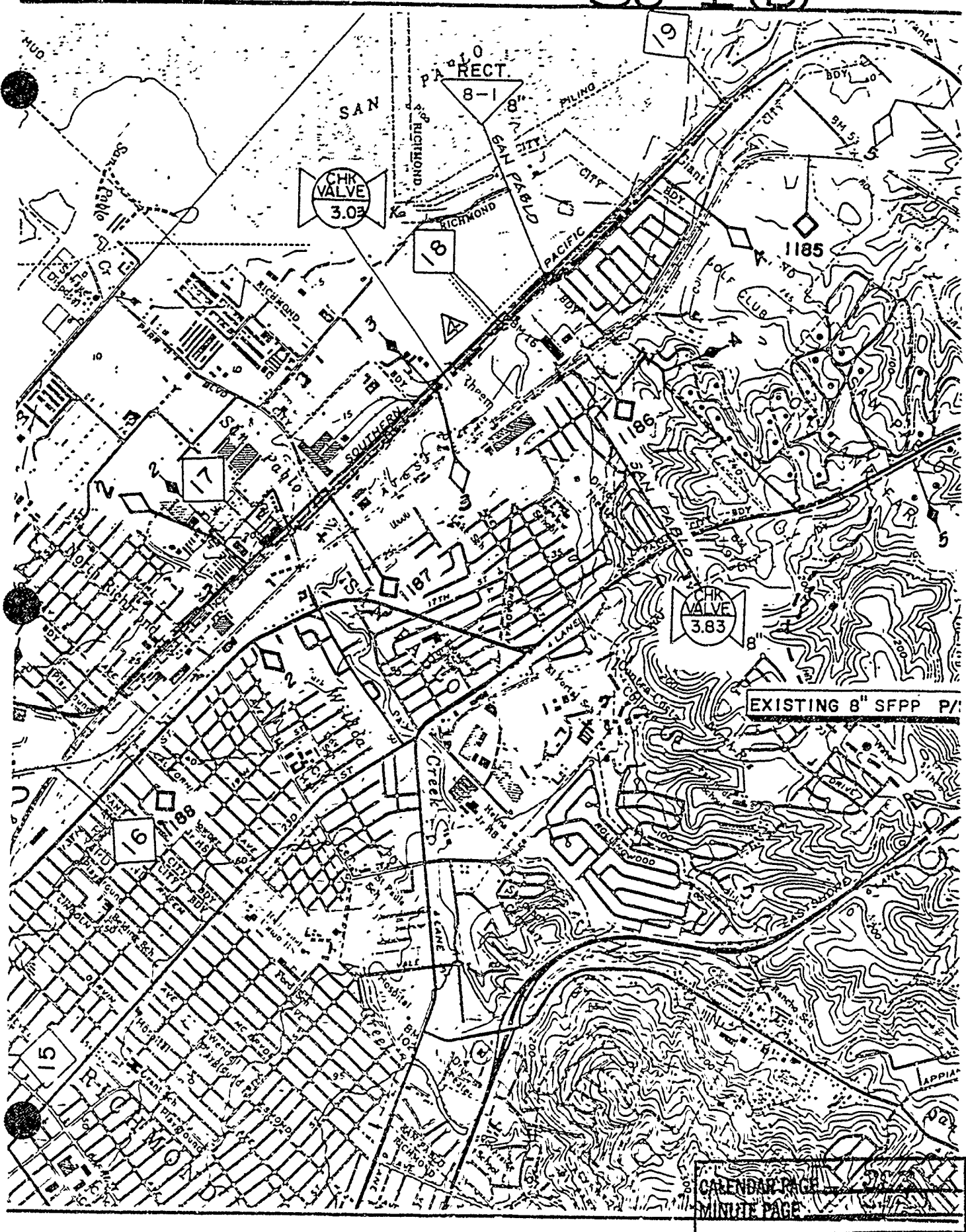
From the manifold location the 16-inch pipeline is reduced to a 12-inch pipeline. The route continues north into San Pablo Avenue, following San Pablo Avenue east into the Wickland Oil Terminal property. The pipeline continues easterly through the

80-1 (A)

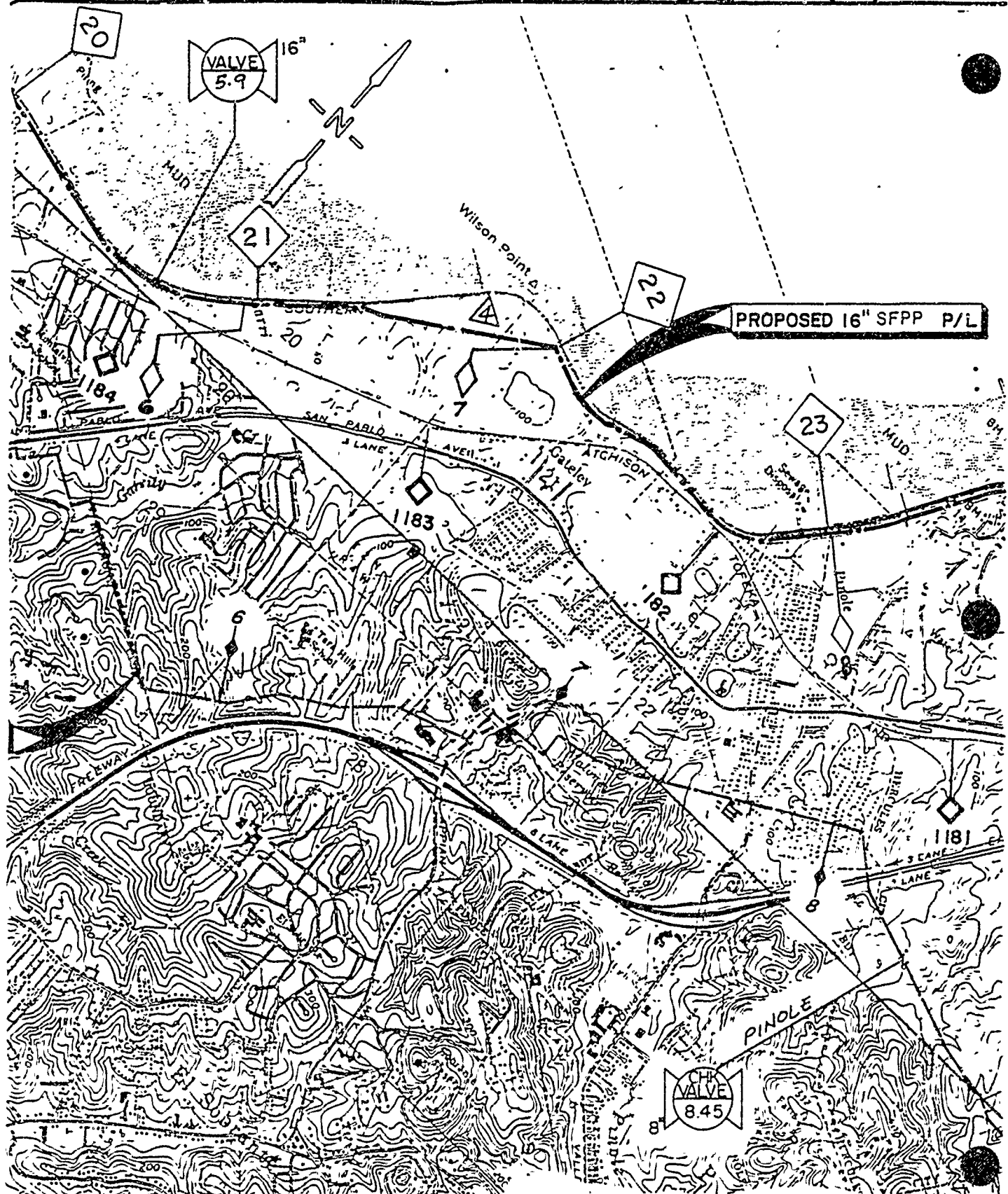


CALENDAR PAGE
MINUTE PAGE

80-1 (B)

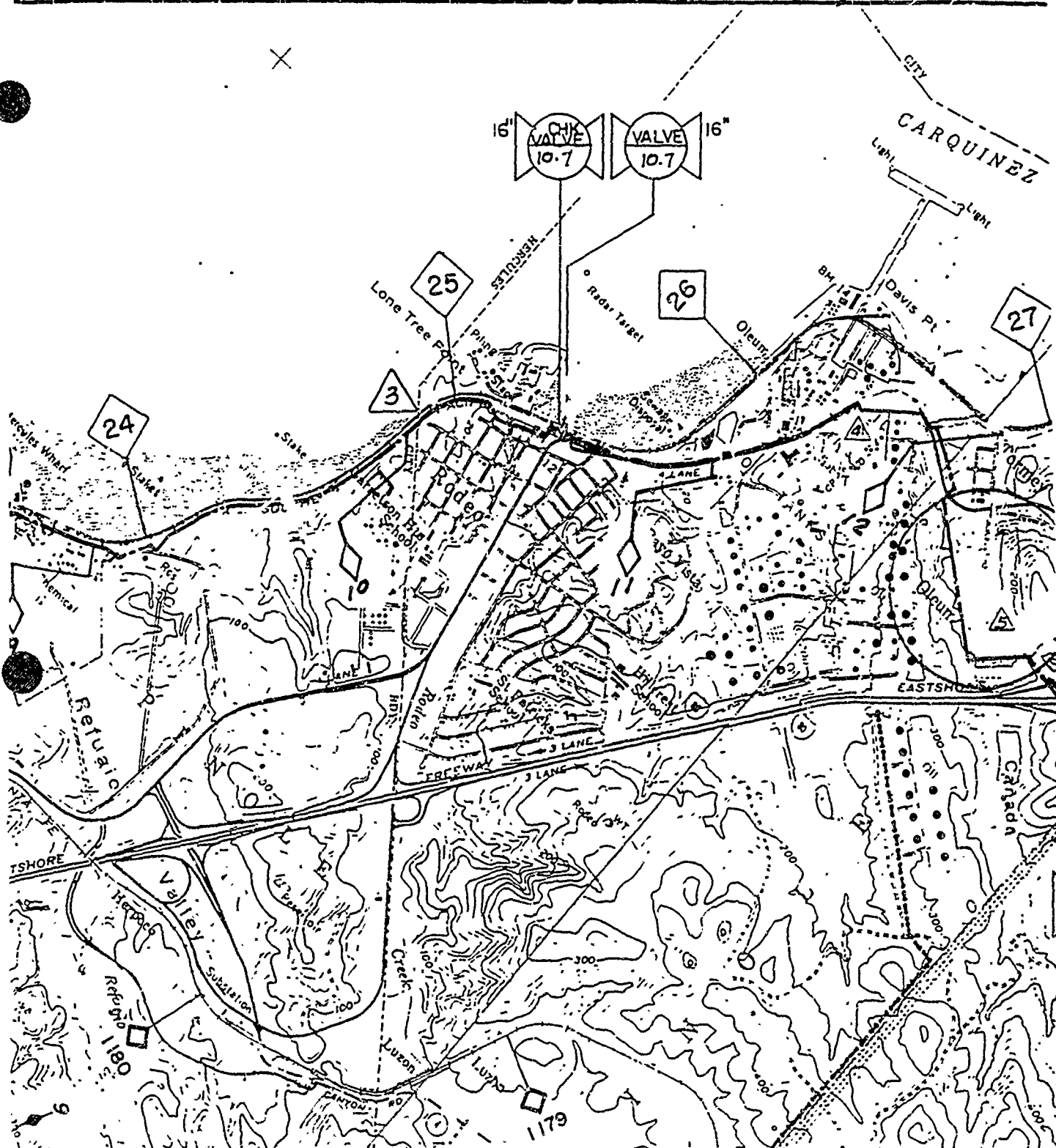


80-1 (C)



3/23	RELOCATED	P/L © WICK
11/80	REVISED	MINUTE PAGE

80-1 (D)



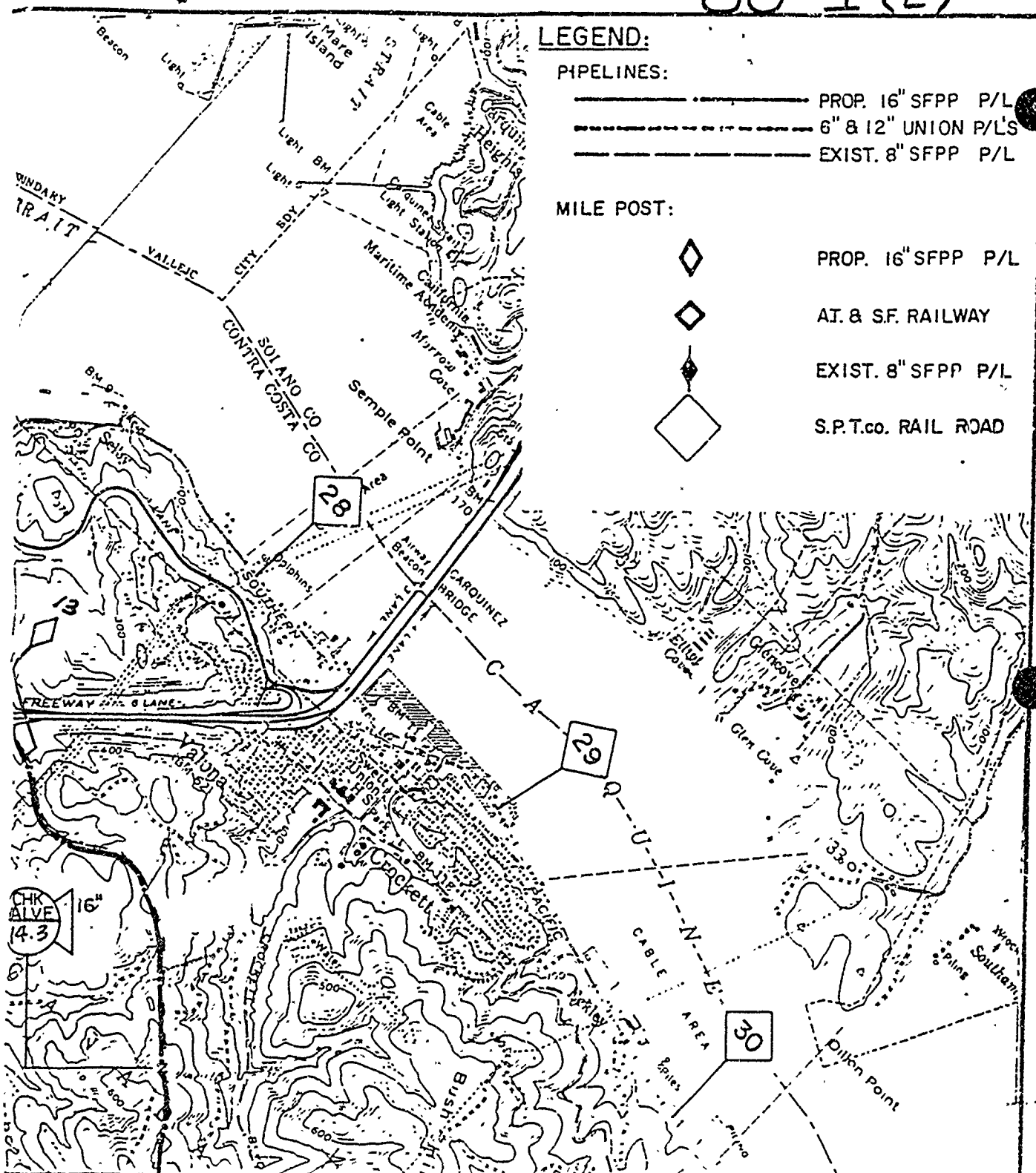
10/4/87	REVISED P/L LOCATION AND REISSUED	MDP	WLB	RG	7
52087	REVISED P/L LOCATION AND REISSUED	G.Yee	WLB	RG	7
22487	REVISED & REISSUED FOR REVIEW	G.Yee	RG	RG	7
52787	ISSUED FOR REVIEW	G.Yee	ESP	WLB	7


UED	RG	ESP	WLB	RG
	MDP	WLB	RG	7

NO.	DATE	REVISIONS
-----	------	-----------

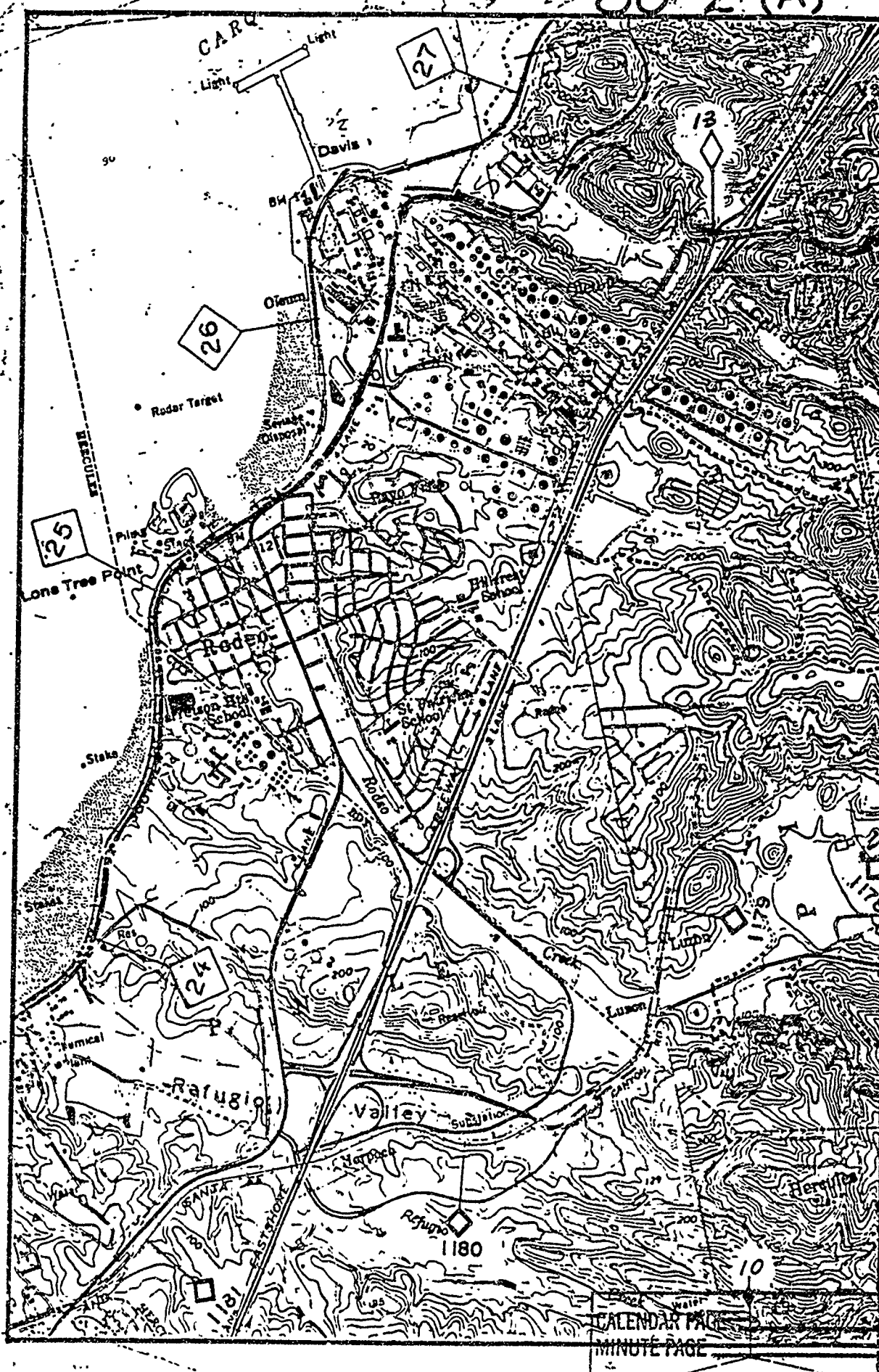
CALENDAR PAGE
MINUTE PAGE

80-1 (E)



SCALE 1" = 2000'	ROUTE MAP 16" PIPELINE RICHMOND TO CONCORD	DATE 5 - 27 - 86
DESIGNED <i>FBM</i>		R-80-1 CALENDAR PAGE <u>305</u> MINUTE PAGE _____
DRAWN George S. Yee		
CHECKED <i>FSP</i>		
APPROVED <i>FBM</i>	 SFPP, L.P. LOS ANGELES CALIFORNIA	

80-2 (A)



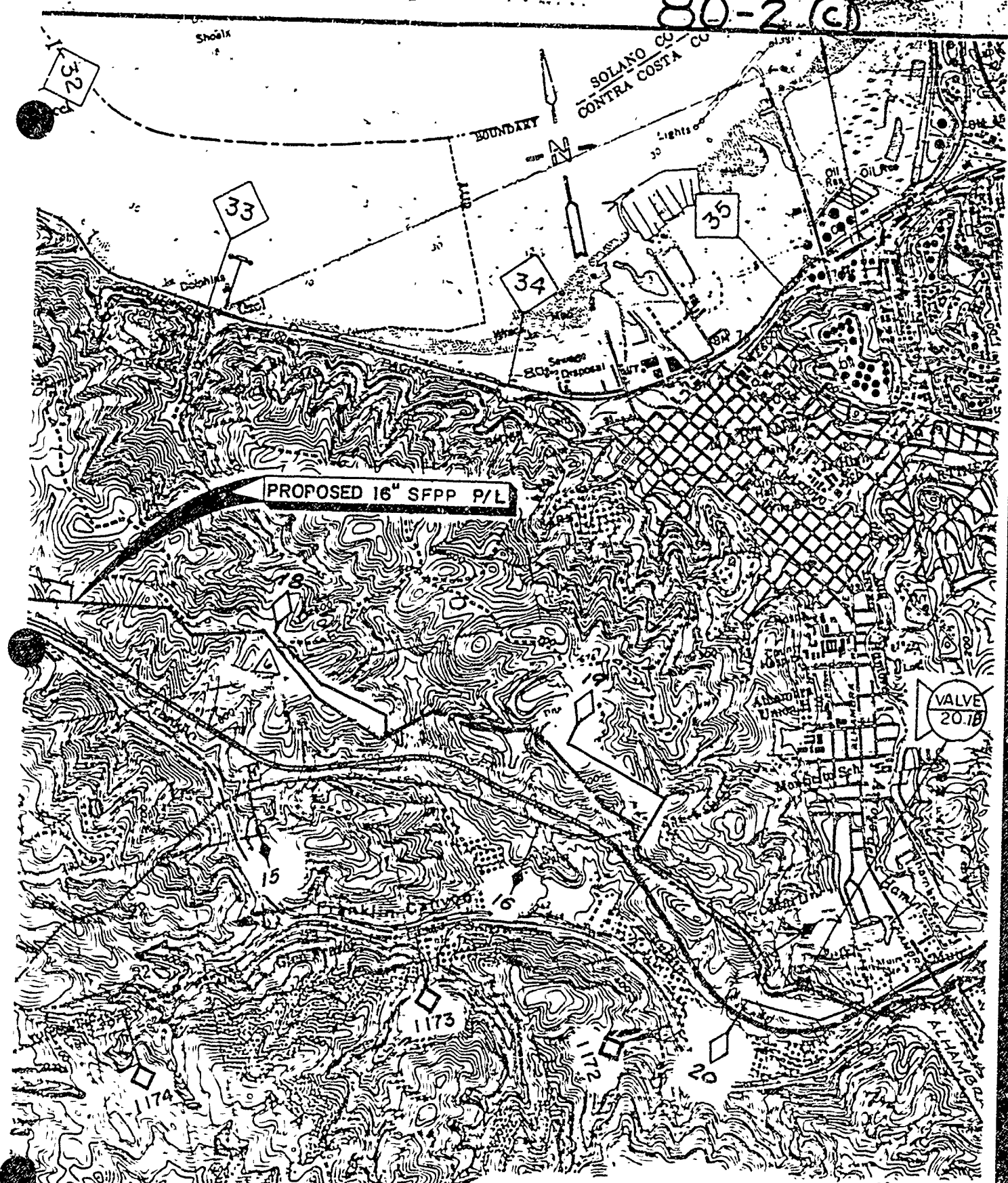
CALENDAR PAGE
MINUTE PAGE

80-2 (B)



MINUTE PAGE

80-2 (c)

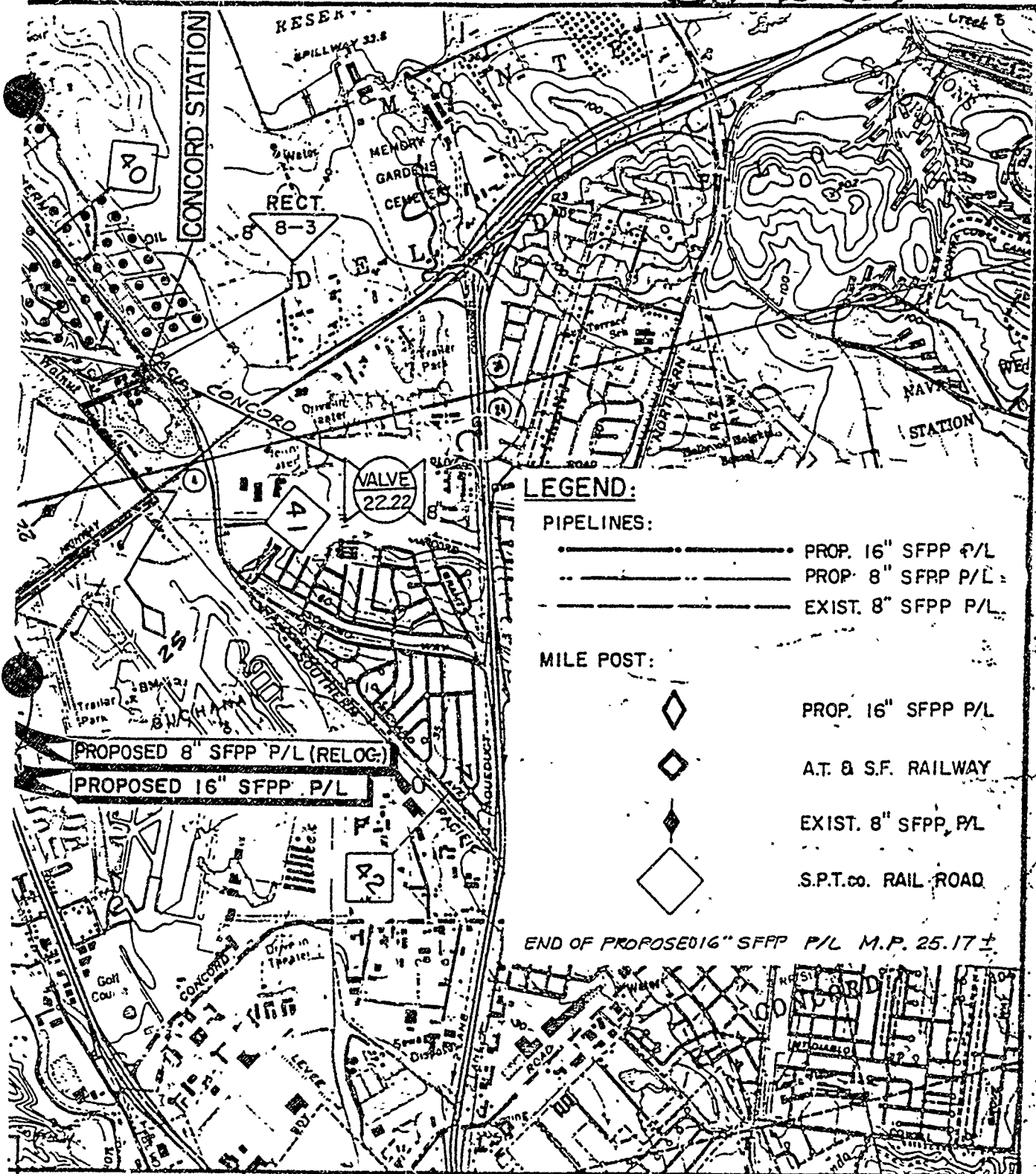


6	5217A	REVISED P/L LOCATION & REISSUED
6	1174	REVISED P/L LOCATION & REISSUED
		MINUTE PAGE

1	10/5/87	REVISED P/L LOCATION AND REISSUED	MDP	RG	RG	MDP
3	6-18-87	REVISED P/L LOCATION AND REISSUED	MDP	RG	RG	MDP
2	52087	REVISED P/L LOCATION AND REISSUED	G.Yee	RG	RG	MDP
1	22437	REVISED & REISSUED FOR REVIEW	G.Yee	RG	RG	MDP
0	52766	ISSUED FOR REVIEW	G.Yee	FSP	HJK	TE

CALENDAR PAGE	FTG.	ENG.
MINUTE PAGE		

80-2 (E)



SCALE 1" = 2000'	ROUTE MAP 16" SFPP PIPELINE RICHMOND TO CONCORD	DATE 5-27-86
DESIGNED <i>RBH</i>		R-80-2 CALENDAR PAGE 310
DRAWN George S. Yee	SFPP, L.P. LOS ANGELES CALIFORNIA	
CHECKED <i>FSD</i>		
APPROVED <i>FSD</i>		

Wickland Oil Terminal and then north within the Wickland Oil Terminal property to a point on the easterly property line west of the I-80 and Cummings Skyway interchange, then crosses under Interstate 80.

On the east side of I-80 the proposed 12-inch pipeline route intersects the dirt shoulder of Cummings Skyway, following it for approximately 3 miles to MP 15.7. At this point the pipeline route leaves Cummings Skyway passing easterly to parallel an existing utility corridor and pipeline easement. The pipeline route parallels this easement for approximately 3.5 miles southeasterly across private lands, then leaves this easement and enters a second pipeline easement owned by SFPP. The pipeline route follows this easement southeasterly for approximately 1 mile then crosses under State Highway 4, at approximately MP 20, to the south side and turns east along Franklin Canyon Road. This portion of the route is relatively rural. It crosses three creeks along its course. These include the tributaries to Canada del Cierbo and two tributaries to Franklin Canyon Creek. All the land along the proposed route north of State Highway 4 back to Cummings Skyway is currently managed as rangeland. Approximately 1/2 mile of the last portion of this segment is parallel and adjacent to the bridle trail managed by the East Bay Regional Park District. The total length of this segment is approximately 8.5 miles.

The proposed pipeline route continues east along Franklin Canyon Road while crossing Franklin Canyon Creek to the intersection with Alhambra Avenue. The route turns northeasterly into the Santa Fe Railroad right-of-way where the track is on a trestle. At the railway's intersection with Alhambra Way, the proposed route shifts into Muir Station Road while crossing Arroyo del Hambre Creek continuing in Muir Station Road until east of Center Avenue. East of Center Avenue the route leave Muir Road, crosses under Highway 4 to the north into Arnold Drive and then continues eastward along Arnold Drive to a point eastward of Shadowfall Drive's intersection with Arnold Drive. From this point, the proposed route crosses under Highway 4 returning south, entering Muir Road near its intersection with Hull Lane and continuing easterly in Muir Road. At the intersection of Muir Road and Pacheco Blvd., the pipeline route leaves Muir Road and heads slightly to the north into open fields along the south side of Highway 4. The proposed route continues northeasterly the south side of Highway 4 with the Caltrans right-of-way crossing Interstate 680 and Grayson Creek before entering Marsh Drive where Marsh Drive turns northeasterly parallelling State Highway 4.

From this point, the proposed routing continues northeasterly along Marsh Drive to Walnut Creek where the route leaves the street and crosses the creek parallel and to the south of Marsh Drive. On the east side of Walnut Creek, the pipeline route turns northerly along a levee road and parallels an existing 8-inch SFPP pipeline to a point immediately west of the SFPP Concord Station located at 1550 Solano Way north of State Highway 4. The proposed route leaves the levee and turns east into the SFPP Concord Station property.

Alternate Routes For The Pipeline

Several alternate routes for the pipeline to reduce construction impacts were studied. These alternate routes are covered in Exhibit C. The alternate routes are found to be affected by limited right-of-way access or limited room within the right-of-way which would hinder construction.

PIPELINE DESIGN FEATURES AND CONSTRUCTION

The new portions of the proposed pipeline are planned to be constructed with 16 inch outer diameter x 0.250 inch wall thickness API-5LX grade 60 steel pipe and with 12.75 inch O.D. X 0.250 wall API-5LX/60. pipe east of the Wickland manifolds. The pipe sections will be protected with an external coating equivalent to 40 mils of polypropylene. An additional precaution of electric cathodic protection will be employed upon completion. The pipe will be delivered to the right-of-way in lengths of approximately 40 feet and will be joined together alongside the trench by electric welding. The field welding will be conducted in accordance with API Code 1104 and will be 100 percent radiographically inspected.

The pipeline will be designed, constructed and installed in strict accordance with the requirements set forth in Title 49, Code of Federal Regulations (CFR), Part 195 and in accordance with applicable sections of section I, Chapter 5.5 of the California Pipeline Safety Act, paragraphs 51010 - 51020. Construction and installation will be done by a qualified independent contractor selected through competitive bidding. Inspection will be performed by SFPP.

The pipeline will be constructed within prescribed rights-of-way with provisions with the respective landowners for additional temporary work space for construction purposes. A typical right-of-way cross-section is shown in Exhibit D. The right-of-way widths will vary depending upon the physical requirements of the ROW and the construction equipment required for the differing conditions along the ROW.

These ROW conditions for this project will vary between three major types depending upon the physical situation through which the pipeline route will pass and the construction machinery needed for each section. The three major ROW types will include:

- (1). Cross country (open); which includes the rangelands north of Cummings Skyway and outside of railroad right-of-way. Construction ROW width will be no more than 50 feet.
- (2). Railroad Right-of-way; includes lands with existing trackage where the project will lie between the track and the adjacent railroad property line. Normal construction ROW width will be 35 feet wide.
- (3). Roadways; includes portions of the route which is located on city streets or county roadways. The construction ROW

EXHIBIT C

The following routes were investigated, including:

Alternate A

- leaving the proposed route with SPTCo railroad right-of-way immediately prior to crossing Refugio Creek, traversing open land, paralleling Refugio Creek to the east and northeast. This alternate was selected to parallel an exiting sewer line easement which runs southeasterly through the portion of Refugio Valley west of San Pablo Avenue. When the sewer line easement turns northeasterly, the route continues southeasterly, crossing first a tributary to Refugio Creek and then San Pablo Avenue. On the east of San Pablo Avenue, the alternate route turns southerly and parallels San Pablo Avenue to its intersection with Sycamore Street, at which point the route turns southeasterly and runs along the north edge of Sycamore Street. At Sycamore Street's intersection with Willow Street, the route crosses Willow Street and enters onto Santa Fe Railway railroad right-of-way, headed easterly, and then continues in the railroad right-of-way until the railroad overpass at Willow Street, at which point the route moves into Willow Street, continuing in Willow Street and then easterly in Franklin Canyon Road. The route then continues to a point immediately east of Franklin Canyon Road's turn into its intersection with State Highway 4, at which point the route crosses State Highway 4. Once on the north side of State Highway 4 immediately east of the highway's intersection with Franklin Canyon Road, the alternate routing continues easterly through open fields, crossing Rodeo Creek before turning east-northeast to parallel an existing pipeline easement as it crosses hills to the northeast to a point south of Cummings Skyway. From this point the route proceeds southeasterly, paralleling a second existing pipeline easement parallel and to the south of Cummings Skyway. Continuing on this southeasterly course, the routing crosses Cummings Skyway, turning easterly to align itself with yet a third existing pipeline easement, rejoining the proposed pipeline right-of-way north of Cummings Skyway. This alternate was not chosen because of loose soils in the hills area and therefore less than desirable right-of-way operation and maintenance conditions.

Alternate B

- leaving the proposed route within railroad right-of-way in northern Pinole, entering city streets in the vicinity of the Hazel Street intersection with Pinon Avenue, continuing southeasterly in city streets to the vicinity of the Park Street intersection with Tennent Avenue, then northeasterly along San Pablo Avenue, entering upon Santa Fe Railway right-of-way and crossing the avenue through the railroad tunnel to

CALENDAR PAGE	313
MINUTE PAGE	254

EXHIBIT C

the south, remaining on railroad right-of-way, and then continuing easterly within Santa Fe Railway right-of-way to rejoin alternate "A" at a point east of the Sycamore Street intersect with Willow Street. This alternate was not chosen because of the restricted railroad right-of-way as Santa Fe Railway crosses under San Pablo Avenue, making it virtually impossible to remain in railroad right-of-way, continuing on to the east.

Alternate C

- leaving the proposed route within railroad right-of-way at its crossing of Pinole Creek, turning southeasterly into the creek's northeast service road, and then continuing southeasterly to a point of intersection with alternate "B" described above. This alternative was not chosen for the same reason as alternate "B"; restricted right-of-way within which to cross San Pablo Avenue.

Alternate D

- leaving alternate "A" within the railroad right-of-way adjacent to Willow Street, crossing Sycamore Street to the east, and entering into an existing eastbound pipeline corridor over hills immediately south of Franklin Canyon Road and State Highway 4, turning north across State Highway 4 to rejoin alternate "A". This alternate was not chosen because it was determined upon research of the existing pipeline corridor that no additional room remained within the corridor.

Alternate E

- leaving the proposed route in the Davis Point vicinity, moving southeasterly through Unocal's San Francisco Refinery, and immediately east of Interstate Highway 80, turning east and southeast parallel and adjacent to existing pipeline easements, rejoining the proposed pipeline route north of Cummings Skyway. This alternate was not chosen due to restricted right-of-way both on the railroad right-of-way in the Rodeo area and on the refinery property, in addition to future planned recreational and urban development east and south of Interstate Highway 80 and Cummings Skyway.

Alternate F

- leaving the proposed pipeline right-of-way at its intersection with McEwan Road as it parallels the existing pipeline easement north of Cummings Skyway, turning south into McEwan Road and then east into Franklin Canyon Road, continuing easterly within Franklin Canyon Road to rejoin the proposed pipeline route as it enters Franklin Canyon Road further to the east. This alternate was not chosen due to the generally narrow and winding nature of Franklin Canyon Road and the availability of alternate suitable right-of-way east of McEwan

CALENDAR PAGE	341
MINUTE PAGE	2002

EXHIBIT C

Road (the proposed route).

Alternate G

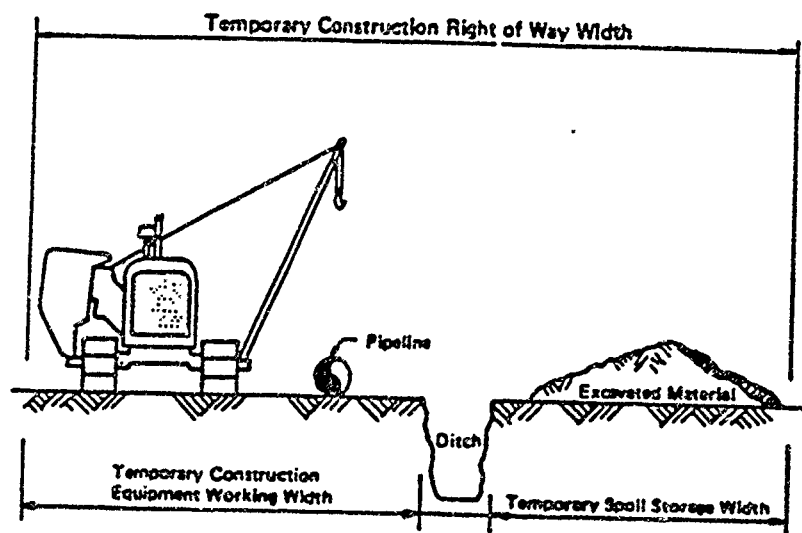
- leaving the proposed pipeline route at a point approximately 6.5 miles east of the Interstate Highway 80 interchange, turning southwesterly and crossing under State Highway 4 and Franklin Canyon Creek, and then turning east into Franklin Canyon Road, joining alternate "F". This alternate was not chosen due to relatively restricted existing and planned residential and commercial buildup, and the availability of already existing pipeline easements north of State Highway 4 (the proposed route).

Alternate H

- leaving the proposed pipeline route in the vicinity of its intersection with Center Avenue in the City of Martinez, entering upon Santa Fe Railway right-of-way and continuing within the railroad right-of-way northeasterly to a point beyond its overpass of Interstate Highway 680, at which point the alternate turns southeast toward the SPPL Concord Station on Solano Way, crossing Walnut Creek immediately downstream of its confluence with Grayson Creek. This alternate was not chosen due to unstable slopes on railroad right-of-way.

In the comparison of the alternate routes to the proposed pipeline route, no differences in known occurrences of state or federally listed plants or animals exist, with the one exception of the potential presence (a "non-specific" siting in the California Department of Fish and Game's Natural Diversity Data Base survey information) of the Salt Marsh Harvest Mouse, Reithrodontomys raviventris, on a portion of alternate "H".

EXHIBIT D



Construction Right-of-Way Cross Section

will usually be 30 feet wide or less, depending upon local jurisdictional permitting and construction requirements.

Upon completion of construction, the ROW's will revert back to different final states. In the first two situations, upon completion of construction, the final ROW will revert to a 10 foot permanent easement width for inspection and maintenance during pipeline operation. In the third situation, the ROW will revert back to its previous condition (road and associated facilities) in accordance with all permit specifications and agency rules and regulations. Maintenance responsibility of the street or roadway returns to the responsible governing agency.

Only one construction spread (crew and equipment needed to prepare the ROW, lay the pipe, install and bury it) will be used for the entire 25 mile length of the pipeline project. Several individual crews will be involved for the various steps along the spread requiring approximately 100 persons and the following pieces of equipment:

- 2 Pneumatic tired motor patrols
- 12 Crawler side-boom tractors, equivalent of Cat D-7
- 2 Crawler trenching machines
- 2 Crawler D-7 bulldozers
- 5 Backhoes - rubber tired or crawler
- 1 Boom truck
- 12 Truck mounted welding machines
- 4 Pipe transport trucks
- 15 Pickup trucks
- 1 Pipe bending machine
- 2 Boring (horizontal) machines

It is expected the construction contractor will most likely have one mainline crew for pipeline installation in the dirt portions of the ROW, one street and special crossings crew (for streams, etc.), one street boring crew and two tie-in crews. The construction will proceed at approximately 1/2 mile per day assuming the following construction procedure is followed:

- (1) Clearing the ROW; Involves preparing the ROW for the construction operations with removal of shrubs, logs, rocks and other debris which might interfere with safe movement of crews and equipment along the ROW.
- (2) Ditching; Including all excavation work required to provide a trench of specified width and depth. This involves trenching machines and backhoes.
- (3) Hauling and Stringing; Delivery and placement of all pipe sections onto the ROW along with all the necessary valves, fittings and factory bends.

- (4) Bending; Custom bending of specific sections of pipe to conform to minor changes in the direction of pipeline alignment and ditch contours.
- (5) Welding; The cleaning, clamping and ultimate joining of sections of pipe by electric welding involving three passes (steps) in the process:
 - a. Root pass - tying the sections together.
 - b. Hot pass - with additional passes as needed.
 - c. Cover pass or cap - the finishing layer.All welds are radiographically inspected.
- (6) Cleaning/priming, protecting; this step involves cleaning priming and applying polypropylene sheeting or equivalent material of minimum 40 mil thickness to the exposed welded joints.
- (7) Electrical inspection of coating; Involves grounding the pipeline and passing an electronic sensor over the coating to check for wrinkles, tears or pinhole punctures in the plastic coating. When found, the imperfections are repaired.
- (8) Lowering in; The welded sections of pipe are lowered into the trench with side boom tractors.
- (9) Backfilling; Once the pipe is laid the excavated soils are replaced in the trench and compacted. The ROW is restored to pre-project condition with replacement of original features, contours, etc.

Exhibit E illustrates a typical pipeline spread as proposed for this project. SFPP proposes to begin construction upon acquisition of all necessary permits and rights-of-way. It is anticipated the project will require four months to construct.

Upon completion of construction, the pipeline will be hydrostatically tested to a minimum of 90 percent of the specified minimum yield strength of the pipe. The maximum operating pressure will be 72 percent of the specified minimum yield strength.

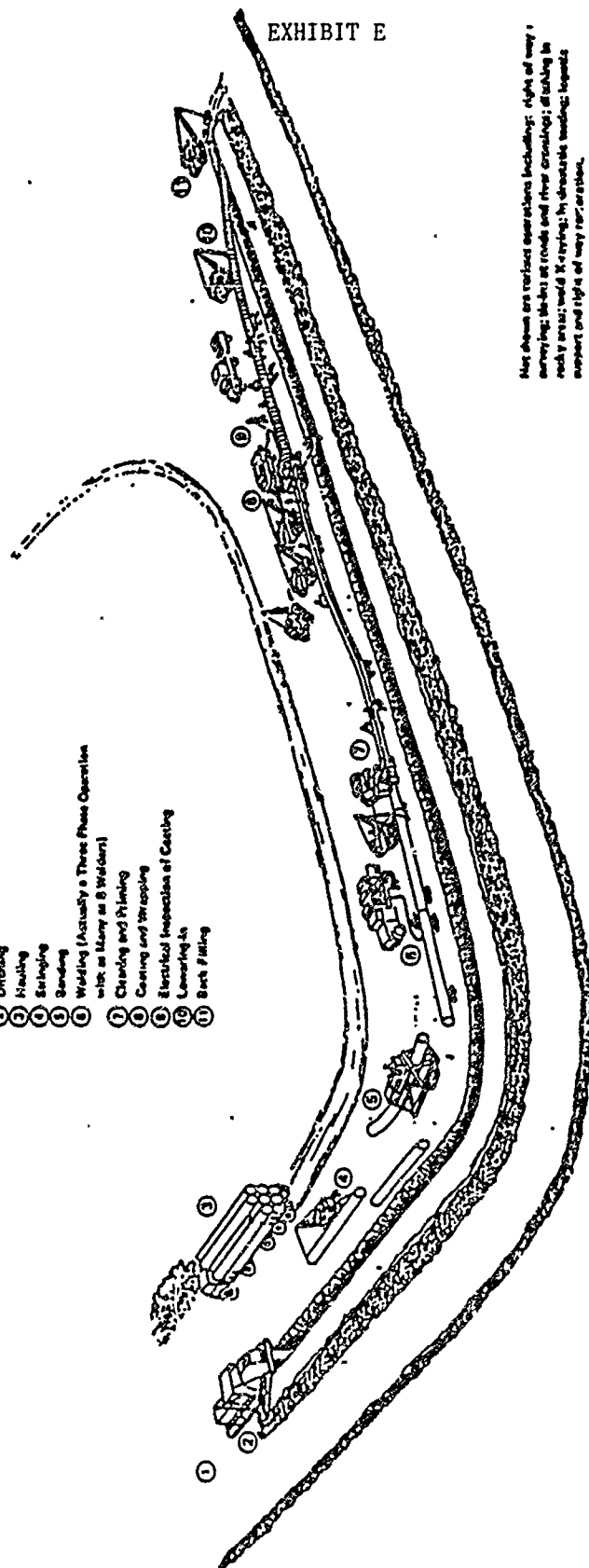
SPECIAL CROSSING SITUATIONS

Road Crossings

For the majority of the pipeline route where it follows along roadways, the construction will involve trenching with the subsequent emplacement of the pipe into the trench and reburial.

Traffic control will be maintained to minimize disruptions to vehicle movements. Steel plates will be placed across driveways and intersections to allow continued traffic flow over the trench in both directions.

- ① Clearing Right of Way
- ② Ditching
- ③ Hauling
- ④ Grading
- ⑤ Bedding
- ⑥ Welding (Actually a Three Phase Operation with as Many as 8 Welders)
- ⑦ Cleaning and Priming
- ⑧ Coating and Wrapping
- ⑨ Electrical Inspection of Coating
- ⑩ Lowering in
- ⑪ Back Filling



Map shows various operations including: right of way, surveying, clearing, ditching, hauling, grading, bedding, welding, inspection, lowering in, back filling.

Typical Pipeline Construction Spread

However, where site specific conditions make simple trenching across roadways infeasible, the crossings will be bored. Exhibits F, G and H illustrate typical uncased and cased pipeline/road crossings. All major interstate and highway crossings and mainline railroad crossings will be bored and cased. All other crossings will be bored and uncased or open trenched unless physically impossible or if not allowed by local governing agency. Casing of bores will be done only if absolutely necessary to complete the bore or when required by a governing agency. Casing is avoided for two reasons:

- (1). Casing introduces a space between the outer casing pipe and the inner carrier pipe which allows moisture to collect. This accelerates corrosion to the outer surface of the carrier pipe within the casing.
- (2). The carrier pipe must be installed within the casing using insulators for electrical protection. These insulators isolate the cased section of carrier pipe from the electric cathodic protection system which protects the pipeline from corrosion. This further accelerates corrosion to the outside of the carrier pipe within the casing.

The trenching operations will be conducted to minimize interference or obstruction to traffic flow and safety and all precautions will be taken to protect human life and property. The contractor will be required to give written notice to the proper authorities at least 48 hours prior to commencing construction of the crossing.

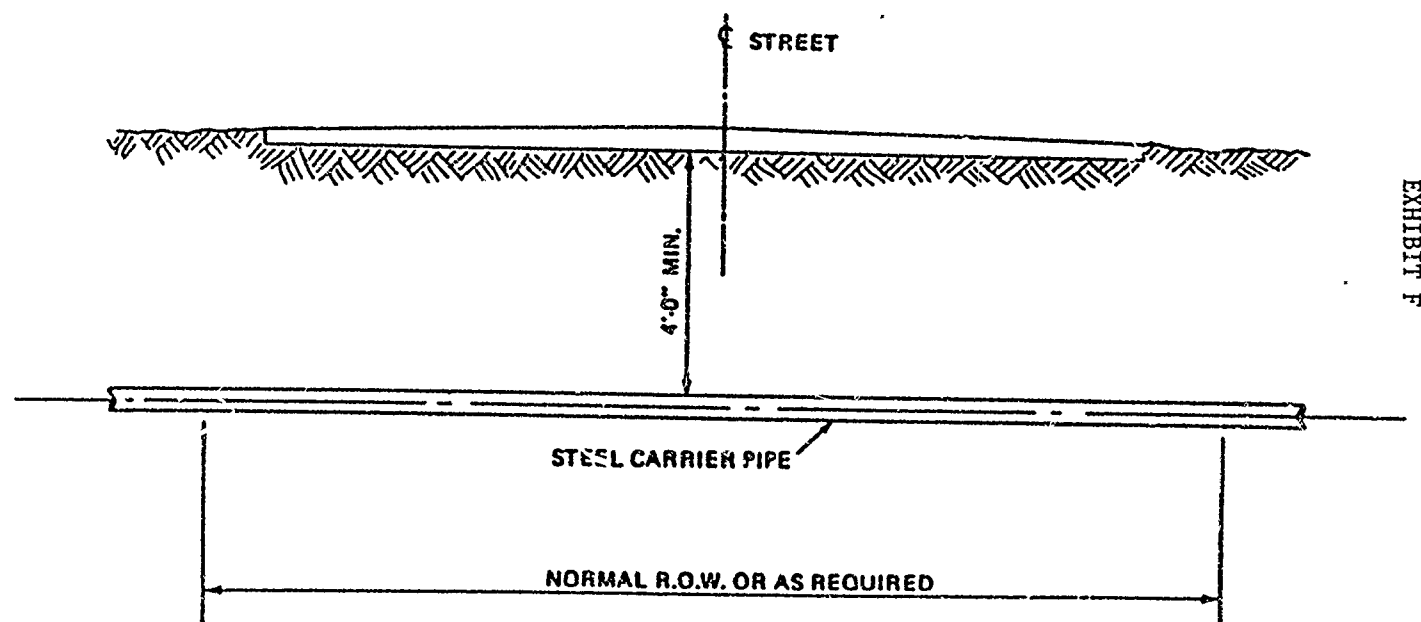
Water Crossings

The proposed pipeline will cross fourteen waterways, six of which are crossings beneath SPTCo. railroad tracks (Exhibit I). Several of these waterways are small with only minimal flow. Others are intermittent and become dry during portions of the year. These channels can be open trenched and then backfilled with the native soil once the pipe is installed.

In creeks with excessive or rapid flows, bypassing possible stream water around the trenching site is conducted with fluming pipes. The fluming process involves placing one or more large diameter (18-30 inch) steel pipes 30 to 40 feet in length along the stream alignment. A sandbag diversion dam is placed across the stream flow, around the pipes at their upstream end directing the water flow into the steel "flume" pipes. This process allows the water to be diverted past the construction without picking up any transportable soil. A small sandbag barrier is placed across the channel at the downstream end of the pipes to prohibit soils stirred by the construction from silting into the stream at the downstream end. The trenching operation is conducted between the two sandbag barriers. Once the pipeline is installed, the trench is backfilled and graded and the streambanks restored.

NOTES :

1. IT IS REQUIRED THAT NO WORK AT ANY TIME SHALL UNDULY INTERFERE, OBSTRUCT OR ENDANGER TRAFFIC AT ANY STREET CROSSING AND THAT ALL NECESSARY PRECAUTIONS SHALL BE TAKEN TO PROTECT HUMAN LIFE AND PROPERTY.
2. THE CONTRACTOR SHALL GIVE THE PROPER AUTHORITIES AT LEAST 48 HOURS NOTICE IN WRITING PRIOR TO CONSTRUCTION.
3. BACKFILL SHALL BE COMPACTED PER SPECIFICATIONS.



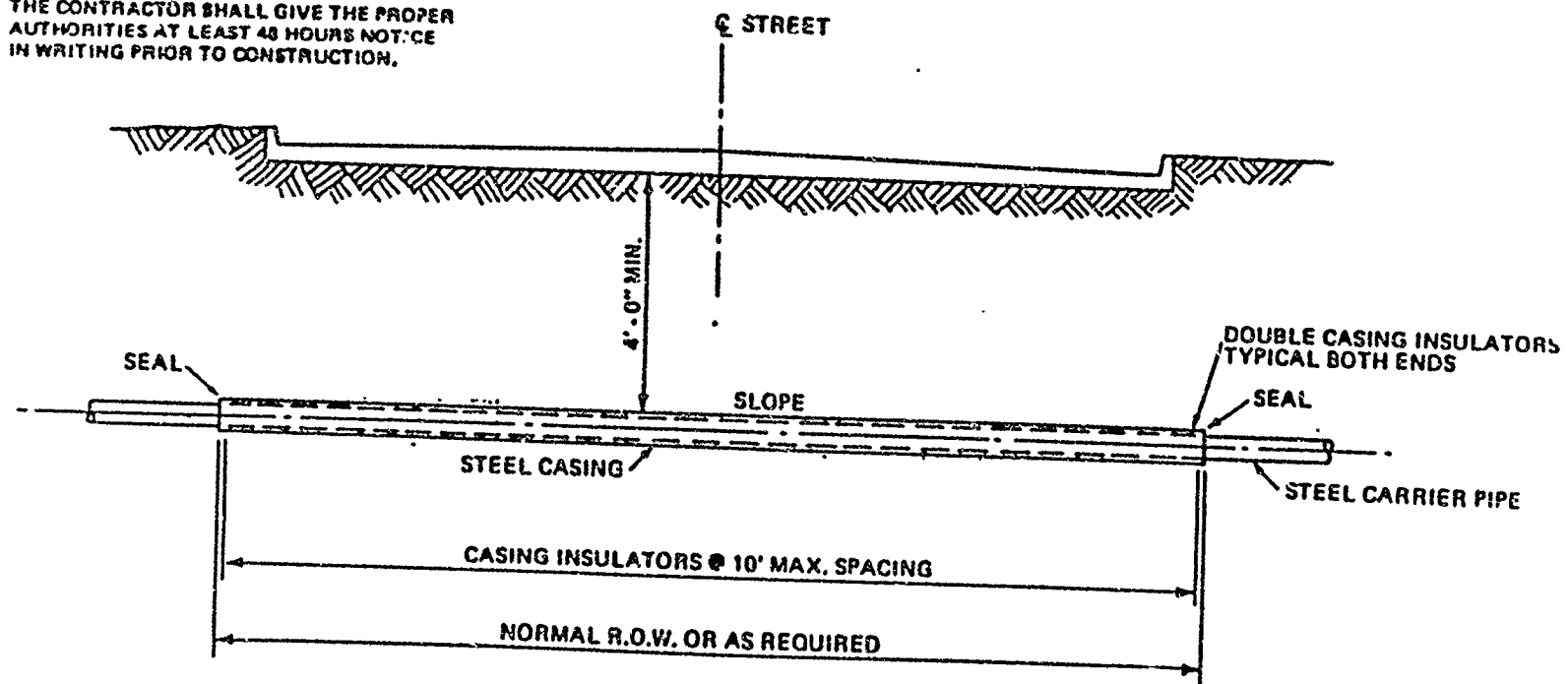
PROFILE

Typical Uncased Street Crossing Detail

CALENDAR PAGE 324
 MINUTE PAGE 253

NOTES :

1. IT IS REQUIRED THAT NO WORK AT ANY TIME SHALL UNDULY INTERFERE, OBSTRUCT OR ENDANGER TRAFFIC AT ANY STREET CROSSING AND THAT ALL NECESSARY PRECAUTIONS SHALL BE TAKEN TO PROTECT HUMAN LIFE AND PROPERTY.
2. THE CONTRACTOR SHALL GIVE THE PROPER AUTHORITIES AT LEAST 48 HOURS NOTICE IN WRITING PRIOR TO CONSTRUCTION.
3. BACKFILL SHALL BE COMPACTED PER SPECIFICATIONS.
4. INSTALL TWO INSULATORS AT EACH END OF CASING AND FLUSH WITH END OF CASING.
5. INSTALL TEST LEAD AT ONE END OF CASING.

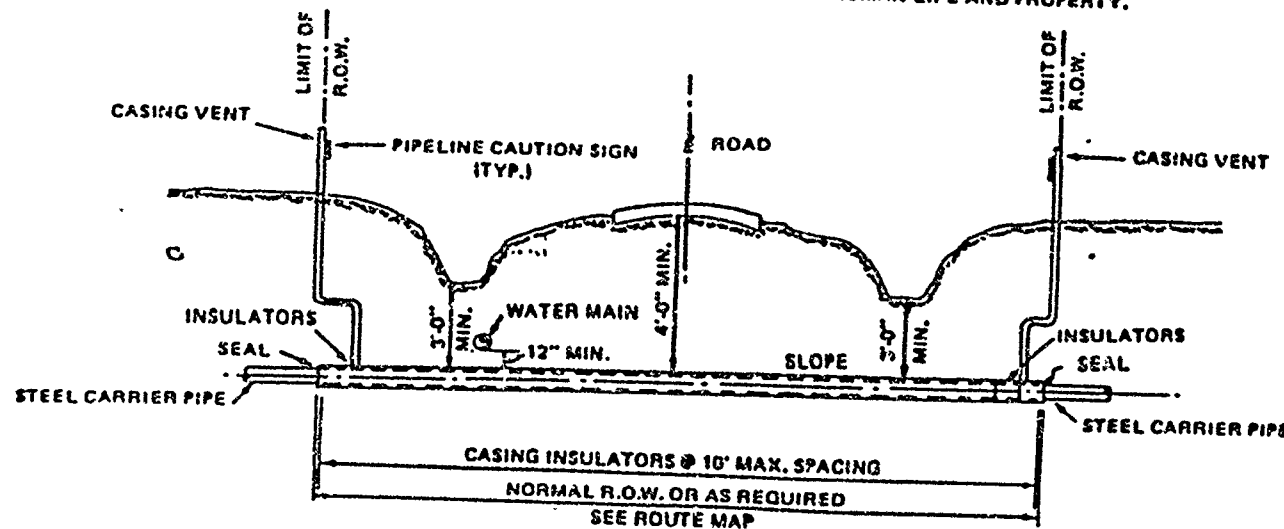


PROFILE

Typical Cased Street Crossing Detail

NOTES :

1. CASING JOINTS TO BE ALIGNED AND COMPLETELY WELDED IN ACCORDANCE WITH GOOD PIPELINE PRACTICE.
2. CASING MAY BE INSTALLED BY EITHER BORING &/OR JACKING UNDER THE ROAD EMBANKMENT. AFTER PLACING OF CASING UNDER THE ROAD EMBANKMENT THE BORE HOLE SHALL BE BACKFILLED AND COMPACTED TO PREVENT ANY SETTLEMENT OF THE ROAD GRADE.
3. CASING PIPE SHALL BE SO CONSTRUCTED AS TO PREVENT ANY LEAKAGE UNDER THE ROAD.
4. CASING PIPE SHALL BE INSTALLED TO SLOPE TO ONE END WITH AN EVEN BEARING THROUGHOUT ITS LENGTH SO AS TO PREVENT THE FORMATION OF A WATERWAY ALONG IT.
5. PIPELINE AND CASING PIPES SHALL BE AT LEAST 4 FEET (VERTICALLY) FROM AERIAL ELECTRIC WIRES AND SHALL BE SUITABLY INSULATED FROM UNDERGROUND CONDUITS CARRYING ELECTRIC WIRES.
6. CASING SEAL BUSHINGS AND INSULATORS TO BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS AND GOOD PIPELINE PRACTICE.
7. IT IS REQUIRED THAT NO WORK AT ANY TIME SHALL UNDULY INTERFERE, OBSTRUCT OR ENDANGER TRAFFIC AT ANY ROAD CROSSING AND THAT ALL NECESSARY PRECAUTIONS BE TAKEN TO PROTECT HUMAN LIFE AND PROPERTY.
8. THE CONTRACTOR SHALL GIVE THE PROPER AUTHORITIES AT LEAST 48 HOURS NOTICE IN WRITING PRIOR TO CONSTRUCTION.
9. INSTALL TWO INSULATORS AT EACH END OF CASING FLUSH WITH END OF CASING
10. INSTALL TEST LEAD AT EACH END OF CASING.



PROFILE

Typical Cased Road Crossing Detail

EXHIBIT H

CALENDAR PAGE 223
MINUTE PAGE 261

EXHIBIT I

WATERCOURSES CROSSED BY THE PROPOSED ROUTE

Watercourse	Method	Location
Wildcat Creek	Trenching	On SPTCo railroad right-of-way
San Pablo Creek	Bored	On SPTCo railroad right-of-way
Rheem Creek	Trenching	On SPTCo railroad right-of-way
Garrity Creek	Trenching	On SPTCo railroad right-of-way
Pinole Creek	Bored	On SPTCo railroad right-of-way
Refugio Creek	Spanned (concrete box culvert)	On SPTCo railroad right-of-way
Rodeo Creek	Spanned (concrete box culvert)	As it passes under San Pablo Avenue
Tributary to Canada del Cierbo	Roadway crossing over Creek	As it passes under Cummings Skyway
Tributary to Franklin Canyon Creek	Trenching	North of State Highway 4, parallel to existing pipeline easement
Tributary to Franklin Canyon Creek	Trenching	North of State Highway 4, parallel to existing pipeline easement
Franklin Canyon Creek	Roadway crossing over creek	As it passes under Franklin Canyon Road
Arroyo del Hambre	Roadway crossing over creek	As it passes under Muir Station Road
Grayson Creek	Trenching	Southeast of the State Highway 4 interchange with Interstate Highway 680
Walnut Creek	Trenching	Southwest of the State Highway 4 interchange with Solano Way

CALENDAR PAGE

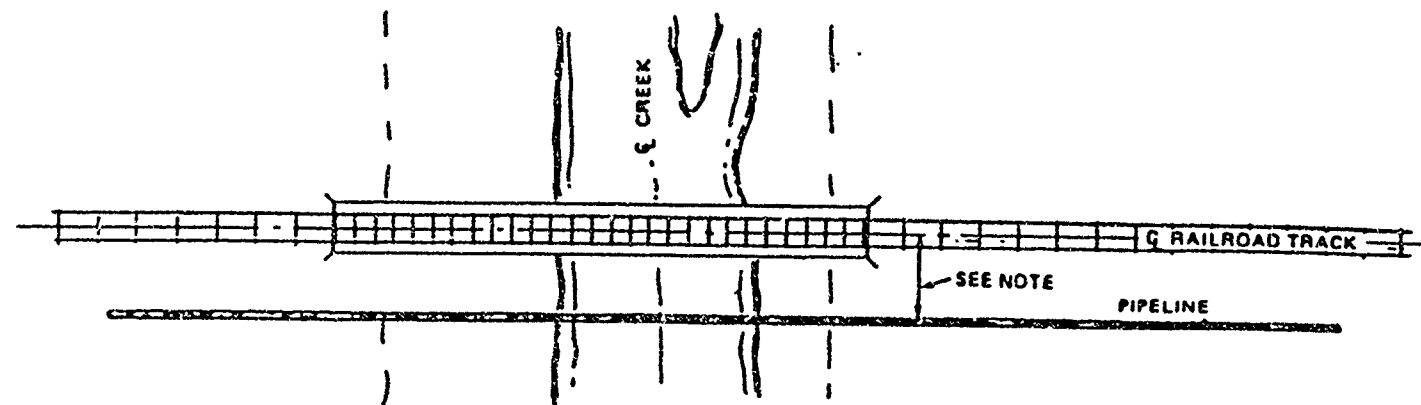
221

MINUTE PAGE

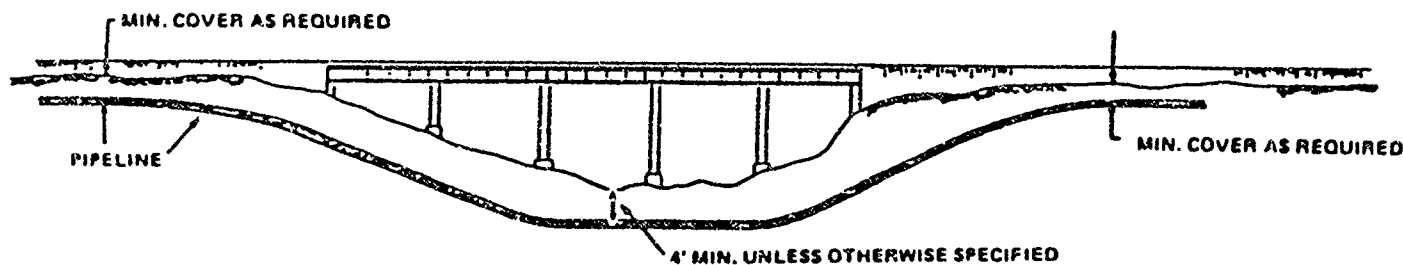
222

The sandbag dams and flume pipes are removed. This operation is a standard pipeline construction procedure and creates little siltation when done by an experienced work crew.

Other channels such as concrete lined channels, other buried pipes or special sensitive stream environments may require no impacts from construction of the pipeline. These channels will be crossed using spanning, tunneling or boring techniques. Exhibits J, K and L display the special crossings for streams, etc.



PLAN



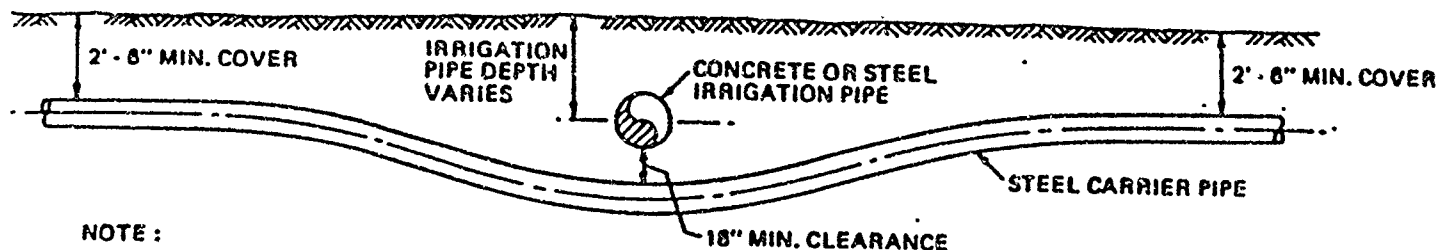
PROFILE

NOTE:
PIPELINE ALIGNMENT VARIES TO SUIT SPECIFIC CROSSING

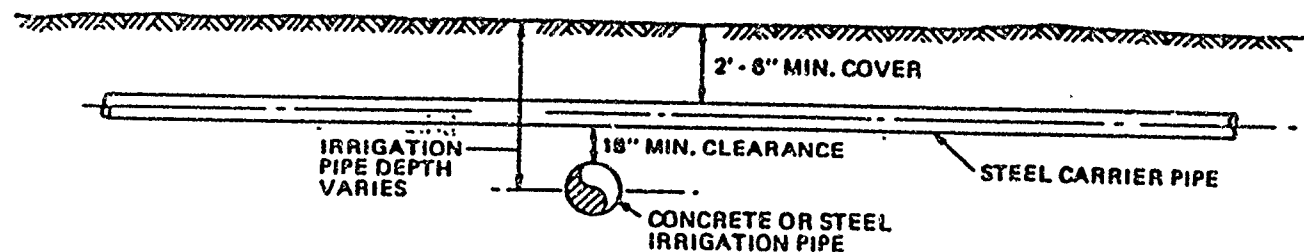
EXHIBIT J

Typical Crossing Detail for Minor Creeks, Sloughs and Ravines

CALENDAR PAGE 2703
SITE PAGE 2704



NOTE :
DO NOT DISTURB FLOW OF WATER.

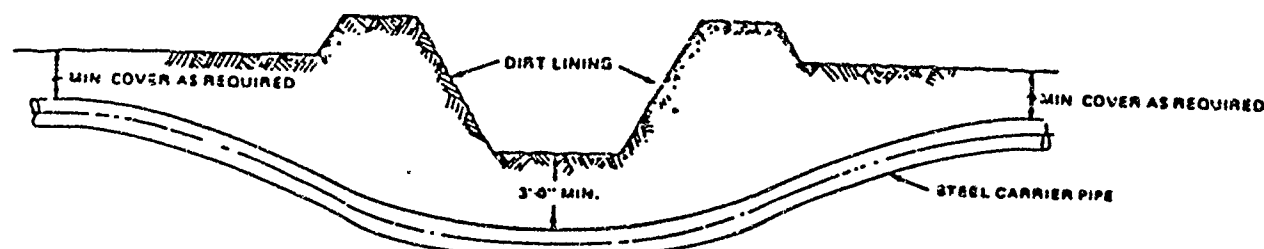


NOTE :
INDIVIDUAL DESIGN DRAWINGS HAVE BEEN
PREPARED FOR CERTAIN CROSSINGS.
CLEARANCES SHOWN ON SUCH INDIVIDUAL
DESIGN DRAWINGS WILL GOVERN AT THOSE
LOCATIONS.

Typical Crossing Detail for Concrete and Steel
Irrigation Pipe

EXHIBIT K

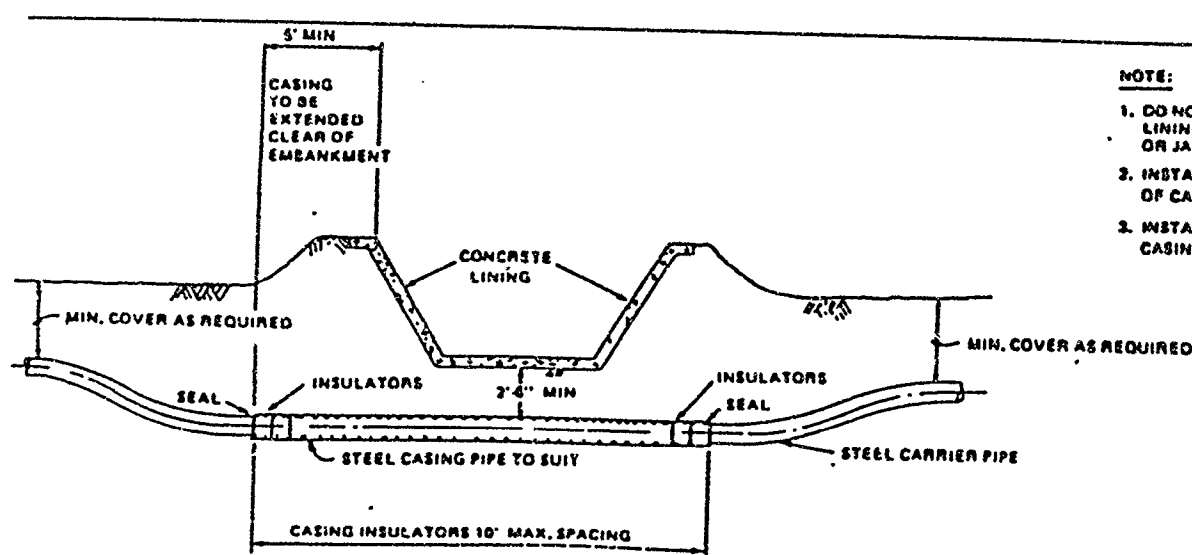
CALENDAR PAGE 307
MINUTE PAGE 305



DIRT LINED IRRIGATION DITCH, CANAL OR FLUME

NOTE

THOROUGHLY COMPACT BACKFILL
IN TRENCH AND CAREFULLY RECONSTRUCT
BANKS. DO NOT DISRUPT THE FLOW OF WATER



CONCRETE LINED IRRIGATION DITCH, CANAL OR FLUME

NOTE:

1. DO NOT DISTURB BANKS OR CONCRETE LINING. INSTALL CASING BY BORING AND OR JACKING.
2. INSTALL TWO INSULATORS AT EACH END OF CASING FLUSH WITH END OF CASING.
3. INSTALL TEST LEAD AT EACH END OF CASING.

EXHIBIT L

CALENDAR PAGE 333
ROUTE PAGE 335

Typical Crossing Detail for Irrigation Ditches,
Canals and Flumes

ENVIRONMENTAL IMPACT ASSESSMENT CHECKLIST - PART II

Form 13.20 (7/82)

File Ref.: WP 5439

I. BACKGROUND INFORMATION

- A. Applicant: Santa Fe Pacific Pipeline Partners, L.P. (SFPP)
- B. Checklist Date: 5 / 28 / 92
- C. Contact Person: Mary Griggs
Telephone: (916) 322-0354
- D. Purpose: Transport Refined Petroleum Products
- E. Location: Richmond to Concord, Contra Costa County
- F. Description: Proposed construction of a 25-mile refined petroleum products pipeline (12" + 16") from the SFPP Richmond facility to the SFPP facility located on Solano Way near Concord, CA.
- G. Persons Contacted:
- Contra Costa County
- City of Hercules
- City of Martinez
- City of Concord
- City of Richmond
- City of San Pablo
- California Dept. of Fish and Game - Brian Hunter
- East Bay Regional Park District
- City of Pinole
- East Bay Municipal Utility District

II. ENVIRONMENTAL IMPACTS. (Explain all "yes" and "maybe" answers)

A. *Earth* Will the proposal result in:

Yes Maybe No

- | | | | |
|---|-------------------------------------|-------------------------------------|-------------------------------------|
| 1 Unstable earth conditions or changes in geologic substructures? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 2 Disruptions, displacements, compaction, or overcovering of the soil? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 3 Change in topography or ground surface relief features? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 4 The destruction, covering, or modification of any unique geologic or physical features? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 5 Any increase in wind or water erosion of soils, either on or off the site? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 6 Changes in deposition or erosion of beach sands, or changes in siltation, deposition or erosion which may modify the channel of a river or stream or the bed of the ocean or any bay, inlet, or lake? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| 7 Exposure of all people or property to geologic hazards such as earthquakes, landslides, mudslides, ground failure, or similar hazards? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

CALENDAR PAGE

1320

1327

B *Air*. Will the proposal result in:

Yes Maybe No

- 1 Substantial air emissions or deterioration of ambient air quality? ☐ ☐ ☒
- 2 The creation of objectionable odors? ☐ ☐ ☒
- 3 Alteration of air movement, moisture or temperature, or any change in climate, either locally or regionally? ☐ ☐ ☒

C *Water*. Will the proposal result in:

- 1 Changes in the currents, or the course or direction of water movements, in either marine or fresh waters? ☐ ☐ ☒
- 2 Changes in absorption rates, drainage patterns, or the rate and amount of surface water runoff? ☐ ☐ ☒
- 3 Alterations to the course or flow of flood waters? ☐ ☐ ☒
- 4 Change in the amount of surface water in any water body? ☐ ☐ ☒
- 5 Discharge into surface waters, or in any alteration of surface water quality, including but not limited to temperature, dissolved oxygen or turbidity? ☐ ☒ ☐
- 6 Alteration of the direction or rate of flow of ground waters? ☐ ☐ ☒
- 7 Change in the quantity of ground waters, either through direct additions or withdrawals, or through interception of an aquifer by cuts or excavations? ☐ ☐ ☒
- 8 Substantial reduction in the amount of water otherwise available for public water supplies? ☐ ☐ ☒
- 9 Exposure of people or property to water-related hazards such as flooding or tidal waves? ☐ ☐ ☒
- 10 Significant changes in the temperature, flow or chemical content of surface thermal springs? ☐ ☐ ☒

D *Plant Life*. Will the proposal result in:

- 1 Change in the diversity of species, or number of any species of plants (including trees, shrubs, grass, crops, and aquatic plants)? ☐ ☐ ☒
- 2 Reduction of the numbers of any unique, rare or endangered species of plants? ☐ ☒ ☐
- 3 Introduction of new species of plants into an area, or in a barrier to the normal replenishment of existing species? ☐ ☐ ☒
- 4 Reduction in acreage of any agricultural crop? ☐ ☐ ☒

E *Animal Life*. Will the proposal result in:

- 1 Change in the diversity of species, or numbers of any species of animals (birds, land animals including reptiles, fish and shellfish, benthic organisms, or insects)? ☐ ☐ ☒
- 2 Reduction of the numbers of any unique, rare or endangered species of animals? ☐ ☒ ☐
- 3 Introduction of new species of animals into an area, or result in a barrier to the migration or movement of animals? ☐ ☐ ☒
- 4 Deterioration to existing fish or wildlife habitat? ☐ ☒ ☐

F *Noise*. Will the proposal result in:

- 1 Increase in existing noise levels? ☐ ☒ ☐
- 2 Exposure of people to severe noise levels? ☐ ☒ ☐

G *Light and Glare*. Will the proposal result in:

- 1 The production of new light or glare? ☐ ☐ ☒

H *Land Use*. Will the proposal result in:

- 1 A substantial alteration of the present or planned land use of an area? ☐ ☐ ☒

I *Natural Resources*. Will the proposal result in:

- 1 Increase in the rate of use of any natural resources? ☐ ☐ ☒
- 2 Substantial depletion of any nonrenewable resources? ☐ ☐ ☒

CALENDAR PAGE	330
MINUTE PAGE	2208

J. *Risk of Upset.* Does the proposal result in:

Yes Maybe No

1. A risk of an explosion or the release of hazardous substances (including, but not limited to, oil, pesticides, chemicals, or radiation) in the event of an accident or upset conditions?

☐ ☒ ☐

2. Possible interference with emergency response plan or an emergency evacuation plan?

☐ ☐ ☒

K. *Population.* Will the proposal result in:

1. The alteration, distribution, density, or growth rate of the human population of the area?

☐ ☐ ☒

L. *Housing.* Will the proposal result in:

1. Affecting existing housing, or create a demand for additional housing?

☐ ☐ ☒

M. *Transportation/Circulation.* Will the proposal result in:

1. Generation of substantial additional vehicular movement?

☐ ☐ ☒

2. Affecting existing parking facilities, or create a demand for new parking?

☐ ☐ ☒

3. Substantial impact upon existing transportation systems?

☐ ☐ ☒

4. Alterations to present patterns of circulation or movement of people and/or goods?

☐ ☐ ☒

5. Alterations to waterborne, rail, or air traffic?

☐ ☐ ☒

6. Increase in traffic hazards to motor vehicles, bicyclists, or pedestrians?

☐ ☐ ☒

N. *Public Services.* Will the proposal have an effect upon, or result in a need for new or altered governmental services in any of the following areas:

1. Fire protection?

☐ ☐ ☒

2. Police protection?

☐ ☐ ☒

3. Schools?

☐ ☐ ☒

4. Parks and other recreational facilities?

☐ ☐ ☒

5. Maintenance of public facilities, including roads?

☐ ☐ ☒

6. Other governmental services?

☐ ☐ ☒

O. *Energy.* Will the proposal result in:

1. Use of substantial amounts of fuel or energy?

☐ ☐ ☒

2. Substantial increase in demand upon existing sources of energy, or require the development of new sources?

☐ ☐ ☒

P. *Utilities.* Will the proposal result in a need for new systems, or substantial alterations to the following utilities:

1. Power or natural gas?

☐ ☐ ☒

2. Communication systems?

☐ ☐ ☒

3. Water?

☐ ☐ ☒

4. Sewer or septic tanks?

☐ ☐ ☒

5. Storm water drainage?

☐ ☐ ☒

6. Solid waste and disposal?

☐ ☐ ☒

Q. *Human Health.* Will the proposal result in:

1. Creation of any health hazard or potential health hazard (excluding mental health)?

☐ ☒ ☐

2. Exposure of people to potential health hazards?

☐ ☐ ☒

R. *Aesthetics.* Will the proposal result in:

1. The obstruction of any scenic vista or view open to the public, or will the proposal result in the creation of an aesthetically offensive site open to public view?

☐ ☒ ☐

S. *Recreation.* Will the proposal result in:

1. An impact upon the quality or quantity of existing recreational opportunities?

☐ ☒ ☐

CALENDAR PAGE	231	X
MINUTE PAGE	232	

T. *Cultural Resources.*

Yes Maybe No

1. Will the proposal result in the alteration of or the destruction of a prehistoric or historic archeological site? ☐ ☐ ☒
2. Will the proposal result in adverse physical or aesthetic effects to a , historic or historic building, structure, or object? ☐ ☐ ☒
3. Does the proposal have the potential to cause a physical change which would affect unique ethnic cultural values? ☐ ☐ ☒
4. Will the proposal restrict existing religious or sacred uses within the potential impact area? ☐ ☐ ☒

U. *Mandatory Findings of Significance.*

1. Does the project have the potential to degrade the quality of the environment, reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory? ☐ ☐ ☒
2. Does the project have the potential to achieve short term, to the disadvantage of long-term, environmental goals? ☐ ☐ ☒
3. Does the project have impacts which are individually limited, but cumulatively considerable? ☐ ☐ ☒
4. Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly? ☐ ☐ ☒

III. DISCUSSION OF ENVIRONMENTAL EVALUATION (See Comments Attached)

SEE ATTACHMENT

IV. PRELIMINARY DETERMINATION

On the basis of this initial evaluation:

- ☐ I find the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
- ☒ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because the mitigation measures described on an attached sheet have been added to the project. A NEGATIVE DECLARATION will be prepared
- ☐ I find the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

Date: 5 128 1992

For the State Lands Commission

MINUTE PAGE

DISCUSSION OF THE POTENTIAL ENVIRONMENTAL IMPACTS

A.1 Unstable Earth Conditions

SFPP intends to install approximately 25 miles combined, of 16 inch and 12 inch diameter plastic coated steel pipeline underground. The majority of the route will follow along existing road and railroad rights-of-way. The average depth of burial will be approximately 48 inches below ground surface. Burial depths may be greater where the pipeline passes under stream channels, drainage ditches or other intersecting pipelines.

The depths reached in this construction will not be great enough to cause impacts to geologic substructures or to create unstable earth conditions. During the construction, removed spoil from the trenching will be placed along the pipeline route. This displaced soil will remain for the period of time necessary for assembly, installation and burial of the pipe section. It could be subject to seismic disturbance, rain or wind erosion. This situation will be brief lasting generally one day for each half mile removed. The displaced soil will be put back into the trench in layers and sufficiently compacted to restore its integrity. Upon the completion of burial, the project right-of-way will be restored to the original grades. The potential for soil instability will be low.

A.2 Disruptions, Displacement of Soil

The project will require the grading, trenching and temporary removal of soil along approximately 25 miles of right-of-way for a proposed petroleum products pipeline. The excavated material will be temporarily placed along the pipeline route while the pipe is assembled and placed in the exposed trench. Upon completion of the pipe assembly and coating, the pipe will be lowered into the open trench. The removed soil will be replaced in the trench, in layers and compacted to follow the original project site grades. There will be some disruptions to soils as the trench is dug to a depth of approximately 48 inches and the removed material is placed in a long mound next to the trench. The displaced soil will remain in the right-of-way until the pipe is assembled and ready for burial.

The spoil will remain out of the trench for approximately one day for each half mile of pipeline constructed. The majority of the project route will follow along existing road, railway and pipeline rights-of-way. The impacts of displaced soil and compaction will not be major. There are no plans to permanently cover existing features or soil surfaces with the displaced soil. All excavated soil surfaces will be brought back to original grades as is practicable. To prohibit erosion or slumping, natural soil surfaces will be re-seeded

with native plants upon completion and grading.

A.3 Change in Topography

The project will involve the digging of a trench to a depth of 48 inches and for a length of approximately 25 miles.

The majority of the project will be along existing road, railway and pipeline rights-of-way located in urban industrial and business environments in Contra Costa County. The trenching operation will remove soil for the pipeline and place it along the pipeline route. Upon installation of the pipe, the removed soil will be replaced in the trench and compacted to assume the original grades of the sites through which the pipeline passes. There will be a temporary change in topography as the right-of-way is graded and trenched. Upon completion, the right-of-way grades will be returned to their original profiles. Most of the route is along existing rights-of-way for streets, roads, and railroads. These areas will be already graded flat for these facilities. Stream crossings which are open-trenched will be regraded to their natural bank profiles once the pipeline is installed and buried.

Approximately 1/2 mile of the pipeline right-of-way follows along a bridle trail maintained by the East Bay Regional Park District. This portion will be temporarily impacted by the trenching operation. The ground will be restored to its original profile once the pipeline is buried. The impacts to topography will be temporary, lasting one day for each 1/2 mile of pipeline route installed.

A.4. Unique Features.

The pipeline is planned to be installed along 25 miles of existing street, road, railway and pipeline rights-of-way. The majority of this proposed route is within urban development including major industrial areas. Significant modification or alteration to natural features has already occurred to these sites. A small portion of the project is located in rural lands which includes approximately 1/2 mile along a bridle path managed by East Bay Regional Park District. The pipeline is also planned to cross approximately fourteen stream crossings between Richmond and Concord. There will be a temporary disturbance of physical features including creation of a linear mound of soil dug from the trench intended for the completed pipe string. Once the pipe sections are welded together and installed in the trench the displaced soil will be placed back into the trench. There will not be any modification or covering of any unique physical features along the project route.

A.5 Erosion

The pipeline project will require the grading and trenching of approximately 25 miles of right-of-way between Richmond and Concord. The greater portion of this excavation

will occur along existing street, road, railway and pipeline rights-of-way. These rights-of-way have been graded from previous construction. Some minor grading may be required on some of the route prior to trenching and construction. Some baring of soil could make it vulnerable to wind or water erosion.

A trench approximately 48 inches deep will be dug to accept the pipe. The soil removed for this trench will be placed as a linear mound alongside the excavation. This soil mound could be susceptible to wind or water erosion. The project is proposed to be conducted during the later spring and summer season which will reduce the possibility of rain fall and runoff impacts but could increase wind erosion. The trench is expected to be open for approximately one day per half mile the operation travels. The soil will be returned to the trench upon installation of the pipe string. This short duration of soil disturbance will reduce the possibility of water or wind erosion occurring. After the soil has been regraded, the surface will be restored to its original condition including paving on streets and roadways and seeding in rural areas. Water spraying of the bare ground along the construction right-of-way during construction would reduce fugitive dust and potential wind erosion problems. To mitigate the potential for erosion, following construction, all areas previously vegetated will be reseeded (slopes to be hydroseeded) with appropriate native seed mixes in agreement with the property owner. Erosion control measures (sand bagging, chevrons) will be employed where necessary to aid in the revegetation. During years following installation, since the right-of-way is continuously inspected by SPPL inspectors, if an inspector sees that revegetation is not progressing properly or that erosion is occurring, appropriate action will be taken.

A.6 Deposition, Siltation

Fourteen watercourses will be crossed by the proposed pipeline (Exhibit I). Two of the crossing (Refugio Creek and Rodeo Creek) are concrete box culverts and will be spanned, and two other crossings (Franklin Canyon Creek and Arroyo del Hambre) will actually be within roadway crossings over the creeks. Hence, these four streams will experience no impacts due to pipeline construction. Crossings of the remaining ten watercourses (with the exception of San Pablo Creek and Pinole to be bored) will be accomplished by open cutting the streambed and by burying the pipeline in a trench at least five feet below the existing streambed, below water-saturated zones prone to instability. The creeks to be crossed by the proposed route have only slight to moderate scour potential due to low gradient and relatively small drainages. Maximum scour depths cannot be calculated without one hundred year flood depth information, which is unavailable for most of the proposed points of crossing. However, California Department of Water Resources (CDWR) personnel recommend a minimum of five foot of cover (and SFPP has agreed). Prior to

construction, DWR personnel will review SFPP stream crossing design plans for all stream crossings and make final determination as to the amount of cover deemed adequate to prevent the pipeline being uncovered by scouring. CDWR final determination will be adhered to by SFPP.

The majority of natural unlined stream channels are to be crossed with the open trenching technique. If stream flows require it, prior to crossing the channel, a diversion "flume" pipe will be installed in the channel. This pipe will be approximately 18 to 30 inches in diameter. Sand bags will be placed across the stream channel to either side of the flume pipe opening, forming a diversion dam to direct the stream flow into the pipe. A second coffer dam at the downstream end of the pipe will be built across the stream channel and around the open pipe outlet end. Between these two sandbag dams will be the construction right of way. The trenching operation will be carried out between the dams, isolated from the stream waters.

No major siltation will result from the trenching in this manner. The pipeline will be installed and buried and the stream banks and bottom returned to grade. Upon completion of the crossing, the sand bag diversion dams and the flume pipes will be removed. A small amount of turbidity may stem from the flume pipe removal but this should not be a significant impact. There will not be a significant impact to channel characteristics.

San Pablo Creek and Pinole Creek will be crossed by boring under the channel with a low angled boring system. This device uses a rotary holder for the drill string which is pushed through the soil under the stream channel to be crossed. A water circulating fluid is sent from the surface drillsite through the drill string and out through the drill bit. This pressured fluid erodes the soil in front of the drill string and circulates it back out through the hole (annulus) created by the drill string. The exiting fluid is passed across a shaker table which removes hard rock material from the drilling fluid. The remaining drilling fluid (water and mud) is captured in a mud tank and recirculated via mud pumps back into the drill string to the drilled hole. Upon completion, the drilling fluid is pumped into a vacuum truck and transported to an approved waste disposal site. No siltation should result from this operation. No impacts to the stream channel crossed will occur.

The remainder of the project will involve grading a right-of-way, opening a trench to 48 inch depth, installing the 16 inch or 12 inch pipeline and reburying the pipe followed by restoring the right-of-way to original state. There will be the creation of loose soil during this operation. Some siltation could result from some of this excavated material washing or winnowing into nearby drainages (gutters or streams). Spraying the work site lightly with water will reduce fugitive dust which could blow offsite into

adjacent drainages. Sweeping of street and road sites to keep soil in order could help to keep material from entering gutters. Upon completion of pipelaying, the street or road paving will be replaced. The short time the displaced soil is left out during pipelaying (one day per 1/2 mile) will reduce the chance for soil to enter adjacent drainages. No major impacts to stream drainages, or other water bodies will occur.

A.7 Geologic Hazards

The proposed project will follow existing road, railroad and pipeline rights-of-way and will cross fourteen stream channels between the Richmond and Concord pumping stations. The existing ROW's are graded and levelled to support their respective facilities (streets, roads, railways). There will not be a possibility of landslide, mudslide or other ground failure along the ROW's jointly occupied by existing roads, streets or railways.

Portions of the proposed project will be constructed along existing pipelines which are in open rural environments. These areas could be subject to downslope movements, slumping.

Where the pipeline traverses steep terrain, construction precautions will be taken to stabilize slopes after the construction is completed. Slopes will be graded and reseeded to discourage erosion. Future right-of-way inspections will be conducted to monitor ROW condition for possible erosion and the reseeded for proper reestablishment of plantings. Corrective action will be taken if necessary.

The project will not produce fluids or generate forces which could induce seismic events or landslides.

The proposed pipeline will be constructed in a region which is well known for its seismic activity. The pipeline will be constructed with features which will reduce the potential of damage and danger from seismic disturbances. The pipe will be constructed with high tensile steel pipe with connection of the pipe sections by full penetration butt welds. This will allow for high flexibility from ground movement and possible surface displacement reducing possible damage. These additional precautions will reduce potential damage:

- (1). Adding slack pipe (extra length; to the pipeline.
- (2). Where practical, pipeline crossing at a strike-slip fault will be oriented in such a way to place the pipeline in tension.
- (3). In areas of potential ground rupture, pipelines will be laid in relatively straight sections, taking care to avoid sharp changes in direction and elevation. As much as possible, pipelines will be constructed without field

bends, elbows, stub-ins or flanges that tend to anchor the pipeline.

- (4). The depth of pipeline burial will be minimized in fault zones to reduce soil restraint on the pipeline during fault movement.
- (5). Pipe sections with greater wall thickness will increase the pipeline's capacity for fault displacement at a given level of maximum tensile strain. Relatively thick-walled pipe will be used within 1,000 feet of each side of the fault.
- (6). Reduction of the angle of interface friction between the pipeline and the soil will increase the pipeline's capacity for fault displacement at a given level of maximum strain. This will be accomplished by using a hard, smooth coating such as an epoxy coating in the vicinity of the fault crossing.
- (7). Close control will be exercised over the backfill surrounding the pipeline over a distance of 1,000 feet on each side of the fault. A loose to medium packed granular soil without cobbles or boulders will be used as backfill material. If the native soil differs substantially from this, oversize trenches will be excavated for a distance of approximately 50 feet on each side of the fault.
- (8). Construction procedures to mitigate potential damage due to fault movement in extreme conditions include:
 - (A). Placement of the pipeline in an aboveground berm constructed of low strength soil.
 - (B). Placement of the pipeline in oversized ditches surrounded by low-strength, crushable material or selected backfill.
 - (C). Encasement of the pipeline within buried oversize culverts or conduits.
 - (D). Placement of the pipeline on aboveground sliding supports.

To insure the fullest precaution in the planning and construction of the pipeline, a definitive study of the route has been carried out by an outside professional geotechnical consulting firm to be sure all appropriate measures are incorporated into the final engineering design and route.

B.1 Air Emissions

The project will involve the use of approximately 57 pieces of construction equipment along the project site. In addition to this equipment will be the added use of individual crew vehicles arriving at and leaving the project site during

each work day. Each piece of construction equipment is powered by a diesel engine. The engine emissions for the equipment used on the project will be controlled under local and state licensing and should be maintained to minimize emissions impacts.

The balance of construction related air emissions will result from dust generated during excavation, equipment movement, pipe welding, pipe installation, recovering and regrading of soil surfaces. Water spraying or some other method of dust abatement will be employed to control fugitive dust. Reseeding of natural soil surfaces will keep future dust problems under control. Gases generated from the welding activities will be of little significance to ambient air quality. These gases will only be generated during actual contact of the electrode with the work.

B.2 Objectionable Odors

The project construction activities will be a source of odors generated by construction equipment and crew vehicle engine exhaust, welding gases, possible coating and adhesive vapors during pipe coating operations and from wet soil during excavation.

These odors will be temporary in duration, lasting for the approximately four-month duration of the pipeline installation. There may be some objectionable odors generated during construction by the machinery as acceleration of power engines is required during intense work operations. These episodes will usually last for seconds or, at most, minutes.

The odors should be dissipated within a short distance from their source. Additionally, the engines will be maintained under local and state licensing for emissions control further reducing their potential for impact.

Construction of the pipe will involve welding of the sections to form a continuous length of pipe. Electric arc welding will be employed in this operation. A gas is generated during this procedure as metal is melted and vaporized. The accompanying metal coating also will vaporize creating odors. The odor created by this activity should not be noticeable beyond the immediate work area.

After the welding is completed, the welded pipe joints will be wrapped with a plastic coating similar to the coating put on the pipe sections at the factory. This additional coating will be bonded to the bare joints with an adhesive. This adhesive could create an objectionable odor. This impact should be minimal as only approved adhesives not harmful to personal health will be employed and the source will be isolated from public contact.

Odors from disturbed soils or muds will be most detectable during the excavation and re-burial of the

pipeline. This odor will be of a natural quality versus a synthetic nature such as petroleum or other chemical sources. The impact should not be significant.

The majority of the project is being constructed along existing road, railroad and pipeline rights-of-way in urban and industrial environs. The ambient air quality along the project corridor is dominated by urban and industrial odor sources including heavy vehicle traffic, industrial sources and refinery sources. The impacts from odors generated by this project will be overshadowed by these other sources.

The finished pipeline will be used to convey refined petroleum products from the Richmond pumping station along an approximately 25 mile pipeline to a pumping facility near Concord. The refined petroleum product will be capable of generating significant objectionable odors if exposed to the air and sensitive receptors.

The finished pipeline will be buried, removing it from the free atmospheric air. The pipeline will be inspected at all joints where welding was performed for potential flaws in welds. All flanges, valves and other fittings in the pipeline will be properly connected with gaskets or seals to insure no leakage at these points into the air. The pipeline will be tested to within 90% of yield pressure of the pipe to insure safe operation. The pipeline will be operated at approximately 72% of the specified minimum yield strength. No significant objectionable odors should be generated by the operation of this pipeline.

B.3 Alteration of Air Movement

The construction of the pipeline will involve the use of low profile construction equipment; the tallest equipment being the side-hoist cranes to be used in lowering the welded pipe string into the open trench. The arm to these cranes will not exceed thirty feet above ground level. No phase of the construction should affect air currents.

The trenching, pipe link-up and burial will involve disturbance of soil while the trench is exposed. This could affect air temperature at the trench site. This impact will be negligible. There will not be any impact to the regional climate because of this project.

The completed pipeline and ancillary facilities will not affect the climate, moisture or temperature of the region.

C.1 Water Movements

The majority of the project will be conducted within the existing rights-of-way for roads, railroads and pipelines. There will not be an impact to water movements along these corridors.

The pipeline will cross fourteen waterways either by means of open trenching or by boring under the channel. Several of these waterways are small with minimal flow; the balance of them being intermittent and dry most of the year.

For those streams which exhibit flow, there may be a temporary minor alteration to streamflow as the open trenching is carried out.

The channels with high stream flows which are crossed with open trenching will be "flumed" with diversion pipes passing the flow to one side or the other of the channel. This activity might create a minor disturbance to streamflow as the pipes are installed and eventually removed. This interruption should last a day or two for each channel crossed by this means.

The channels which are crossed by boring under the channel will not be affected by the operations. All completed pipeline ROW will be returned to original condition so existing drainages will be returned to their original state. (See discussion in A.6.)

C.2 Surface Runoff

The construction phase of the project will involve preparatory grading of the ROW, trenching for the pipeline along the ROW and refilling of the trench with restoration of the project site to pre-project conditions.

The preparation and trenching operations will involve removal of existing surface features to accommodate the trench and construction equipment. This activity will affect surface absorption, drainage and runoff characteristics along the ROW.

Where the project passes through established roadways, a portion of the pavement will be penetrated by the trench, exposing bare soil to possible precipitation. This could temporarily affect absorption capacity for the soil during rains. This impact will be minor due to the narrowness of the trench, the short time the trench will be open (one day per 1/2 mile) and the time of year the operations will be conducted with least rainfall.

The balance of the project will be within unpaved lands, either on pipeline rights-of way, road shoulders, railways or open lands. The drainage characteristics of these areas could be more affected by the project.

Construction of the pipeline will require extensive use of heavy equipment for excavation, transporting materials and refilling and regrading of the project site upon completion. This equipment, due to its weight, could compress the soil within the ROW which could adversely affect surface absorption rates. This could increase surface runoff during rains. Vehicle tracks in the project site could trap water or

concentrate flow depending on their orientation in relation to slopes.

The trench and associated displaced soils could affect drainage patterns within the 1/2 mile the project activity is most intense. This barrier to drainage could concentrate water runoff along the spoil set alongside the trench.

The impacts by runoff will be reduced by the time of year the project is planned for construction. Rains will be at their minimum, reducing chances of concentrated runoff. Efforts will be made to minimize vehicle related impacts by vehicle uses being kept to a minimum; reducing compaction and scarring of the project site. The potential impact of the open trench will be minimized by the expected duration of one day per 1/2 mile along the project route.

The finished pipeline right-of-way will be restored to pre-project state after the pipeline is installed. Road and railroad right-of-ways will be regraded and/or paved as before. Natural ground areas will be regraded and seeded as required to prevent erosion. The soil in these areas will be compacted from construction but the soil will be tilled to achieve more natural porosity and absorptive characteristics prior to re-seeding. These steps should reduce potential impacts on drainage and runoff at the completed ROW .

C.3 Flood Waters

The proposed project will cross fourteen stream channels between the Richmond City pumping station and the terminal in Concord. Several of these channels will be crossed either by overhead pipes attached to existing bridges or by low angle boring under the channel. Neither of these procedures will interfere with the streamflow during flooding.

The remainder of the stream crossings will be carried out using the open trench and/or "flume pipe" bypassing operations. These operations could conceivably interfere with flood water flows. This impact will be minimized by the timing of construction which will occur during the dry time of year, reducing the chance of heavy rains occurring coincident with the project.

Should rain occur during the stream excavation, the pipes installed for the bypassing should accommodate the expected streamflow. This impact will be temporary, lasting only for the duration of trenching, pipe installation and ROW restoration. The flume pipes will be removed and the channels brought back to original condition.

The rest of the project will be in existing road, railroad and pipeline rights-of-way. These portions of the project route are outside any stream channels or floodplains and will not interfere with flood waters.

343
283

C.4 Surface Water

The project will be constructed along existing road, railroad, and pipeline rights-of-way. Fourteen stream channels will be crossed along the route. There will be no change in surface water area along the non-stream portions of the ROW. There might be a temporary change in surface water in the stream channels crossed by the open trench/flume pipe operations. If so, this impact would be minimal. Once the trench is re-filled the surface water volume will be restored to pre-project state.

C.5 Surface Water Quality

The project will involve construction of approximately 25 miles of pipeline with the majority of the project occurring within existing road, railroad and pipeline rights-of-way. There will not be any direct impact of the route with surface waters other than at fourteen stream crossings. (See A.6.)

There may be some siltation created by the trenching operation releasing material into nearby drainages. This impact is expected to be small because the project is planned for construction during the dry season. With rain being the most likely means of transporting loose soil from the project site, the prospect of siltation is low.

The trenching operations across the stream crossings are the only other possible points during the construction where siltation could impact water quality. These crossing points will be protected during the trenching with flume pipes where necessary to isolate disturbances by construction from any free moving water in the channels. A small bit of siltation could occur while the flume pipes and sandbag dams are installed and removed, but this impact should be minor and temporary.

The completed project could be a source of siltation along some of the bare ground portions of the right-of-way. This potential impact will be mitigated with seeding of the ROW to prevent erosion which could be a source of silt. Grading of slopes will be done to prevent excessive water velocity downslope which could lead to soil erosion.

The project will not create any impacts on water temperatures or dissolved oxygen.

Impacts to surface water quality could occur if there was a break in the pipeline. The pipeline will be designed and constructed to conform with 49 CFR 195 of the U. S. Department of Transportation Pipeline Safety Regulations and with applicable sections of Section I, Chapter 5.5 of the California Pipeline Safety Act, paragraphs 51010-51020.

Block valves or check valves are planned for the proposed pipeline. These valves will be spaced at locations

specifically engineered to minimize the flow of product in the event of a spill.

Wildcat Creek and San Pablo Creek drain into marshes on San Pablo Bay. Because of the valves and other safety controls (see Attachment A for a full discussion of environmental and safety controls) no impacts are anticipated. The ground and pipeline elevation changes little in this area. Location of a check valve upstream from San Pablo Creek will prevent any back flows in case of a spill. That, along with the relatively flat terrain, will limit any spill to a minimum. The applicant has received a Streambed Alteration Agreement from the Department of Fish and Game. It has been extended without change through October 1993. A copy is attached as Attachment B.

C.6 Ground Water Flow

The majority of the project right-of-way will occupy existing road, railroad and pipeline rights-of-way and will be buried approximately 48 inches below ground surface. This construction will be too shallow to affect ground water formations or intercept ground water flows. The portions of the pipeline which are bored under stream channels will not exceed 15 feet below ground surface and thus will not impact ground water.

There are no portions of the project which will involve water withdrawal or injection of water into underground formations. The project will not impact ground water formations by these means.

C.7 Ground Water Quantity

The project will involve the construction, via trenching and burial of a 25 mile petroleum product pipeline. The pipeline will be buried approximately 48 inches below ground surface with some portions no deeper than 15 feet at stream crossings bored under the channels. The facility will not be used for water withdrawal or to inject water into formations. The construction depths are too shallow to intercept ground water formations. The project is not intended to remove or place ground water into or from subsurface formations. There should be no impact on ground water quantity.

C.8 Water Supplies

The project is intended for the transportation of refined petroleum products between the Richmond City pumping station and the Concord station of Santa Fe Pacific Pipeline Partners.

There will be no significant impacts, either in the construction phase or the operation phase, on public water supplies. Some water may be used in dust suppression, some construction activities and boring the stream channel crossings but this will not affect public supplies.

C.9 Water Hazards

The project will involve the trenching, installation and burial of a 25 mile length of 12 and 16 inch O.D. steel pipe. The project will be built along existing rights-of-way and across 14 stream channels. The pipeline construction will not create flood hazards on the land portions of the project. There is a possibility of flood hazard in the stream channel crossings but this is expected to be remote as the project will be built during the dry season and the bypass process in the channels is designed to accommodate the expected water flow in those channels.

C.10 Thermal Springs

There are no known thermal springs in the project area. The project will not affect thermal springs.

D.1 Plant Species Diversity

Of the total 25 miles of proposed pipeline, approximately 9 miles are within city streets or county roadways. Of the remaining 16 miles, approximately 10 miles are within railroad right-of-way. Along the railroad right-of-way the dominant plant community is grassland, mixed with introduced herbaceous species. Long sections of the railroad right-of-way are devoid of vegetation due to regularly scheduled maintenance activities of the railroad companies within their rights-of-way. The remaining 6 miles of proposed pipeline route are those on Unocal's San Francisco Refinery property and those north of State Highway 4 parallel and adjacent to existing pipeline rights-of-way.

The coastal mountains and valleys of Contra Costa County and neighboring counties typically support an Oak-Woodland biotic community. Most typical of the upland hills are the grasses, such as wild oats (Avena sp.) which die back during the rain-free summer months. The Valley Oaks (Quercus lobata) and Coast Live Oaks (Q. agrifolia) of this community are most densely distributed on uncleared north-facing slopes and in deep valleys. Other plants typical of the community include the California Buckeye (Aesculus californica) and Poison Oak (Rhus diversiloba). The Star Thistle (Centaurea solstitialis) and the Coyote Bush (Baccharis pilularis) are also frequently encountered.

The project is designed to follow along existing road, railroad and pipeline rights-of-way with a small portion of the route traversing open range land. The majority of the rights-of-way are disturbed and will most likely lack significant plant communities beyond common weeds. These sites will be maintained relatively free of plants along road shoulders and railways. Streets will be repaved precluding plant populations there.

The range land is occupied by more established plant communities but these areas are used for livestock grazing so impacts on plant populations there will already be high. Loss of plants by the construction will be unavoidable in these circumstances but this impact will be temporary. The resident plant communities will repopulate the excavation sites once the project is complete. Some reseeding of the graded route will be undertaken to reduce potential soil erosion otherwise, repopulation by local populations should occur.

Aquatic Ecology

Wildcat Creek and San Pablo Creek contain dense narrow bands of riparian vegetation such as willows (*Salix* sp.) and wild blackberries (*Rubus ursinus*). However, at the proposed point of crossing the streams, within the railroad right-of-way, no streamside vegetation is present. Wildcat Creek remains clear, with numerous riffles and the attendant benthic assemblage. San Pablo Creek at the point of crossing has substantial streamside vegetation also, with clear, relatively deep, moderate flow. However, since San Pablo Creek is to be bored, streamside impacts will be nonexistent. Refugio Creek will likewise be crossed within the railroad right-of-way and, since it is a concrete box culvert, will be spanned, thereby negating streamside impact. Garrity Creek and Pinole Creek in the vicinity of the route contain tidal marsh vegetation such as salt grass, cordgrass, and pickleweed, but provide little aquatic habitat. Pinole Creek will be bored with no stream impacts. At Garrity Creek a temporary cofferdam will be placed to reduce impacts.

Refugio Creek and Rodeo Creek both have substantial streamside vegetation, and are clear with moderate flow and apparent high quality water with tidal influence from San Pablo Bay. Rooted and floating aquatic vegetation is present in both streams. Bank stability is good, with vegetation cover to the water's edge. However, both will be crossed in SPRR right-of-way spans over the box culverts which will negate streambed impacts.

The tributaries to Canada del Cierbo and Franklin Canyon Creek proposed to be crossed are nothing more than grass-lined swales at the proposed points of crossing, and as a result provide no aquatic habitat. Furthermore, at the proposed point of crossing the Canada del Cierbo tributary, the pipeline will be installed within the right-of-way of Cummings Skyway as it crosses over the creek.

Franklin Canyon Creek provides substantial streamside habitat due to its gallery forest. The creek itself however is littered with trash, but the water is clear with only faint algal tinting, limited rooted and floating aquatic vegetation, and low to no flow. The proposed route however crosses the creek as the creek flows under Franklin Canyon Road, thereby negating any impacts since the pipeline will be installed

within the roadway.

Arroyo del Hambre is an urban, residential stream providing good streamside habitat. The stream has moderate flow, pebble bottom, and limited rooted aquatic vegetation. Since the proposed route places the pipeline within Muir Station Road as it crosses Arroyo del Hambre, construction of the pipeline will not impact the stream.

Grayson Creek is another urban stream providing good aquatic and streamside habitat. With the floodplain, the stream is braided. The water is clear with only faint algal tinting, rooted aquatic vegetation, occasional riffles, and a mud bottom. Water quality appears to be high based on the benthic assemblage present.

Walnut Creek is very similar to Grayson Creek, except much larger. The floodplain is approximately 375' wide and is completely vegetated. Numerous pools, bifurcations and braids occur throughout the length of the creek. Both banks are lined with rooted and floating aquatic vegetation. The water is clear and flows moderately over a mud bottom. Alternating pools and riffles cover the length of the creek. Numerous species of trees line the banks, providing habitat for red-winged blackbirds. Fish, crayfish, adult and larval insects, muskrats and bullfrogs are all readily observable on-site. However, no threatened or endangered aquatic or streamside species are known to exist along Walnut Creek at the proposed point of crossing, or at any of the other creeks crossed by the proposed pipeline route.

D.2 Endangered Plant Species

Several plant species along the proposed route of the pipeline have been identified by either the California Department of Fish and Game, the California Native Plant Society, or the United States Fish and Wildlife Service as either threatened, endangered, rare, or limited distribution, plants about which insufficient information is available, or plants which are not threatened or endangered (i.e. plentiful and/or too widespread to be listed as either threatened or endangered). Representative plant species of the north county area are presented in Exhibit M along with their individual designations.

Of all the plant species listed in Table 4-1, only five are reported to potentially be in the general area, and they are 1) Alameda Manzanita, Arctostaphylos pallida, 2) Santa Cruz Tarplant, Holocarpha macradenia, 3) Soft Bird's Beak, Cordylanthus moolis, 4) Delta Tule Pea, Lathyrus jepsonii, and 5) Diablo Helianthella, Helianthella castanea. Of these five, Alameda Manzanita and Santa Cruz Tarplant are state listed endangered and Soft Bird's Beak is state listed rare. The other two, along with all the others listed in Table 4-1, are neither state or federally listed. Exact locations of these three state listed plants along the proposed pipeline route

are unknown, reported by the California Native Plant Society (CNPS) only as being in the area (CNPS reports locational data according to 7 1/2' quadrangle only).

The majority of the project will be constructed in existing road, railroad and pipeline rights-of-way which have been disturbed to various degrees. Paved and cleared areas along roads and railways will reduce the possibility of plant occupation. Two State listed-Endangered, one State-listed Rare and federal listed rare plants are known to be within the general area in which the pipeline will be constructed.

Prior to construction, a definitive survey of the pipeline route where impacts could potentially occur was carried out by an outside professional biological consulting firm in order to identify any environmentally sensitive areas either on or adjacent to the proposed pipeline route. Several areas were located which were conducive to supporting the sensitive plant species known to populate the region. Site surveys were conducted during the spring and fall seasons to ensure location of early and late blooming plants. No individuals of the candidate species were found within the proposed project right-of-way. A copy of the survey is attached as Attachment C.

D.3 New Plant Species.

The project will involve construction of a petroleum products pipeline along a 25 mile long corridor from Richmond to Concord. The majority of the pipeline route will be constructed in urban industrial, business and some open rangeland. The pipeline right-of-way will be aligned along existing road, railroad and pipeline rights-of-way which are currently paved or maintained. A small portion of the route will be in rangeland which is used for grazing and is continuously disturbed.

The construction will involve grading and trenching of the pipeline right-of-way, stringing and installing of the pipe, burial and restoration of the pipeline ROW to original condition. The grading before and after pipe installation will disturb plants along the route, uprooting many in the process.

Though some plant individuals along the route may be inadvertently uprooted and transplanted by construction equipment, new species should not be introduced. Some seeding to prohibit erosion will be conducted along portions of the pipeline route. This will be carried out with native grasses commonly used for such operations.

The project will involve restoration of the ROW back to original condition. There should not be any alteration to land surfaces to modify growth patterns of plant populations.

EXHIBIT M

REPRESENTATIVE PLANT SPECIES OF NORTHERN CONTRA COSTA COUNTY

Common Name	Scientific Name
Alameda Manzanita	<u>Arctostaphylos pallida</u> - CE/C2*
Brass Buttons	<u>Cotula coronopifolia</u>
Bull Tule	<u>Scirpus robustus</u>
Bur Clover	<u>Medicago hispida</u>
Canadian Thistle	<u>Cirsium arvense</u>
Centaury	<u>Centaureum floribundum</u>
Common Plantain	<u>Plantago major</u>
Coyote Bush	<u>Baccharis pilularis</u>
Delta Tule Pea	<u>Lathyrus jepsonii</u> - C2
Diablo Rock Rose	<u>Helianthella castanea</u> - C2
Dock	<u>Rumex</u> sp.
Elderberry	<u>Sambucus caerulea</u>
Fescue grass	<u>Festuca</u> spp.
Fiddleneck	<u>Amsinckia intermedia</u>
Foxtail	<u>Hordeum murianum</u>
Gum Weed	<u>Grindelia</u> sp.
Heliotrope	<u>Heliotropium curassavicum</u>
Lupine	<u>Lupinus</u> sp.
Milk Thistle	<u>Silvum marianum</u>
Mustard	<u>Brassica campestris</u>
Owls Clover	<u>Orthocarpus purpurascens</u> - C
Periwinkle	<u>Vinca major</u>
Pickleweed	<u>Salicornia</u> sp.
Popcorn Flower	<u>Plagiobothrys</u> sp.
Poverty Weed	<u>Iva axillaris</u>
Rabbitfoot Grass	<u>Polypogon maritimus</u>
Red Alder	<u>Alnus rubra</u>
Red-stem Filaree	<u>Erodium cicutarium</u>
Ripgut	<u>Bromus rigidus</u>
Rye grass	<u>Elymus</u> sp.
Salt Grass	<u>Distichlis spicata</u>
Santa Cruz Tarplant	<u>Holocarpha macradenia</u> - CE/C1
Slender Wild Oat	<u>Avena barbata</u>
Soft Bird's Beak	<u>Cordylanthus mollis</u> - CR/C1
Star Thistle	<u>Centaurea melitensis</u>
Sweet Fennel	<u>Foeniculum vulgare</u>
Tule	<u>Scirpus</u> sp.
Wild Oats	<u>Avena sativa</u>
Wild Radish	<u>Raphanus sativus</u>

- * C - too common to include
- C2 - data are insufficient to support a federal listing
- C1 - enough data are on file to support a federal listing
- CE - State listed, endangered
- CR - State listed, rare

349

207

D.4 Crop lands

The pipeline right-of-way will be constructed along the existing rights-of-way for roads, railroads and pipelines. These corridors are not used for agricultural purposes. The project does cross some open rangeland where some existing pipelines already pass. This land is used primarily for cattle grazing. These rights of way are left open as the original range land surrounding them. The new pipeline right-of-way will be constructed with open trenching, making the range land inaccessible to cattle grazing while the construction is going on. Upon completion of the pipeline, the land will again be made accessible to grazing. Construction impacts will be temporary lasting approximately one day for each 1/2 mile of pipe laid.

E.1 Animal Species Diversity and

E.2 Rare, Endangered

The project route is planned along existing road, railroad and pipeline rights-of-way. These areas are occupied by urban and industrial activities. A small portion of the pipeline route will traverse open rangeland which is used for grazing.

Typical wildlife species include Blacktail Deer (Odocoileus hemionus), the Acorn Woodpecker (Malanerpes formicivorus), the Brush Mouse (Peromyscus boyleyi), and the California Ground Squirrel (Citellus beecheyi). Red-tailed Hawks (Buteo jamaicensis) and Sparrow Hawks (Falco sparverius) are frequently observed foraging for their mammalian prey. Representative animal species of the north county area are presented in Table 4-2.

Only four animals are reported from specific sightings to potentially occur in the general area of the proposed pipeline route as follows:

The Black Rail has been sighted in two areas along the proposed route, the first in marshlands north of San Pablo on San Pablo Bay, west of the SPTCo railroad right-of-way, and the second in the vicinity of north Pinole. In the first area the proposed route is on Santa Fe railroad right-of-way, and in the second area the route is on Santa Fe railroad right-of-way first and then changes to SPTCo right-of-way. The Clapper Rail has been sighted in the same general area as the first above-listed sighting of the Black Rail, north of San Pablo, on San Pablo Bay and the adjacent marshlands.

The Tiger Salamander has been sighted in the Pacheco-Concord area, most likely in the Pacheco Creek drainage (Walnut Creek and Grayson Creek empty into Pacheco Creek). The San Pablo Vole has been sighted in the general area surrounding the Richmond Golf Club south of Pinole Point, as the proposed route on Santa Fe railroad right-of-way turns east toward Pinole.

Four State and/or Federally listed animal species are located within the general vicinity of the project route though not on the right-of-way itself.

The pipeline route will cross through the habitat zone of two federally and/or state listed birds, the California Black Rail is state listed threatened, Laterallus jamaicensis coturniculus and the California Clapper Rail is both state and federally listed endangered, Rallus longirostris obsoletus.

The pipeline will be constructed along railroad right-of-way where it passes through these birds' habitat zones and should not impact their territory. The animals' high mobility will further reduce impacts the project may have on their activities. No nests or nesting habitat has been reported to occur on the proposed route.

Two rodents, the Salt Marsh Harvest Mouse, Reithrodontomys maniculatus and the Salt Marsh Wandering Shrew are reported to potentially occur along the pipeline route. The Salt Marsh Harvest Mouse is State and Federally listed endangered. The Salt Marsh Wandering Shrew is not listed. The sightings of the Wandering Shrew and the Harvest Mouse have been sighted in the same general area, but to the west, closer to San Pablo Bay.

The project activity along existing road and railroad rights-of-way should not impact their habitats. Activities along existing pipeline routes should not create a significant impact as these areas will have been disturbed and maintained clear for inspection purposes. Highest impacts will occur in open lands used for grazing. The impact should be minimized by maintaining a narrow construction zone sufficient for construction. The completed ROW will be returned to original profiles and re-seeded with native plants to restore the surface vegetation.

Two State species of special concern, the California Tiger Salamander, Ambystoma tigrinum californiense and the San Pablo Vole, Microtus californicus sanpabloensis, are also within the vicinity of the project. The Tiger Salamander has been sighted in the Pacheco-Concord area, most likely in the Pacheco Creek drainage (Walnut Creek and Grayson Creek empty into Pacheco Creek). The San Pablo Vole has been sighted in the general area surrounding the Richmond Golf Club south of Pinole Point, as the proposed route on Santa Fe railroad right-of-way turns east toward Pinole. An additional siting of the San Pablo Vole has been reported in this same area. Impacts at stream crossings will be minimized or avoided either by boring under the stream channel in active flow or sensitive streams or by fluming, diverting water around the trenching operation.

The project construction will be temporary in duration and the project site will be restored to original condition in open lands. The project should not affect species diversity.

None of the creeks crossed by the proposed route are known to support spawning populations of major game fishes such as king salmon or striped bass.

Watercourses to be crossed will receive short-term impacts during construction while the flow is flume or diverted around the points of crossing, but significant long-term impacts will not occur. No state or federally listed species are known to occur in these watercourses and therefore no threatened or endangered species habitat will be impacted.

E.3 New Animal Species.

The project will involve construction of a 25 mile pipeline through urban industrial environments and some open lands. The majority of the route will be in existing road, railroad and pipeline-rights-of way. The project will involve grading and trenching, stringing and laying of pipe and burial and restoration of the route. No introduction of new animal species will result from this project.

E.4 Deterioration of Habitat

The project will be constructed along existing road, railroad and pipeline rights-of-way between the Richmond pumping station and the city of Concord. The majority of the project route is within urban industrial and urban environments. There will not be a significant impact on habitat quality in the urban areas.

The project will traverse a small portion of open rangeland which is currently used for cattle grazing. The construction will create a temporary impact as the pipeline is laid across these lands. The route will be restored to its original condition after the pipe is installed.

There will be a temporary impact to streams caused by the open trenching which will be carried out across the stream channels. The fluming of the water within the channels will reduce impacts from turbidity and sediments related to construction. The trench will be filled and the flume pipes/dams removed upon completion of the crossings. The stream channels will be restored to original condition. The impacts from the project should be minimal.

F.1 Increased Noise

The project will involve construction of a 25 mile long petroleum product pipeline in primarily urban industrial areas between the cities of Richmond and Concord. The project will require use of powered earth moving and construction equipment in addition to support equipment and crew vehicles.

The majority of the project route will be along existing road and railroad rights-of-way which are actively utilized by vehicle and train traffic. The construction noise will be

added to and integrated with existing urban and vehicle noise. The noise generated by this equipment will be temporary, lasting approximately ten working days at any particular point along the project route.

Project activities will increase noise levels along some portions of the route which pass through open range lands. These areas are used for grazing of cattle and the noise impacts should not greatly affect the surrounding areas.

F.2 Severe Noise

The project involves the use of diesel-powered heavy equipment. This equipment will be equipped with required mufflers to reduce noise during operation. There will be instances in which acceleration of engines during demanding activities will result in elevated noise levels. These elevated noise bursts should be temporary, lasting for several minutes at most. The increased noise levels will be a temporary impact, lasting approximately 10 working days for each segment of the pipeline.

The completed pipeline should not create any noticeable increases in noise levels.

G.1 Light and Glare

The proposed project construction will be conducted during normal daylight work hours. There will be no need for additional lighting for the project. If supplemental lighting is required for other reasons, the lighting will be directed toward the required work areas and not toward the surroundings. Headlights to arriving or departing crew vehicles may create a visual impact during early morning hours but this will be a temporary impact.

The completed pipeline will not have new light sources along the majority of its right-of-way. There might be lighting at critical valves or at the pumping facilities in Richmond and Concord. This additional lighting will be directed toward the required work areas and should not impact potential receptors outside the pipeline area.

H.1 Alteration of Land Use

The project is planned to be constructed along existing road, railroad and pipeline rights-of-way between the cities of Richmond and Concord. The pipeline route is primarily located within lands dominated by industrial and urban activities with a great portion of this industry involving petroleum processing. Impacts of this project on land use will be minimal as it will be in general compatibility with current land uses for the area.

I.1 Increased Resource Use

The proposed project involves construction of a pipeline between the cities of Richmond and Concord in which will be transported refined petroleum products. The pipeline is designed to improve the capacity of the northern California pipeline system which is currently at its maximum and is being supplemented by more expensive and hazardous transportation. This pipeline will not increase the demand for resource but will make it available by a cheaper and safer means to an existing market. Construction of the pipeline will not increase the demand for resource nor increase the productive output by the refineries.

I.2 Depletion of Resources

The project will increase the carrying capacity of the northern California pipeline system owned by the Santa Fe Pacific Pipeline Partnership. This expanded volume will improve the carrying capacity of a pipeline to transport finished petroleum product which is currently supplied by an existing pipeline and supplemental transportation. This pipeline will not cause an increased demand for production of petroleum product. It will allow for an increased volume of product to be transported.

J.1 Risk of Explosion, Spills

The construction phase of the project will involve preparation of the pipeline right-of-way which will include grading and digging of a trench approximately 48 inches deep.

The pipeline sections will be transported to the site, electrically welded together, coated, inspected and installed in the trench, followed by burial and site restoration. There is a possibility of an explosion occurring during any point of this construction procedure. The proposed operations are ones which have been routinely conducted in pipeline construction for many years. Precautions are followed in all steps along the operation to avoid explosion.

Explosion from fuel is minimized with proper operation of equipment to avoid collision, upset or spillage. Welding gases are stored in proper approved containers and away from possible danger of damage to compressed gas bottles. Electric arc welding will be conducted in open space, away from explosive fuel or gases to avoid possible explosion. Coating of newly welded pipe joints will be done away from possible fire hazards to avoid possible explosions.

Prior to excavation of the trench in the right-of-way, inspection of the pipeline route will be conducted to locate any possible buried pipelines which may intersect the new project. As an added precaution, when necessary, the ROW will be probed to locate any possible buried pipelines prior to trenching.

The pipeline is designed to incorporate safety features to reduce the possibility of explosion. Following is a summary of those features. Please see Attachment A for complete discussion.

- (1). Operating Pressures- The pipeline will be designed to operate at 80 percent of the maximum test pressure. Testing will be at a minimum of 1,896 pounds/square in. (psi), with operating pressure at 1,440 psi. Maximum yield pressure of the pipe is 2,107 psi. This will minimize chances of explosion from over pressure and rupture of the pipe.
- (2). Valves- The pipeline will be furnished with approximately ten valve sites along it to maintain proper internal pressure and to shut off the pipe should an increase in pressure occur. Low pressure valves will shut off the pipe if a leak or rupture occurs.
- (3). The pipeline will maintain a continuous computerized monitoring system, which will be able to control the pressure in the pipe. "Real Time" monitoring will locate any leaks to within 5% of the distance between monitoring stations. Shutoff of the pipeline will occur immediately.
- (4). Contingency plans- The pipeline will be monitored and upon discovery of a leak or spill, personnel will be dispatched to contain and correct the spill. The SPPL Manager in Martinez will contact the appropriate emergency personnel and agencies to handle the emergency.

J.2 Emergency Interference

The project will involve trenching, installation and reburial of a petroleum products pipeline along several portions of public roads. This construction will require removal of road pavement and deactivation of portions of roadways to accommodate the construction equipment and crews. This activity could restrict traffic movements along the affected roads with removal of a lane. This could affect response abilities of emergency and police vehicles passing along the construction site. Alternate routes are available for emergency vehicle use which should reduce this impact. The duration of construction will usually be 1 day per 1/2 mile of pipeline laid. This impact will be of a temporary nature and should only affect roads. Upon completion of the pipeline, there will be no impacts on emergency activities.

K.1 Population

The project will involve construction of a buried pipeline between the cities of Richmond and Concord. This activity will employ a work force from local established

construction companies. The project will not affect population to require new housing for the construction crews.

Construction of the pipeline is intended to supplement an existing SFPPL pipeline network currently supplying petroleum products to an existing northern California and Nevada market. The pipeline will reduce the use of more hazardous overland transportation systems currently supplementing the old SFPP network. There will not be a new demand created by this pipeline which will affect population or housing.

L. Housing

The project will not create a new demand for housing, see K.1 above. The route will pass through existing road, railroad and pipeline rights-of-way and will not impact existing housing by requiring demolition or reductions in available housing.

M.1 Additional Vehicle Movement

The project will involve a construction activity which will require a number of vehicles and personnel. The vehicles needed will include excavators, bulldozers, side cranes, support and supply vehicles and individual crew vehicles; numbering approximately 56 vehicles for the project. This assemblage of vehicles will be distributed along the construction right-of-way.

There will be an impact to road traffic created by the construction as these vehicles are used along the project route. Each portion of roadway will be impacted approximately 1 day per 1/2 mile of project. Upon completion, the route will be restored to original condition and construction equipment will be removed. Construction impacts will not be as evident when the project moves onto railroad and off-road portions of the route. Support vehicles conveying personnel and material to the off-road project sites will still create a minor impact on road traffic along selected supply routes.

Efforts will be made to keep traffic impacts by work vehicles to a minimum by following traffic patterns, keeping vehicles out of moving traffic as much as possible and working during practical times to reduce traffic flow problems.

The completed project will not impact future vehicle movements. Roads will be restored to original designs and traffic capacities. Any inspections done will be brief and usually will involve a single inspection vehicle.

M.2 Parking

The project will be constructed along several urban streets. These portions of road will be trenched and restored after the pipe is installed. Street-side parking might be reduced along the parts of the street where the construction

is occurring. These areas will be inaccessible for approximately 1 day per 1/2 mile of project on the road. Upon completion, the street-side parking will be restored.

The pipe route may cross entries to off-street parking. This access will be interrupted where the machinery is obstructing any of the entrances. The trench before and after the main trench work will be covered with steel plates to allow traffic to cross the trench. Off-street parking access will be available at that time. Full off street parking access will be restored once the trench is filled and the right-of-way is repaved. No impacts to parking will occur for the life of the project except for possible maintenance operations.

M.3 Impact on Transportation Systems

The project will be constructed along existing road, railroad and pipeline rights-of-way for approximately 25 miles between the cities of Richmond and Concord. The project will impact road transportation systems by affecting traffic flow along the portions of the route located on roads. Where it is unavoidable, traffic control procedures including proper lane marking and traffic guidance will be carried out to insure safe conduct of traffic around the construction zone.

Metal plates will be placed along the route to reduce the impact the open trench will have on road capacity and traffic movement where traffic crosses the trench as at driveways and intersections. Boring of the pipeline under some roads such as major highways will eliminate the potential impacts on traffic from such an activity.

Portions of the project will be constructed in the shoulder of roadways. Traffic flow will be less affected in these locations. The impacts related to construction will be relieved with traffic control.

The project will be constructed along railroad rights-of-way. The tracks will not be affected by this activity and the operation should be away from the tracks so that trains will not be impacted by the construction equipment. No interference with rail traffic is expected from these activities.

There will be no impacts on auto traffic from the completed project. SFPP is currently supplementing its northern California Pipeline network with additional truck transport. Use of the pipeline will reduce the need for transportation of product by other overland means which will reduce traffic on roads and reduce the danger from an accident.

M.4 Altered Circulation

The project will be constructed along existing road, railroad and pipeline rights-of-way. The construction might cause some disruption to traffic flow along roads with local

traffic taking alternate routes to avoid delay. There should not be major impacts to traffic or distribution of goods resulting from the construction along roads. The pipeline will be constructed along existing railways. The construction will be sufficiently removed from railroad tracks that it should not interfere with train movements and distribution of goods by rail.

The use of the new pipeline will affect the current transportation of petroleum product by truck which SFPP is currently doing to supplement the northern California pipeline network. To satisfy the projected volume of 62,000 barrels/day to be transported, a maximum of 117 truck trips (round trips) would be required.

M.5 Alter Water, Rail, Air Traffic

The project will be constructed on upland routes and will not affect waterborne or air traffic. The construction will be carried out along railroad rights-of-way but the activities will be conducted far enough from the railways to avoid affecting train traffic. Use of the pipeline will not affect any of these transportation modes.

M.6 Hazard to Vehicles, Bicyclists, Pedestrians.

The project will be constructed along roadways between Richmond and Concord. The construction activities may pose a hazard to motor vehicle and bicyclist traffic along the project right-of-way. The construction will be carried out along roads and the shoulders. This activity could endanger cyclists who usually ride to the shoulder. Metal plates and pavement irregularities could be a hazard to passing cyclists.

Precautions in safe pavement and placement of temporary steel plates should reduce dangers. Wet steel plates are slippery and hazardous from reduced traction. The dry season, when the project will be constructed, will reduce this danger.

Motor vehicle traffic may be endangered by restricted road space, pavement irregularities and equipment movements. Traffic control and proper detouring or lane marking in the construction zone should reduce these dangers.

Pedestrian traffic should not be endangered by the construction except at crossings over the trench. Steel plates over the trench should keep pedestrian danger to a minimum at street crossings over the trench.

N.1 Fire Protection

The project will be aligned to pass through several communities from its origin in the city of Richmond to the city of Concord in Contra Costa County. If a need for fire protection is required, there are already established fire companies in each of the communities along the route. There

should be no need for new or additional fire protection resulting from the construction activities or final installation of the completed pipeline.

N.2 Police Protection

The project is planned to pass through existing communities along its 25 mile route. The majority of the pipeline will be installed underground and will be inaccessible to vandalism or malicious damage. Maintenance crews for SFPP will inspect the completed pipeline for safety and possible tampering. There will not be a new impact on police protection resulting from construction of this project.

N.3 Schools

The construction of the pipeline will utilize construction crews from established companies in the area. There will not be a need for new schools or movement of family members to existing schools to impact student enrollment. The finished project will not require new staff which would affect enrollment patterns in the area.

N.4 Recreation

The project will involve trenching, stringing, laying and reburial of a 25 mile length of 16 inch and 12 inch pipeline between the cities of Richmond and Concord. The majority of the pipeline will be laid along existing road, railroad and pipeline rights-of-way. There will be no impacts to local recreational facilities along the greater portion of the route.

Approximately 1/2 mile of the pipeline will be installed adjacent to a bridle trail easement managed by the East Bay Regional Park District. This easement may be temporarily impacted by the activities of construction but should not be inaccessible to equestrian traffic.

N.5 Facilities Maintenance

The project will be constructed along existing road, railroad and pipeline rights-of-way. The railroad and pipeline rights-of-way are privately owned; the main portion under SFPP ownership. There will not be an impact to public facilities along these parts of the project route. Public roads will be impacted by the trenching and pipeline installation. Upon laying of the pipe, the roads will be graded and repaved by SFPP. This repaving will be to satisfaction of road department standards and should not require additional repair.

The completed project should not create additional impacts upon road maintenance activities except when repairs to the pipeline should require subsequent excavations. This repair and road restoration will be undertaken by SFPP to road

department standards.

N.6 Other Governmental Services

The project will not create an impact on other governmental services.

O.1 Substantial Energy Use

The construction activities will require an increase in fuel to power the construction equipment and electricity use for the welding equipment. This increased energy use will not create a significant demand upon the resource supply for the state. This demand will be temporary, lasting for the duration of the construction. The completed pipeline will not create a significant demand on energy resources for its operation.

There may be some electricity use in conjunction with night lighting but this demand will not pose a major impact on electric supplies.

O.2 Increased Energy Demand

The project construction will create a small increase in fuel demand for construction equipment and vehicles. There may be a small increase in electricity consumption related to construction. These requirements will be temporary; lasting until construction is completed in approximately four months.

The completed pipeline will not require significant amounts of additional energy for its operation. There may be some electricity consumption for operation of control equipment and night lighting. This demand should be satisfied by current energy supplies.

P.1 New Electric/Gas Systems

The project will not require new natural gas supplies for its operation. The pipeline is intended to supply processed petroleum product to an existing market in the north state and Nevada. There may be a demand for electricity to operate new equipment associated with the pipeline. This demand should be satisfied with current electric power supply systems.

P.2 Communications

The project will convey processed petroleum product to the north state and Nevada. There will be a status monitoring system associated with the pipeline to monitor for safety and control during operation. There will not be a demand for new communications networks in association with this project.

P.3 Water

The project is designed to transport refined petroleum product from the city of Richmond to the City of Concord SFPP

pumping station. The completed project will not require new water supplies or systems for its operation.

P.4 Sewer or Septic

The project is intended to transport only refined petroleum product from Richmond to Concord. The project will not require new sewer or septic systems for its operation.

P.5 Storm Drainage

The project will be trenched and buried along existing road, railroad and pipeline rights-of-way. The majority of the pipeline will be buried directly in the soil with no associated casing or other containment requiring draining. The right-of-way above ground will be restored to original condition with existing drainage returned as appropriate. No new storm drainage will be constructed.

P.6 Solid Waste Disposal

The project is designed to convey refined petroleum product from Richmond to Concord. Any solid waste created by the project construction will be collected and disposed of in an appropriate disposal site. This impact should be minimal.

The completed project will not generate solid waste necessitating disposal.

Q.1 New Health Hazard

The construction phase of the project will involve many operations along the 25 mile length of ROW. Much of the project will occur along existing roads and railroads which will be in use. These operations present a potential hazard to passing traffic, both vehicular and pedestrian.

Efforts will be taken to prevent any potential health hazards resulting from injury in the project right-of-way. These will include proper detour route marking, lane designations, lighting guides and flashers, flagmen and escort vehicles when necessary. Machinery will be positioned to minimize potential impacts to traffic flow. Work will be conducted in a safe workman-like manner. Roads will be maintained to insure safe passage by traffic through the work areas.

The completed project will transport refined petroleum product under pressure from the Richmond SFPP terminal to the facility near Concord. This product has a potential as health hazard from an accident including pipeline or ancillary facility failure, or accidental penetration of the pipe by excavation. These potential hazards are safeguarded by proper design features and practices which include pressure standards to reduce overpressuring and explosion. Leaks and escaping product are prevented by shut-in valving to cut off supply in

event of a leak and/or fire. Accident contingency plans are in effect to cope with the possible accidents which may occur. This practice of product transport has been in use routinely throughout the project vicinity and is demonstrated to be a safe means of operation.

Q.2 Potential Hazard to People

The project is designed to pass along existing road, railroad and pipeline rights-of-way between Richmond and Concord. The majority of the route will be in urban and urban-industrial environments. The potential hazard to residential areas is minimized by this routing. There is a potential hazard to traffic on roads and railways where the pipeline will be located. The potential hazard along these portions will be minimized by the practices described in Q.1, above. The proven safety of this transportation method is demonstrated by its common usage today.

The alternative method of truck transport is one other means to convey the planned product. This alternative will present a greater relative hazard than the proposed pipeline.

R.1 Views

The proposed project construction will create a temporary visual impact. The construction string (machinery, crews, trench and pipe string) will create a visual impact on the immediate vicinity and to possible areas overlooking the project site. This impact will be several hundred yards long.

It will move approximately one day per 1/2 mile. Upon completion of pipe laying, the project site will be restored to its original condition. Open country excavations will be regraded and seeded. The excavations will be hidden in time. The visual impact will be temporary.

There will be no signs of the completed project since it will be buried. Some stream crossings will be executed with overhead bridging pipes but these will be associated with existing road bridges and will not be evident by themselves.

S.1 Impact Recreation Opportunities

The project will be constructed along existing road, railroad and pipeline rights-of-way in urban environments. The construction will be within city roads which could provide routes for recreational cycling. This impact would be small as alternate routes and project sites will remain accessible to all traffic.

The construction activity should not affect any parks or other recreational facilities along the pipeline route.

A small portion of the pipeline which is located in open country is situated adjacent to a bridle trail managed by the

East Bay Regional Park District. The construction will be situated next to this trail and should not affect accessibility to trail use. The construction activity will only occur along approximately 1/2 mile of this trail.

The completed project will not affect future recreational activities.

T.1 Archaeological Sites; Destruction

The project will traverse approximately 25 miles of varying land surface conditions between Richmond and Concord. The project route has undergone a broad range of surface development and existing modifications from intensive industrial, to urban road, railroad and business, to open land with little ground disturbance.

The pipeline route will follow along highly disturbed areas reducing the chance of encountering new and undisturbed archaeological sites. Though surface disturbance of potential sites will be high, the possibility of undisturbed buried sites within these previous projects remains.

To avoid damage to possible archaeological sites, a literature search and archaeological survey for the project route was conducted by the CSUS Hornet Foundation.

The literature search resulted in the identification of thirteen prehistoric archaeological sites within 1/4 mile of the project right-of-way.

Only one site, CA-CCO-270, at the point where the SPRR crosses San Pablo Creek, was found to be within the project right-of-way. Several other sites were in the general vicinity but no closer than 300 feet (i.e., CA-CCO-370 at Railroad Ave. and Tally Way in 'Old' Hercules).

T.2 Prehistoric, Historic Structures, etc.

The project route passes through approximately 25 miles of intensively urban, to open lands between the cities of Richmond and Concord. There are no historic structures within the construction right-of-way. Seven historic sites or points of historic interest have been identified along the proposed route.

None of the historic structures is located within the construction ROW and will not be impacted by the construction activity. The construction will be within view of these historic structures but this impact will be temporary, lasting until the pipe is buried in those areas.

There is the possibility of discovering cultural resources during the pipeline construction. If this occurs, construction should be halted and a qualified archaeologist

contacted to determine necessary action.

T.3 Unique Ethnic Values

The project route is aligned along existing road, railroad and pipeline rights-of-way in primarily intensively urban environments. The area has been extensively modified, effectively removing any cultural values within the project ROW. There should not be any impacts to ethnic values in the project ROW.

T.4 Sacred Sites, Uses

The project will be constructed along existing road, railroad and pipeline rights-of-way. These sites are presently highly modified and intensively used by urban industry, business and vehicular traffic. There are no sites of religious significance along the route to be impacted by the construction.

U.1 Degrade Environment

The project will be constructed along existing road, railroad and pipeline rights-of-way in an intensively urban environment. The ROW and surrounding areas are highly modified such that addition of this project will not create a significant change in the surroundings. The construction will create a temporary impact along the corridor as discussed but this will last several months at most.

Endangered or rare species of plants and animals have been identified in the vicinity of the project but no direct impacts of the project on these species are expected. Endangerment of these populations is not expected.

U.2 Short/Long Term Environmental Goals

The project will be constructed in highly modified areas occupied by roads, railroads and pipelines currently in use.

The new project will be superimposed on these existing features. There should not be any greater impact on the environment resulting from construction of the pipeline.

U.3 Cumulative vs. Individual Impacts

The project will involve constructing approximately 25 miles of pipeline along existing road, railroad and pipeline rights-of-way between Richmond and Concord. The pipeline will be buried in the ROW's of existing structures which are highly visible. This impact, once the construction impact is removed, should be no greater than the impacts currently manifested in the existing facilities. There should not be a cumulative impact resulting from this project.

U.4 Adverse Environmental Impacts

The primary impact created by this project will be from the initial construction of the pipeline. The operation of the pipeline is demonstrated to be low in potential danger to human life and activities nearby. The visual impacts of the construction will be evident but low in magnitude and temporary in duration. The project should not exhibit environmental effects harmful to humans.

Mitigation Measures Incorporated in Project

With the incorporation of the following measures into the project description there is no substantial evidence that the pipeline proposed by Southern Pacific Pipe Lines, Inc., will have a significant adverse impact on the environment.

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

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

Construction will be limited during periods of rain.

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

The route has been selected to minimize potential impacts.

Spill prevention programs will be in place during pipeline construction. All spills will be contained and cleaned up quickly and conscientiously.

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

All construction equipment will be equipped with noise suppression equipment.

During weekdays, construction traffic will be limited to the between hours of 6:00 a.m. and 6:00 p.m. except for emergency operations.

All known cultural sites have been avoided.

Any new cultural sites encountered during construction will be reviewed in consultation with the State Historical Preservation Office.

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

Pipeline will be oriented with respect to strike-dip faults in such a way 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.

Preliminary rare plant surveys have been done, and further surveys will be done during the proper flowering period along the pipeline route in the appropriate habitats.

San Pablo and Pinole Creeks will be crossed using low-angle boring to avoid impacts to these waterways.

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.

2.3 ENVIRONMENTAL AND SAFETY CONTROLS

The proposed 16-inch pipeline will be designed, constructed, and operated taking into consideration many risk-management measures. This subsection summarizes these measures.

2.3.1 Design Features

The proposed pipeline system will be designed and constructed to conform with 49 CFR 195 of the U.S. Department of Transportation Pipeline Safety Regulations and with applicable sections of Section I, Chapter 5.5 of the California Pipeline Safety Act, paragraphs 51010 - 51020. The following are some specific design features of the proposed pipeline.

- Internal Pressures - The planned normal operating pressure of the pipeline system will not exceed approximately 1440 pounds per square inch (psi). Since the system will be pressure tested at a minimum of 1896 psi, the maximum allowable operating pressure will be 80 percent of the test pressure, or 1517 psi. The system will have a yield pressure of 2107 psi. (Yield pressure is the minimum pressure at which the pipe can become permanently deformed.)
- Block Valves - Block valves are planned for the proposed pipeline. These block valves will be spaced at locations specifically engineered to minimize the flow of product in the event of a spill. The distances between block valves in urban areas are within the maximum spacing requirements for industrial, commercial, and residential areas as specified in American National Standards Institute (ANSI) Code B31.4, "Liquid Petroleum Transportation Piping Systems", which is incorporated into 49 CFR 195 by reference. The block valves will be located in accordance with 49 CFR 195.260. Furthermore, SPPL* design will comply with all stream crossing requirements.

* SPPL now known as SFPP

Approximate placement of the valves is as follows:

VALVE SITE NAME	VALVE DESCRIPTION	APPROXIMATE MILE POST	VALVE SPACING (MILES)
1. Richmond Station	Block Valve	0.0	0.0
2. San Pablo	Check Valve	3.0	3.0
3. Garrity	Block Valve	5.6	2.6
4. Rodeo	Check Valve	10.0	4.4
5. Rodeo	Block Valve	10.0	0.0
6. Oleum Manifold	Check Valve	11.3	1.3
7. Cummings Skyway	Check Valve	13.4	2.1
8. Cumming Skyway	Block Valve	15.4	2.0
9. Alhambra	Block Valve	20.3	4.9
10. Concord Station	Block Valve	25.0	4.7

See enclosed drawing L.S. 80, Sheet 24, Hydrostatic Test Diagram, for profile (in map pocket at back of report).

303

303

2.3.2 Pipeline Monitoring

SPPL will install facilities that monitor the pipeline and cause a shutdown of the system for the conditions listed below.

- High Pressure - The pressure in the pipeline is monitored continuously. Any time the pressure exceeds a designated pressure the pumps shut down immediately. This system will not allow pressure in the pipeline that could weaken or burst the pipeline or components.
- Low Pressure - Again, since the pressure is being monitored continuously, a significant drop in pressure below a designated level will also cause a shutdown of the pumps. Hence, if there is a break in the pipeline, the pressure will drop and the system will be shut down.

When the pipeline is not in use, it is "packed", i.e., kept full under constant pressure. If there is a pressure drop, the system will produce an alarm to indicate the reduced pressure. The pipeline will not be restarted until the cause of the pressure drop is discovered and corrected.

- Leak - The volume of product that goes into the pipeline at the input station and the volume that comes out the other end will be continuously monitored, measured, and compared at three locations: first in the input station control room, second at the receiving facility, and third at Dispatcher Control Center in Los Angeles. Whenever the measurements do not match within preset limits, the leak detection system will cause a shutdown of the pumps.

The existing pipeline monitoring system consists of the above described Waugh Controls electronic input/output comparison system. SPPL in addition is currently engaged in a leak detection modernization program which is included with SPPL's Supervisory Control and Data Acquisition (SCADA) system. The SCADA system is computer based and is modeled in real time by the computer. The dynamic model leak detection system is designed to detect leaks during transient and steady-state periods. The system now being introduced is produced by "Real Time Systems" in Houston, Texas and is current state-of-the-art. When the system is fully operational it will report location of a leak to within five percent of the distance between stations and the type of product in the line at the leak site. The system will retain all leak data for report generation. And, SPPL currently carries out "static monitoring" whenever the pipeline is shut down. The

200

207

procedure consists of pressuring the line, shutting down the pumps and monitoring the pressure at two points with no unexplained losses prior to startup. The monitoring is automatic and continuous.

2.3.3 Emergency Shutdown

The proposed pipeline system will be equipped with an emergency shutdown system that will allow personnel at the control room at the input station to immediately shut down the pumps and dispatch personnel to close all of the block valves in the event of an emergency.

In the design of any pipeline, all probable causes of an accidental spill must be addressed. Such causes include 1) equipment hitting the pipeline, 2) external corrosion, 3) defective pipe, 4) incorrect operations by carrier personnel, 5) failure of full flow relief equipment, and 6) natural causes. The maximum potential spill is estimated at approximately 2048 barrels and is based on the following:

- . amount of product pumped before the pumps are shut down (two minutes of pumping at a design flow rate of 6000 barrels per hour); 200 barrels
- . expected draindown from the north and south; 3080 barrels. From past experience gained during scheduled draindowns throughout SPPL's system, due to vacuum buildup in the line, only about 60% of the theoretical maximum of 3080 barrels at Mile Post 22 will actually be discharged from an opening in the pipeline ($60\% \times 3080 = 1848$ barrels).

For maximum potential spill calculation, it was assumed that a potential rupture would occur near Mile Post 22, located in the city of Martinez (see Figure 2-1).

In the event of a spill, SPPL will contact the California Office of Emergency Services. They in turn notify other state and federal agencies. The main points in the notification procedure are as follow:

- . the California Office of Emergency Services (OES) is manned twenty-four (24) hours a day, each day of the year to receive spill reports of hazardous materials. Other state and federal offices and agencies generally work from 8:00 a.m. to 5:00 p.m. five days a week and are closed on holidays and weekends.
- . the OES acts as a single point of contact (SPOC) for all agencies. By acting as the SPOC unnecessary

370
CALENDAR
2303

duplication of effort and confusion as to which agencies have been contacted is eliminated.

Spills occurring along the pipeline corridor can generally be contained by constructing dams or dikes around or in front of the spreading product. The first company personnel at the suspected leak site would evaluate the situation and take such steps as they deem necessary to protect life and property and to contain and prevent the further discharge of product. On the arrival of earth-moving equipment, a containment dike would be prepared to isolate the flow of product, if any, from the environment. Soil for the dams or dikes would be obtained by shallow excavation from within the pipeline ROW. This soil would be placed in such a manner to form a holding pond or reservoir to contain the spill. Absorbent booms would be installed to encircle any product and vacuum trucks used to skim any product until all product is removed. Appropriate professional testing and investigation to determine the extent of product propagation and appropriate actions for complete cleanup would be implemented by SPPL. Any earthen materials contaminated by a petroleum products spill will be removed and transported by a California Department of Health licensed hazardous waste transportation vehicle to a federal and state permitted hazardous waste disposal facility. The types of sorbent materials that will be used may be biodegradable or nonbiodegradable. The on-site remediation contractor will supply the sorbent materials and appropriate disposition of such materials will be taken care of by the contractor no matter which type of material is used. Accessibility of vehicles and pedestrians to the area would be from existing streets and roadways. Liaison has been established regarding response to and management of a spill between SPPL personnel and current state and federal agency personnel.

In the event of a spill the SPPL District Manager located in Martinez, California will have the responsibility of immediately contacting local authorities, fire departments, state authorities and police to secure the area until equipment and personnel arrive. In addition, the District Manager would contact the OES who will then contact all affected agencies. On the site of the spill, the SPPL District Manager, acting as Spill Coordinator, in conjunction with the local Fire Marshal and California Department of Fish and Game (CDFG) State Agency Coordinator (since it is CDFG that has the responsibility of capturing and cleaning wildlife), reviews the situation and then develops initial response actions necessary to stop the further spread of the spilled product. Once the Spill Coordinator has directed private contractors in the initial response procedures to be used in containing and collecting the spilled product, a plan is developed, based on site-specific impacts, as to the exact procedures for cleaning or otherwise further limiting impacts to the area. The plan will be developed by the Spill Coordinator and then reviewed by the State Agency Coordinator and other

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 (underground 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.

AGREEMENT REGARDING PROPOSED STREAM OR LAKE ALTERATION

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

WHEREAS, pursuant to Division 2, Chapter 6 of California Fish and Game Code, the operator, on the 2nd day of October, 1988, notified the Department that he intends to substantially divert or obstruct the natural flow of, or substantially change the bed, channel, or bank of, or use material from the streambed of, the following water: various, in the County of Contra Costa, State of California, S. T. R. extensions granted

WHEREAS, the Department (represented by M. Buelna *sign*) has made an inspection of subject area on the 1st day of July, 19 88, and has determined that such operations may substantially adversely affect existing fish and wildlife resources including game and nongame fish, birds, mammals, invertebrates, and water quality

THEREFORE, the Department hereby proposes measures to protect fish and wildlife during the operator's work. The operator hereby agrees to accept the following recommendations as part of his work: Numbers 1, 2, 8, 9, 10, 11, 12, 19, 20, 21 from 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. Logging of the creek crossings listed (San Pablo Cr., Rheem Cr.) should cause no major damage in those areas.
3. The project at Garberville 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 notification shall be submitted to the Department of Fish and Game. Failure to comply with the provisions of this agreement and with other pertinent 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 FEATURES BY THE DEPARTMENT OF FISH AND GAME. INDEPENDENT REVIEW AND RECOMMENDATIONS WILL BE PROVIDED BY THE DEPARTMENT AS APPROPRIATE ON THOSE PROJECTS WHERE LOCAL, STATE, OR FEDERAL PERMITS OR OTHER ENVIRONMENTAL REPORTS ARE REQUIRED.

This agreement becomes effective on signature of operator and terminates on October 15, 1988

Operator *J. Whitelaw*

M. Buelna *M. Buelna*
 Department Representative

Title Manager - Pipeline Construction

Title Warden

Organization SOUTHERN PACIFIC PIPE LINES, INC.

Department of Fish and Game, State of California

Date 8/17/88

Date July 15, 1988

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

FG 1069 (5-87) 17 122408

RECOMMENDATIONS

C.W.R.

AUG 15 1988

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 such that water flow is not~~ be 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 area 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 oil, grease, or other pollutants 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 shoal-like 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 material or debris left behind 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 ten days prior to such completion.

313
315

~~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.

REFERENCES

Abrams, L. Illustrated Flora of the Pacific Northwest. Stanford University Press, Four Volumes.

California Department of Fish and Game. 10/01/90. Natural Diversity Data Base Report, Mare Island, Benicia, Briones Valley, Honker Bay, and Walnut Creek Quads.

California Native Plant Society. 1988. Inventory of Rare and Endangered Vascular Plants of California, 4th edition. J.P. Smith, Jr. and R. York (eds). Sacramento, California

Mason, H. 1957. Flora of the Marshes of California. University of California Press. Berkeley, California. 818 pp.

Monn, S. 1987. Environmental Assessment Richmond to Concord pipeline project. Southern Pacific Pipe Lines, Incorporated. 85 pp. _____

Munz, P.A., and D.D. Keck. 1968. A California Flora with Supplement. University of California Press, Berkeley, California.

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	<i>Aster chilensis</i> <i>var. lentus</i>	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	<i>Cordylanthus mollis</i> <i>spp. mollis</i>	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	<i>Eriogonum truncatum</i>	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	<i>Helianthella</i> <i>castanea</i>	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	<i>Holocarpha</i> <i>macrademia</i>	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
Federal Candidate 2
CA - Threatened
CA - Rare
CNPS List 1A
CNPS List 1B

USFWS has sufficient biological information to support a proposal to list as Threatened or Endangered
May warrant federal listing, but more biological information needed
Likely to become endangered without protection
Threatened with extinction
Plant presumed to be extinct
Plants rare, threatened, or endangered in CA & elsewhere

Printed on recycled paper

303
304
305

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	<i>Lathyrus jepsonii</i> sp. 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	<i>Laterallus</i> <i>jamaicensis</i> <i>columiculus</i>	Federal Candidate 1 CA Threatened	Southampton Bay 3 mi NE across Carquinez Strait	Marshes	No appropriate habitat present within project area
Sunshin shrew	<i>Sorex ornatus</i> <i>sinuosus</i>	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 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

Printed on normal paper.

303
322

Blank

Table 2

Plant Species Identified Within Project Area.

Non-Native Grassland Plant Community

Common Name

Scientific Name

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

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

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

Table 2 (continued)

Coastal Scrub - Disturbed

Common Name

Scientific Name

Blue dicks
Broom
Buckeye
Chamise
Cheeseweed
Clasping henbit
Cream sacs
Coast live oak
Cocklebur
Common fennel
Coyote bush
Curly dock
Elderberry
Goldback fern
Iceplant
Long stalked clover
Mayweed
Milk spurge
Parry's mallow
Poison oak
Poison sanicle
Purple sanicle
Shepherd's purse
Shield peppergrass
Star thistle
Tarweed
Tom cat clover
Toxer mustard
Toyon
Wally basket
Wild oats
Yarrow

Brodiaea pulchella
Cytisus sp.
Aesculus californica
Adenostoma sp.
Malva parviflora
Lamium amplexicaule
Orthocarpus lithospermoides
Quercus agrifolia
Xanthium strumarium
Foeniculum vulgare
Baccharis pilularis
Rumex crispus
Sambucus sp.
Pyrrogramma sp.
Mesembryanthemum sp.
Trifolium longipes
Tanacetum sp.
Chamaesyce sp.
Malvastrum parryi
Toxicodendron diversilobum
Sanicula bipinnata
Sanicula bipinnatifida
Capsella bursa-pastoris
Lepidium perfoliatum
Centaurea solstitialis
Hemizonia fitchii
Trifolium tridentatum
Arabis glabra
Heteromeles arbutifolia
Brodiaea laxa
Avena fatua
Achillea sp.

Table 2 (continued)

Severely Disturbed Non-Native Grassland with Freshwater Scape

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

6012

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

Wild carrot	<i>Daucus carota</i>
Wild oats	<i>Avena fatua</i>
Wild radish	<i>Raphanus sativus</i>
Wild rye	<i>Lolium sp.</i>
Willows	<i>Salix sp.</i>

Table 2 (continued)

Walnut Creek Drainage - Disturbed Riparian

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

Table 2 (continued)

Grayson Creek Drainage - Disturbed Riparian

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

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

333
333

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.

331
332

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)