

MINUTE ITEM

This Calendar Item No. 08  
was approved as Minute Item  
No. 8 by the State Lands  
Commission by a vote of 3  
to 0 at its 9/25/86  
meeting.

CALENDAR ITEM

C 08 1

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09/25/86  
W 22207 PRC 1951  
Poe

TERMINATION OF LIFE OF STRUCTURE PERMIT PRC 1951 AND  
ISSUANCE OF A GENERAL PERMIT - PUBLIC AGENCY USE

APPLICANT: City of Santa Cruz  
809 Center Street  
Santa Cruz, California 95060

AREA, TYPE LAND AND LOCATION:  
A 12.357+-acre parcel of tide and submerged  
land, located in the Pacific Ocean at  
Santa Cruz, Santa Cruz County.

LAND USE: Construction of a new 72-inch diameter ocean  
outfall line and related facilities for  
disposal of treated wastewater and maintenance  
of an existing 36-inch outfall line.

TERMS OF PROPOSED PERMIT:  
Initial period: 25 years beginning  
September 1, 1986.

CONSIDERATION: The public health and safety; with the State  
reserving the right at any time to set a  
monetary rental if the Commission finds such  
action to be in the State's best interest.

BASIS FOR CONSIDERATION:  
Pursuant to 2 Cal. Adm. Code 2003.

APPLICANT STATUS:  
Applicant is owner of upland.

PREREQUISITE CONDITIONS, FEES AND EXPENSES:  
Filing fee and processing costs have been  
received.

CALENDAR ITEM NO. 008 (CONT'D)

STATUTORY AND OTHER REFERENCES:

- A. P.R.C.: Div. 6, Parts 1 and 2; Div. 13.
- B. Cal. Adm. Code: Title 2, Div. 3; Title 14, Div. 6.

AB 884: N/A.

OTHER PERTINENT INFORMATION:

1. The City of Santa Cruz is required by the State Water Resources Control Board to modernize its wastewater treatment facilities to comply with modern day dilution requirements, as well as be better prepared to satisfy projected wastewater treatment demand.
2. As part of this major modernization project, the City proposes to replace an existing inefficient 36-inch diameter - 2,200-foot ocean outfall line, with the planned 72-inch diameter 12,250-foot outfall line. The existing pipeline will be abandoned in place, where its rock-covered exterior serves as an artificial reef for marine habitat. It is covered by permit PRC 1951, which is being terminated, and is being incorporated into the proposed permit.
3. A joint EIS/EIR was prepared and circulated for review by the United States Environmental Protection Agency and the City of Santa Cruz (SCH #79070310). The State Lands Commission staff has reviewed such document and believes that it complies with the requirement of the CEQA. It has also been determined, based on such review, that there are no significant environmental impacts associated with that portion of the project affected by the action of the Commission proposed herein.
4. Construction is scheduled for January 1987, and depending upon weather, should be completed by September, 1988.

CALENDAR ITEM NO 08 (CONT'D)

5. The annual rental value of the site is estimated to be \$39,463.
6. This activity involves lands identified as possessing significant environmental values pursuant to P.R.C. 6370, et seq. but will not affect those significant lands.

FURTHER APPROVALS REQUIRED:

United States Army Corps of Engineers (pending),  
Coastal Commission (pending), California  
Department of Fish and Game (blasting permit),  
and Regional Water Quality Control Board  
(pending).

EXHIBITS:

- A. Land Description.
- B. Location Map.
- C. Project Report Summary

IT IS RECOMMENDED THAT THE COMMISSION:

1. FIND THAT AN EIR WAS PREPARED AND ADOPTED FOR THIS PROJECT BY THE UNITED STATES ENVIRONMENTAL PROTECTION AGENCY AND THE CITY OF SANTA CRUZ AND THAT THE COMMISSION HAS REVIEWED AND CONSIDERED THE INFORMATION CONTAINED THEREIN.
2. DETERMINE THAT THE PROJECT, AS APPROVED, WILL NOT HAVE A SIGNIFICANT EFFECT ON THE ENVIRONMENT.
3. FIND THAT THIS ACTIVITY WILL INVOLVE LANDS IDENTIFIED AS POSSESSING SIGNIFICANT ENVIRONMENTAL VALUES PURSUANT TO P.R.C. 6370, ET SEQ., BUT THAT SUCH ACTIVITY WILL HAVE NO DIRECT OR INDIRECT EFFECT ON SUCH LANDS.
4. AUTHORIZE TERMINATION OF LIFE OF STRUCTURE PERMIT P.R.C. 1951.
5. AUTHORIZE ISSUANCE TO CITY OF SANTA CRUZ OF A 25-YEAR GENERAL PERMIT - PUBLIC AGENCY USE BEGINNING SEPTEMBER 1, 1986; IN CONSIDERATION OF THE PUBLIC HEALTH AND SAFETY, WITH THE STATE RESERVING THE RIGHT AT ANY TIME TO SET A MONETARY RENTAL IF THE COMMISSION FINDS SUCH ACTION TO BE IN THE STATE'S BEST INTEREST; FOR CONSTRUCTION AND MAINTENANCE OF A 72" DIAMETER SEWAGE OUTFALL LINE, AND MAINTENANCE OF AN EXISTING 36" DIAMETER SEWAGE OUTFALL LINE ON THE LAND DESCRIBED ON EXHIBIT "A" ATTACHED AND BY REFERENCE MADE A PART HEREOF.

EXHIBIT "A"

LAND DESCRIPTION

W 22207

Two parcels of tide and submerged land in Monterey Bay, Santa Cruz County, California, described as follows:

PARCEL 1 - 72" Outfall Line

A strip of tide and submerged land 40 feet wide, the centerline of which is described as follows:

BEGINNING at a point having California Coordinate System, Zone 3 coordinates of N=168616.99 and E=1549856.68; thence S 80° 29' 29" W, 1343.1 feet; thence along a tangent curve concave to the northwest and having a radius of 1500 feet a distance of 1430.41 feet; thence tangent to said curve S 63° 07' 45" W 9339.00 feet to the end of the herein described line.

PARCEL 2 - 36" Outfall Line

A strip of tide and submerged land 30 feet wide, the centerline of which is described as follows:

BEGINNING at a point have California Coordinate System, Zone 3 coordinates of N=168616.99 and E=1549867.18; thence S 20° 19' 18" E 2200 feet to the end of the herein described line.

EXCEPTING THEREFROM any portion thereof lying within above described Parcel 1.

EXCEPTING from above described Parcels 1 and 2 any portion lying within the Grant to the City of Santa Cruz, Chapter 342, Statutes of 1872.

ALSO EXCEPTING from the above described Parcels 1 and 2 any portion lying landward of the ordinary high water mark of Monterey Bay.

This description is based on the California Coordinate System, Zone 3.

END OF DESCRIPTION

PREPARED JULY 31, 1986 BY BOUNDARY SERVICES UNIT, M. L. SHAFER, SUPERVISOR

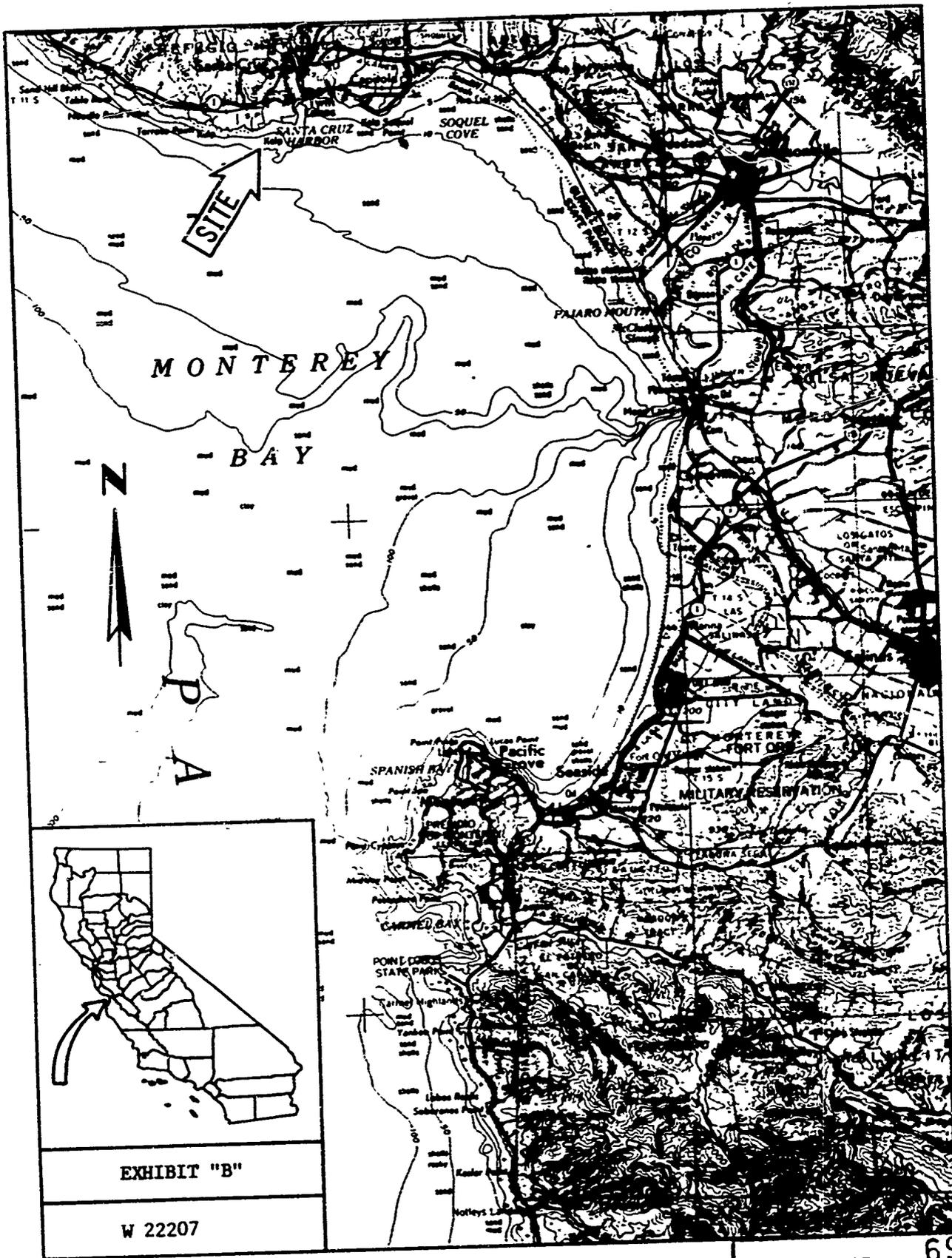


EXHIBIT "B"

W 22207

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EXHIBIT "C"  
REPORT SUMMARY

W 22207

Purpose and Objectives of the Project

The Santa Cruz Facilities Plan is being prepared to improve water quality in the near-shore waters of the Pacific Ocean by improving *wastewater*<sup>4</sup> treatment and disposal services to residents in the Santa Cruz-Capitola-Aptos region of Santa Cruz County, California. This includes residents in the Cities of Santa Cruz, Scotts Valley, and Capitola and the unincorporated communities of East Cliff, Soquel, Aptos, Rio Del Mar and La Selva Beach. The major objective of this project is to eliminate public health hazards and water quality problems caused by the existing City of Santa Cruz wastewater discharge to the Pacific Ocean. This objective is to be accomplished by upgrading the treatment level to meet secondary treatment requirements and to construct a new deepwater ocean outfall. The new facilities must bring the City of Santa Cruz wastewater discharge into compliance with the treatment requirements of the Federal Water Pollution Control Act (FWPCA [PL 92-500] and its subsequent amendments [PL 95-217]) and the mandates of the city's National Pollutant Discharge Elimination System (NPDES) permit issued and enforced by the Regional Water Quality Control Board (RWQCB). In addition, the Plan seeks to supply the wastewater treatment capacity needed to accommodate anticipated growth in the area and at the same time analyze the potential for augmentation of the local water supply through *wastewater reclamation* and reuse. The reclamation study has included looking at ways of curtailing *groundwater* overdrafting in the lower Pajaro Valley, which has resulted in seawater intrusion in the Pajaro Valley *aquifers*.

The Facilities Plan Draft Environmental Impact Statement/Environmental Impact Report (EIS/EIR) is a required element of the City and County of Santa Cruz application for project funding under the joint federal-state financed Clean Water Grant Program. This program is administered by the California State Water Resources Control Board (SWRCB), but requires the approval of the U. S. Environmental Protection Agency (EPA). Under terms of this program, local facilities construction projects are eligible to receive up to 75 percent federal and 12 1/2 percent state grants for the planning, design and construction of *municipal wastewater* treatment systems. The minimum local share of the cost is therefore 12 1/2 percent. The EIS/EIR must identify the potential environmental impacts of implementing the proposed project and its viable alternative so that environmental as well as social and economic costs can be included in a *cost-effectiveness* analysis of the Plan.

\* *Italicized words are defined in the GLOSSARY.*

## Project Environmental Setting

The project study area includes a major portion of southern Santa Cruz County and a small portion of northern Monterey County, stretching from the City of Scotts Valley on the north to Elkhorn Slough on the south, and from Davenport on the west to near the Santa Cruz-Santa Clara County boundary on the east (Figure 1-1). This includes the coastal terraces along the Monterey Bay-Pacific Ocean shoreline, the fertile lower Pajaro Valley, and the rolling hills of the lower Santa Cruz Mountains.

The principal land uses in the area are: irrigated agriculture, urban, open space, recreation and a small amount of industrial on the coastal terraces; irrigated agriculture, urban and industrial in the lower Pajaro Valley; and scattered urban, recreation and open space in the lower Santa Cruz Mountains. The two major income producers in the study area are agriculture and tourism-recreation. Agricultural activity is concentrated in the Pajaro Valley, but the nonurbanized coastal terraces from Elkhorn Slough to Davenport also support important irrigated cropland. The principal crops of the study area are lettuce, apples, brussels sprouts, strawberries, bushberries and nursery crops. The Santa Cruz-Capitola area and much of the study area coastline contain popular recreational destinations that make tourism a major part of the county's economy.

The major surface waters in the study area are the Pacific Ocean (including Monterey Bay), the San Lorenzo and Pajaro Rivers, Aptos and Soquel Creek, and Watsonville Slough. The ocean supports a diversity of marine life that in turn provides commercial, recreational and educational benefits of both local and statewide significance. The coastal streams at one time supported large runs of steelhead and salmon, but urban and agricultural diversions and the erosion and sedimentation that has followed development within the drainages has nearly eliminated the *anadromous* fisheries. Urban and agricultural runoff seriously degrades the quality of most surface streams in the area.

There are currently three major domestic wastewater discharges to the area's surface waters. All three discharge wastewater to the Pacific Ocean; two (Aptos and Watsonville) are within the confines of Monterey Bay, while the third (Santa Cruz) is just outside the northernmost lip of the Bay. Circulation in the Bay is sluggish and the existing near-shore outfalls do not provide adequate dilution as discharged into the Bay, which results in adverse water quality and public health impacts. The existing discharges do not meet the RWQCB discharge requirements for treatment and disposal of wastewater treatment plant effluent. The Aptos discharge is in the process of being eliminated and facilities planning efforts are currently underway to improve the Watsonville and Santa Cruz treatment and disposal systems.

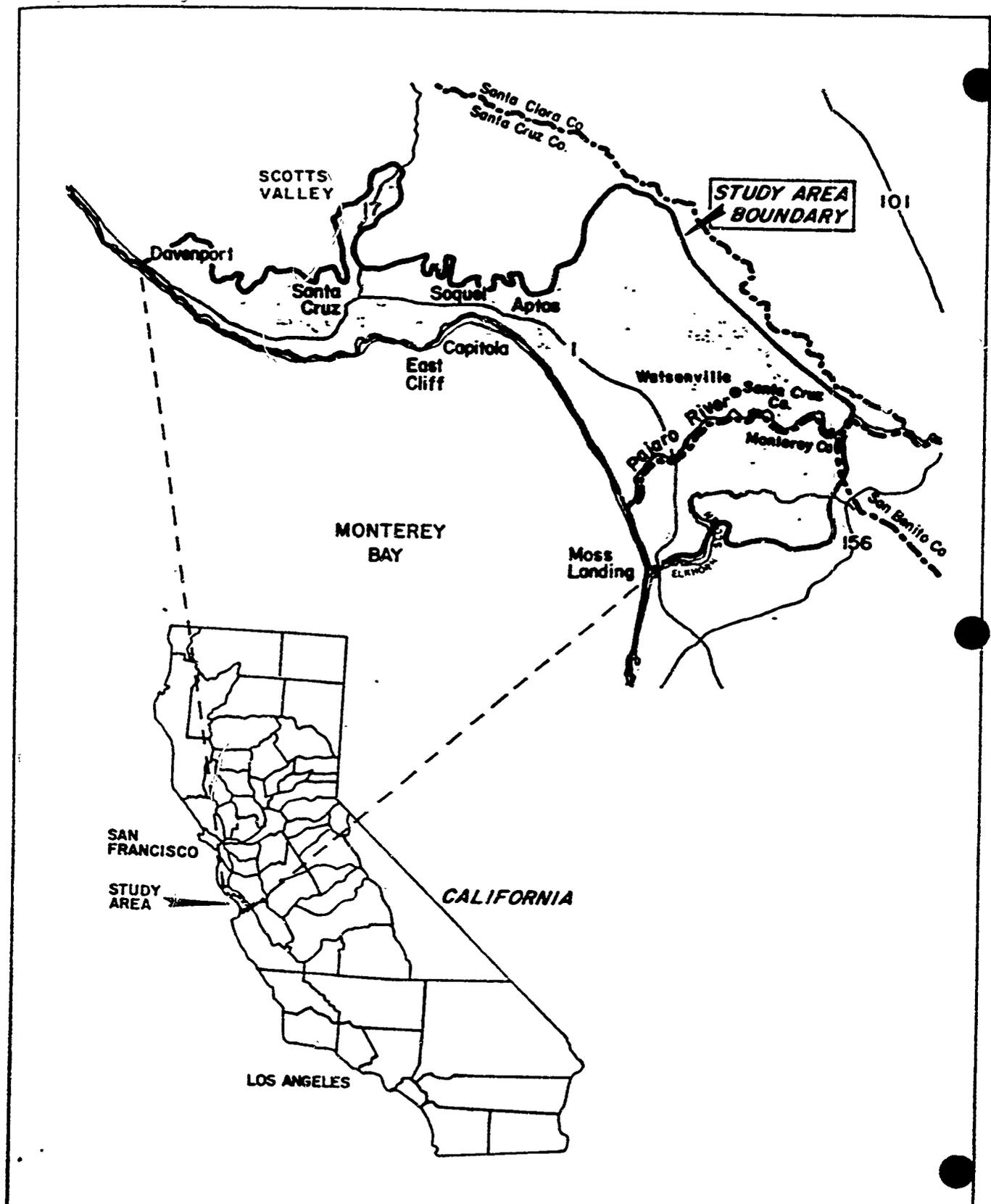


FIGURE 1-1 LOCATION OF STUDY AREA

Population information compiled by Gruen Gruen + Associates as part of this facilities planning effort estimated that there were 106,913 permanent and 44,220 nonpermanent residents in the project study area in 1976. An additional 6,077 University of California, Santa Cruz students and dependents were in the study area during the school year (see Figure 1-2 for study area boundary). The Santa Cruz facilities are not being designed to serve everyone within the study area. The City of Scotts Valley is being and will continue to be served by its own wastewater treatment facilities. It was included in the study area so that disposal of its wastewater through the Santa Cruz ocean outfall could be considered. Also, the two reclamation areas that are within the study area were considered only for their potential as wastewater reuse sites. The proposed service area for the Santa Cruz wastewater treatment facilities (Figure 1-2) includes the Cities of Santa Cruz and Capitola; the unincorporated communities of East Cliff, Soquel, Aptos, Rio Del Mar and La Selva Beach; and the Pasatiempo-Rolling Woods area. The 1976 population within the proposed service area was estimated to be 130,611.

Gruen Gruen + Associates also prepared 1989 and 1999 population forecasts for the study area and its subparts. The 1989 study area population was forecast to be 214,420. Brown and Caldwell utilized these forecasts as a basis for sizing project facilities for the proposed service area. Facilities are being planned to accommodate the flows from a 1989 service area population of 118,040. This includes only the permanent and student populations expected in the area. The gallons per capita per day (gpcd) flow rate used by Brown and Caldwell to determine hydraulic capacities includes an increment for nonpermanent population; therefore, the nonpermanent population increment is not used in the capacity calculation. In reality, the facilities will be able to accommodate flows from the expected total service area population of 175,520, which includes 57,480 nonpermanent residents. The 175,520 persons is an increase of 44,909 within the service area between 1976 and 1989.

The SWRCB, which allocates state funds for new wastewater treatment facilities based on its own determination of service area and future population, has tentatively set the maximum fundable service area population at 128,515. This does not include a nonpermanent population increment.

Because the 1989 permanent and student population basis for facilities design (118,040) is less than the maximum fundable estimate of the SWRCB (128,515), the funding limit will be set at the lower design population level.

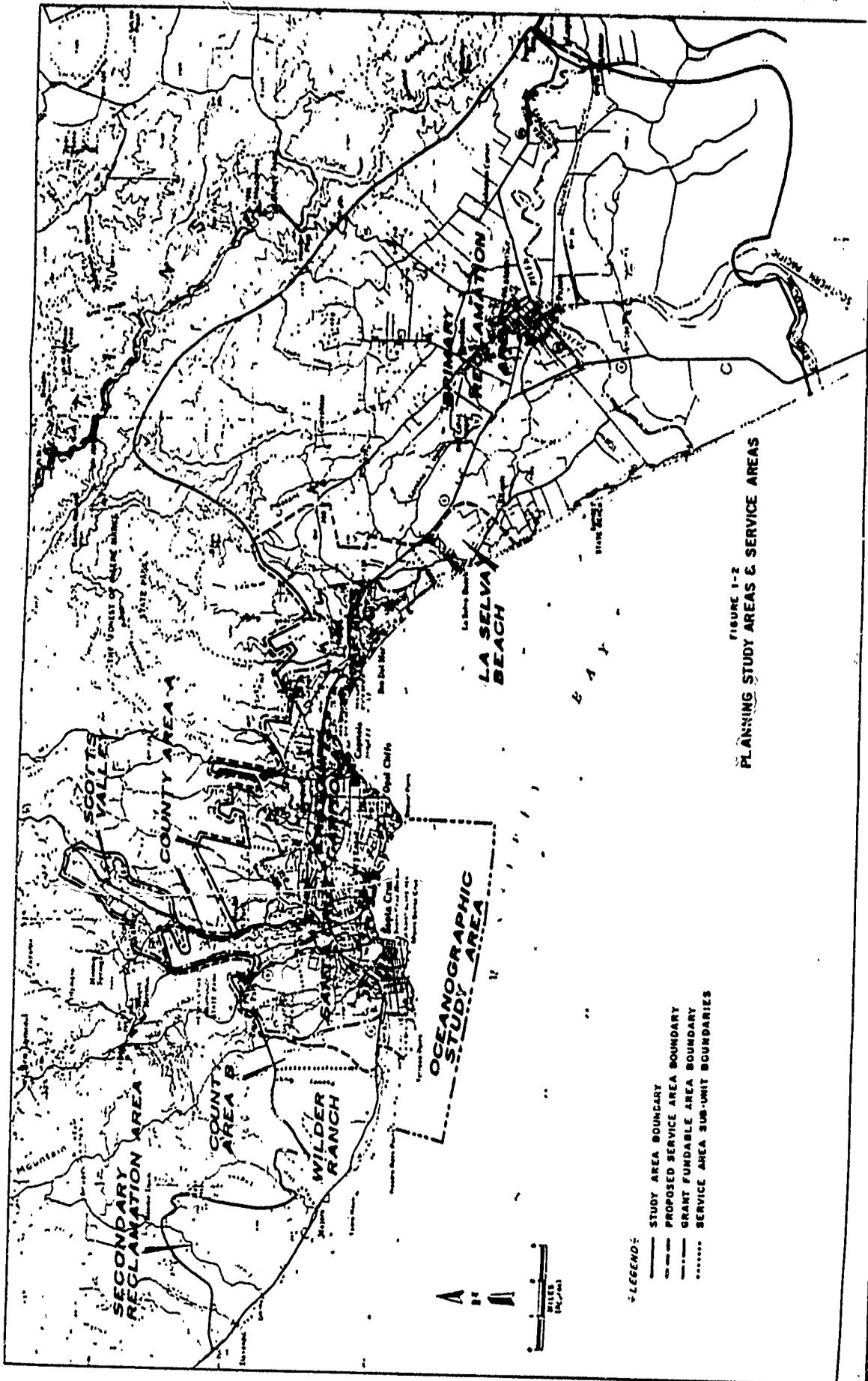


FIGURE 1-2  
PLANNING STUDY AREAS & SERVICE AREAS

### Legal, Regulatory and Institutional Constraints

Development of new wastewater facilities is affected by a variety of government agencies and their legal and regulatory mandates. Chief among these are pollution control mandates of the FWPCA and the California Porter-Cologne Act. The requirements of these acts are being implemented by the EPA and the SWRCB. In order to meet the requirements and receive federal-state funding for new facilities, the City and County of Santa Cruz must develop a plan that conforms to the objectives established in the Water Quality Control Plan - Central Coastal Basin. The major recommendations of this "Basin Plan", with regard to the Santa Cruz plant, call for extension of the ocean outfall to meet State Ocean Plan standards and improvement in treatment from *primary* to *secondary*.

Waste discharge requirements issued by the RWQCB and the planning policies of the City and County of Santa Cruz and the California Coastal Zone Conservation Commission are also major influences on development of the Facilities Plan.

### Project Alternatives

Four major project alternatives (OD<sub>1</sub>, OD<sub>AB</sub>, OD/RE<sub>5</sub>, and OD/RE<sub>7</sub>) and two "no-project" alternatives are described and analyzed in detail in this EIS/EIR. The alternatives were selected from an original list of 23 prepared by Brown and Caldwell after months of identifying engineering and environmental issues that were pertinent to wastewater treatment and disposal in the Santa Cruz area. The alternative evaluation process included engineering, economic and environmental analyses; the rationale for elimination of alternatives was presented to the project's Board of Control (BOC) and Interagency Advisory Committee (IAC), which is comprised of public agency and local political representatives and project consultants. The Board of Control authorized proceeding with the in-depth analyses of the six final alternatives (including the two no-action alternatives).

In the course of developing alternatives, the project engineers suggested that an option providing only advanced primary treatment should be seriously considered. This was in anticipation of proposed legislation that would relax the *federal secondary treatment requirement* for ocean disposal. The recommendation was accepted by the project Board of Control, but because existing federal regulations would not permit federal funding of projects with less than secondary treatment, detailed consideration of advanced primary treatment as a viable option was dropped. Subsequently, in December 1977,

the FWPCA was amended to provide, in certain circumstances, temporary waiver of the secondary treatment requirement. This change occurred after the bulk of the work on this EIS/EIR had been completed. Due to this and the fact that regulations defining and implementing the law change were not available until just recently, it was decided to complete and publish the Draft EIS/EIR without an analysis of an advanced primary treatment and ocean disposal alternative. The provision for modification of the secondary treatment requirement is temporary. By 1983 the Santa Cruz wastewater treatment plant must provide the best practicable waste treatment technology (BPWTT). BPWTT is defined as secondary treatment.

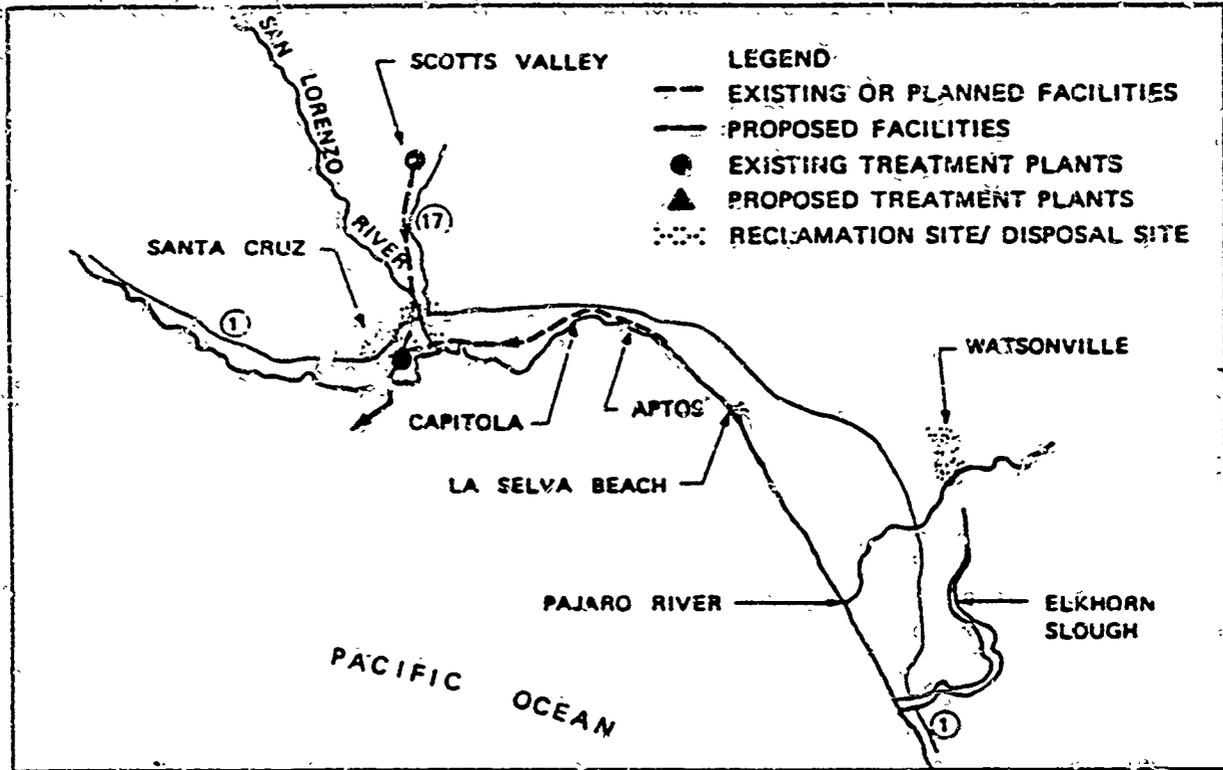
In the interim, the project engineers recommended that an application for modification of the secondary treatment requirement be applied for and that no decision be made on the appropriate level of treatment for new facilities until EPA acts upon that application.

All of the alternatives considered in detail in this report maintain an ocean discharge from the Santa Cruz treatment plant and all (except no-project) upgrade treatment to at least a secondary level. Two of the six propose wastewater reclamation and reuse while four do not. Scotts Valley effluent is kept separate from Santa Cruz, except for disposal, in each alternative. The treatment level and disposal/reuse plans of the four action alternatives and the two no-project alternatives are as follows:

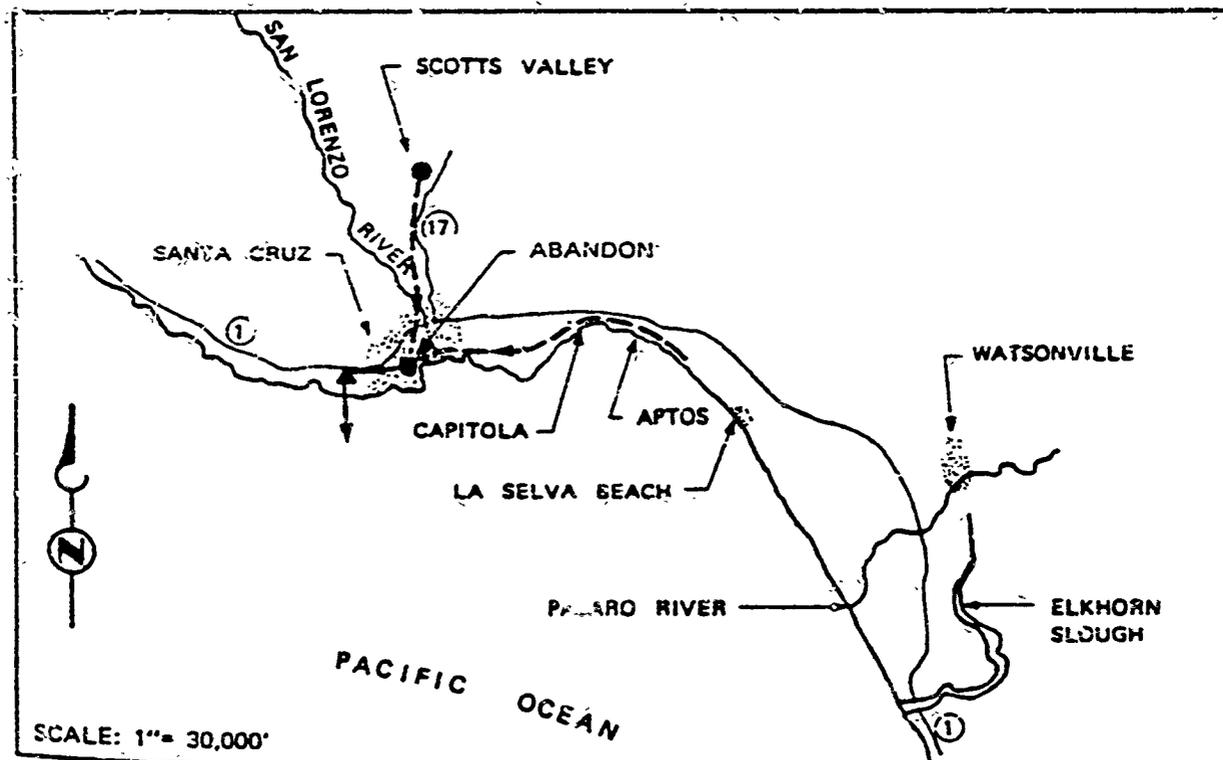
Alternative OD<sub>1</sub>-Secondary treatment of Santa Cruz service area wastewater at the Nearys Lagoon plant site and year round discharge through ~~an extended outfall to the Pacific Ocean~~. Scotts Valley and Watsonville maintain independent treatment facilities, but Scotts Valley secondary effluent is seasonally discharged to the ocean through the Santa Cruz outfall (Figure 1-3). This alternative includes two suboptions: OD<sub>1A</sub> - oxygen-activated sludge secondary treatment process; and OD<sub>1B</sub> - air-activated sludge secondary treatment process.

Alternative OD<sub>4B</sub>-Secondary treatment of Santa Cruz service area wastewater at a new plant site (West site) west of the City of Santa Cruz and ~~year-round discharge through a new deep water outfall to the Pacific Ocean~~. The Nearys Lagoon plant would be abandoned and a raw wastewater pump station erected in its place (Figure 1-3). Scotts Valley and Watsonville systems would be as described in OD<sub>1</sub>.

FIGURE 1-3



ALTERNATIVE OD<sub>1</sub> (TOTAL OCEAN DISPOSAL)



ALTERNATIVE OD<sub>4B</sub> (TREATMENT PLANT RELOCATION WITH TOTAL OCEAN DISPOSAL)

Alternative OD/RE<sub>5</sub>-Secondary treatment of Santa Cruz service area wastewater at the Nearys Lagoon plant site and seasonal (nonirrigation season) ~~discharge through an extended outfall to the Pacific Ocean.~~ An advanced waste treatment facility would be constructed west of Watsonville, and during the irrigation season Santa Cruz secondary effluent would be piped to this facility for further treatment. The *reclaimed wastewater* would be used for crop irrigation in the lower Pajaro Valley (Figure 1-4). This alternative also includes two suboptions: OD/RE<sub>5A</sub> - only Santa Cruz service area wastewater is reclaimed for irrigation reuse; OD/RE<sub>5B</sub> - both Santa Cruz and Watsonville service area wastewater is reclaimed for irrigation reuse. Scotts Valley proceeds as described for Alternative OD<sub>1</sub>.

Alternative OD/RE<sub>7</sub>-Secondary treatment of Santa Cruz service area wastewater at either the Nearys Lagoon or West plant site and ~~year-round discharge through a deep water outfall to the Pacific Ocean.~~ Advanced waste treatment facilities would be added to the Watsonville plant site and the Watsonville service area's wastewater would be treated beyond the secondary level for injection into the Pajaro Valley subsurface aquifers along the Pajaro Valley coastline (Figure 1-4). This injected fresh water would act as a barrier to further seawater intrusion into the valley's usable groundwater supplies. Water injected near the coast would be extracted by another row of wells farther inland and discharged to either the Watsonville ocean outfall or the lower Pajaro River. Scotts Valley would proceed as described for Alternative OD<sub>1</sub>.

Alternative NP<sub>1</sub>-The only modification to the existing Santa Cruz wastewater treatment system is improvement in plant operation and increased chemical dosages in the advanced primary treatment process. Watsonville and Scotts Valley remain separate from the Santa Cruz treatment system.

Alternative NP<sub>2</sub>-As with NP<sub>1</sub>, Santa Cruz operational procedures are improved. ~~The Santa Cruz ocean outfall is extended to greater depths as proposed in Alternative OD<sub>1</sub>.~~

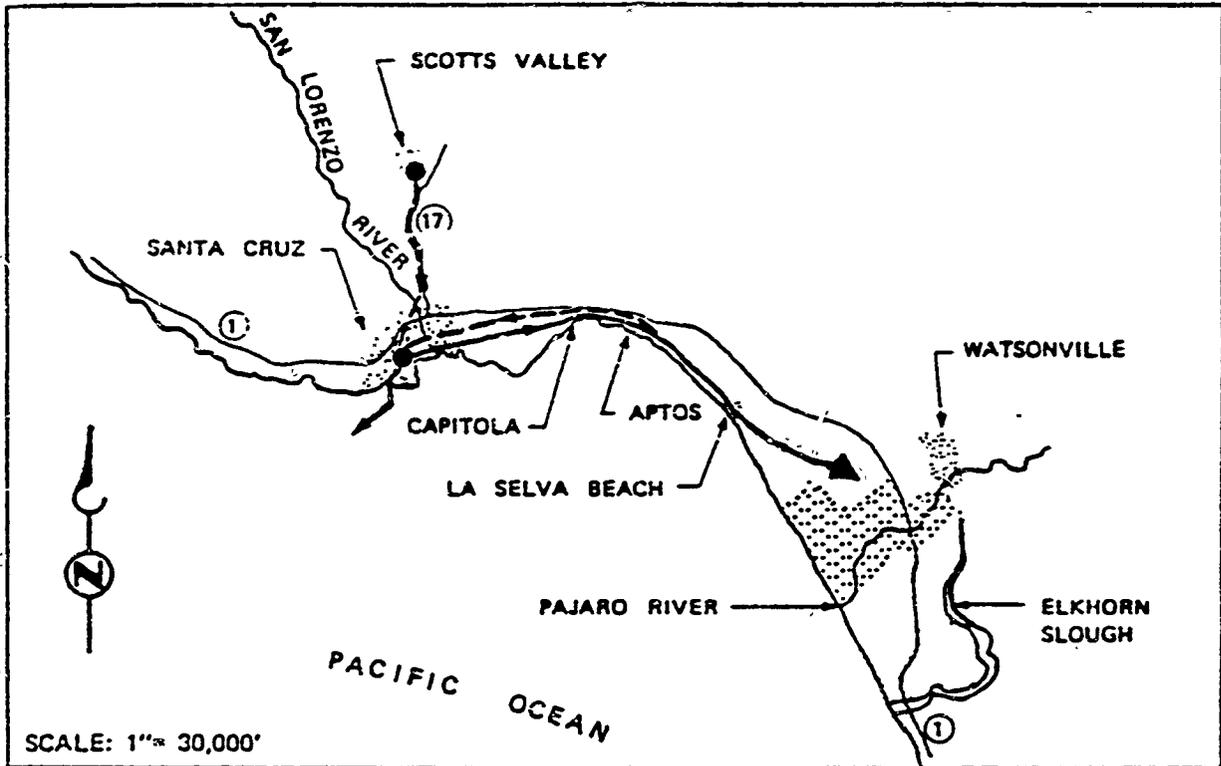
### Impacts

#### Construction

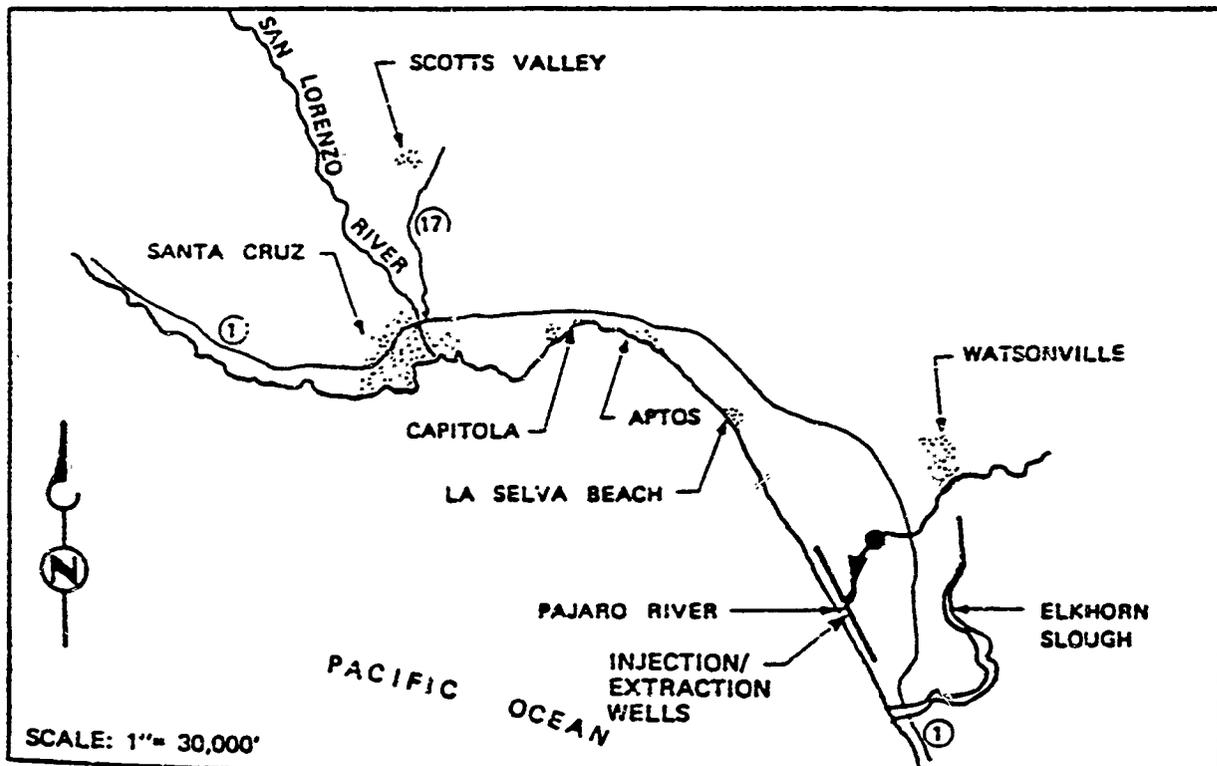
Construction impacts result from the laying of *interceptors* and outfalls and building of new treatment facilities. Many of the impacts are *short-term* (nuisance noise, dust and traffic

(for legend, see Figure 1-3)

FIGURE 1-4



OD/RE<sub>5</sub> (SEASONAL RECLAMATION FOR ALL MUNICIPALITIES)



OD/RE<sub>7</sub> (SALT WATER INTRUSION BARRIER WITH WATSONVILLE EFFLUENT)

SOURCE: BROWN & CALDWELL, 1977b

NOTE: SANTA CRUZ FACILITIES NOT SHOWN.

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congestion), while others have a long-term effect on the environment (conversion of land uses, removal of vegetation and wildlife habitat, obligation of local financial resources). The major construction impacts specific to individual alternatives are as follows:

Alternative OD<sub>1</sub>-Removal of 3.5 to 5.5 acres of valuable marsh vegetation in Nearys Lagoon for expansion of treatment facilities; excavation and emplacement of an ocean outfall along 8,800 to 10,700 linear feet of sandy bottom marine habitat in the Pacific Ocean.

Alternative OD<sub>4B</sub>-Removal of 17 acres of valuable agricultural land immediately west of the City of Santa Cruz for construction of treatment facilities, demolition of the existing Nearys Lagoon treatment plant. Excavation and implacement of an ocean outfall along 5,000 to 8,500 linear feet of sandy and discontinuous rocky bottom marine habitat. Stimulus to increased cliff erosion along coastal bluffs immediately west of Terrace Point (Figure 1-2). Disturbance to one potential archeological site near the bluff west of Terrace Point.

Alternative OD/RE<sub>5</sub>-Impacts identical to Alternative OD<sub>1</sub>; in addition, removal of 45 acres of valuable agricultural land west of Watsonville for construction of advanced waste treatment facilities. Dense *riparian* vegetation would be lost through pipeline construction across Arana Gulch, Schwanns Lagoon, Rodeo Creek and Soquel Creek. Pipeline construction through the endangered Santa Cruz long-toed salamander habitat could be adverse if not properly controlled. Possible disturbance of three archeological sites along the interceptor to the Pajaro Valley and one site on the irrigation distribution system.

Alternative OD/RE<sub>7</sub>-Impacts identical to either OD<sub>1</sub> or OD<sub>4B</sub>; in addition, removal of 14 acres of valuable agricultural land in the Pajaro Valley for construction of treatment facilities. Construction of the injection well system could remove riparian wildlife habitat along Watsonville Slough and the lower Pajaro River, it could also disrupt three known and two potential archeological sites just inland from the coast.

Alternatives NP<sub>1</sub> and NP<sub>2</sub>-NP<sub>1</sub> would have no significant construction impacts; NP<sub>2</sub> would remove sandy bottom marine habitat during outfall construction as described for Alternative OD<sub>1</sub>.

## Operation

Impacts from operation of the four action alternatives can be divided into social, economic and physical environment elements. The social impacts of the four are similar. Each would supply wastewater service to the same area and population, thereby influencing growth in a similar manner. Alternatives OD/RE<sub>5</sub> and OD/RE<sub>7</sub> would satisfy the public's desire (as expressed through the project's Board of Control meetings and public workshop) to reuse the wastewater to ease Pajaro Valley water supply problems. Alternative OD/RE<sub>5</sub> would supply up to 16,700 acre-feet of wastewater per year for crop irrigation by 1999. Alternative OD/RE<sub>7</sub> would produce considerably less wastewater for injection into the groundwater - 12,200 acre-feet per year by 1999.

The differences in the economic impact of the project alternatives are reflected in the construction and operation and maintenance costs presented in Table 1-1. The cost to each household or business served by the new system would fluctuate according to the differences in these costs. A detailed financing and revenue plan has been prepared for Alternatives OD<sub>1</sub> and OD<sub>4B</sub>; the initial calculations indicate the wastewater systems would require about \$7.25 and \$7.75 per month, respectively in user charges for single family dwellings (in the City of Santa Cruz). Costs for commercial and industrial establishments would fluctuate according to size and water use, but would be considerably greater than existing costs. User costs for the other project alternatives would vary with the relative difference in construction and operation costs expressed in Table 1-1. Several of the local industries that pay the city for wastewater service have indicated that their new service charges under the secondary and tertiary treatment options are so high they may choose to close their plants. This would cost the area hundreds of jobs.

The impacts to the natural or physical environment vary considerably from one alternative to the next, but each (except NP<sub>1</sub>) would solve the major public health and water quality problems associated with the existing Santa Cruz wastewater discharge. The discharge would be relocated farther offshore and at a greater depth where new public health problems are not likely to develop. Heavy metals content in sediments in the vicinity of the new outfall terminus may increase slightly over time. The differences in the chronic and acute toxic effects of the various proposed discharges (including NP<sub>2</sub>) are not expected to be great; few if any effects on marine biota are expected to be detectable due to high levels of dilution provided by diffuser design and existing ocean current conditions. The pre-discharge oceanographic survey required in the vicinity of the new outfall by the SWRCB is designed to provide a good baseline of information by which to judge changes in the natural environment created by the new discharge.

Table 1-1

ESTIMATED COST OF ALTERNATIVES  
(millions of dollars)

	Capital Cost*	Operation and Maintenance Cost**	Total Present Worth
Alternative OD <sub>1</sub>			
1A option	36.60	10.03	44.29
1B option	38.12	10.28	46.06
Alternative OD <sub>4B</sub>	52.40	10.91	59.79
Alternative OD/RE <sub>5</sub>			
5A option	94.61	20.51	108.68
5B option	119.00	23.93	135.75
Alternative OD/RE <sub>7</sub>	59.89	33.71	90.62
Alternative NP <sub>1</sub>	.51	7.06-12.21***	8.37-12.74***
Alternative NP <sub>2</sub>	15.63	8.37	24.00

\* All totals include cost of constructing an outfall except NP<sub>1</sub> (outfall costs vary from \$6.45 to \$10.05 million).

\*\* Total costs from 1979 through 1989.

\*\*\* Range given due to range in chemical requirements being considered.

SOURCE: Brown and Caldwell, pers. comm. (pers. comm. is used throughout the document to refer to data received through personal communications, either written or verbal). Individuals contributing through personal communication are listed in the AGENCIES, INSTITUTIONS AND INDIVIDUALS CONSULTED IN PREPARATION OF THE DRAFT EIS/EIR section at the back of the report.

The two reclamation alternatives have the potential for creating new water quality problems in their respective reuse areas. Alternative OD/RE<sub>5</sub> could add additional salts and nutrients to ground and surface waters in the proposed irrigation area if the irrigation operation is not properly managed. The reclaimed water total dissolved solids (TDS) content is higher than in some of the local groundwater supplies currently being used for irrigation and lower than in others. Nutrient content (nitrogen and phosphorus) will be definitely higher in the reclaimed water. If wastewater application rates exceed the capacity of soils and plants to absorb these added constituents, they may pass into underground water supplies or flow into surface drainage ditches and subsequently to Watsonville Slough or the lower Pajaro River. Increased nutrients would aggravate already undesirable water quality conditions in these surface waters caused by agricultural and urban runoff. The Alternative OD/RE<sub>7</sub> groundwater injection reuse scheme will introduce highly treated wastewater into the Pajaro Valley groundwater basin. If the proposed extraction well system does not function properly, this wastewater could infiltrate the heavily-used inland portions of the underground basin. Despite these potential new water-related problems, the reuse aspect of OD/RE<sub>5</sub> and OD/RE<sub>7</sub> is a significant environmental benefit to the overdrafted Pajaro Valley groundwater basin.

Alternatives OD<sub>1</sub> and OD/RE<sub>5</sub> would have a long-term adverse affect on the wildlife and recreational resources of Nearys Lagoon. Not only would a significant acreage of valuable coastal wetland habitat be lost through construction, the further encroachment into the lagoon will lessen the value of the remaining habitat and parkland. Treatment plant activities will be brought into closer proximity to open water and riparian areas that support a diversity of bird, mammal and amphibian species. City of Santa Cruz plans for park development would probably have to be modified.

red. All of the alternatives (except no-project) would have a significant impact on land uses. Some of the implications of OD<sub>1</sub> and OD/RE<sub>5</sub> are mentioned above. In addition, the Nearys Lagoon plant would continue to influence adjacent residential land uses. Visual and occasional odor problems have been associated with plant operation in the past; these may continue in spite of operation and equipment improvements. Three of the proposed new treatment plants will displace agricultural land uses (OD<sub>4B</sub>, OD/RE<sub>5</sub> tertiary plant site, and OD/RE<sub>7</sub> Watsonville plant expansion). Once these plants are put into operation their impact on existing and planned adjacent land uses should be minimal. The long-term use of wastewater for crop irrigation proposed in OD/RE<sub>5</sub> could adversely affect the viability of soils in the Pajaro Valley and require costly changes in farming practices. Crop marketability could also be adversely affected. In contrast, the new water source

could prolong the viability of farming in areas that are currently facing a rapid deterioration in the quality of existing groundwater supplies. The nutrients in the wastewater could also have some value as a source of fertilizer. These potential impacts on agricultural land use are not completely predictable with present information. A pilot wastewater irrigation project being conducted in the Salinas Valley by the Monterey Peninsula Water Pollution Control Agency is studying these same problems. The progress of this study should be closely followed so that the potential problems with wastewater irrigation can be anticipated and avoided in Santa Cruz County.

The no-project alternatives have relatively minor operational impacts except high operation and maintenance costs (see table presented earlier). Also, neither of these alternatives complies with the PL 92-500 (Federal Water Pollution Control Act) secondary treatment requirement. However, as mentioned earlier, a recent amendment to PL 92-500 allows ocean dischargers to apply for modification of this secondary treatment requirement.

#### Secondary Impacts of Growth

Each of the proposed regional alternatives (except no-project) would have essentially the same indirect or secondary impact on the study area (with several exceptions mentioned below). The effects or impacts are related primarily to the level and location of population growth the new wastewater facilities could support. Typical effects associated with growth include deterioration of air quality, conversion of agricultural land, increased pressure on public facilities and cultural resources, and loss of open space and wildlife habitat. Wastewater facilities normally do not independently stimulate growth; there are a variety of services and economic conditions that must exist before new development can occur in a given region. New facilities can, however, remove an existing impediment to growth and play a major role in determining the location of growth.

The new wastewater facilities have been designed to accommodate the flows from a 1989 population of 175,520. (The actual number used by Brown and Caldwell was 118,040, as they use only permanent and student populations to calculate expected flows; however, this calculation includes an increment to accommodate an expected 57,480 nonpermanent residents. Therefore, the total population number is 175,520.) This anticipated service area population compares to an anticipated 1989

facilities plan study area total of 214,420. The service area total is smaller than the study area total because Scotts Valley, County Area B, Wilder Ranch, and the two reclamation areas will not be serviced by the new treatment facilities. A 10-year growth increment is used to size the treatment plant because this is the maximum planning period for which federal and state grants are available. Interceptors and outfall can receive grant funds for a 20-year growth increment. The 20-year service area population used by Brown and Caldwell to size these conveyance and disposal facilities was 221,870 (151,130 in actuality, but 221,870 when the nonpermanent total of 70,740 is included). The study area population in 1999 is expected to be about 275,000. The 1976 service area population was estimated at 130,611 by Gruen Gruen + Associates (includes permanent, nonpermanent and UCSC students). Therefore, the new wastewater facilities will accommodate a 10-year population increase of 44,909 and a 20-year increase of 91,259.

The effects this growth might have on the local environment depends primarily on the location and type of new development. An analysis of existing local plans indicates the major urban acreage increases will occur in the Santa Cruz, East Cliff/Capitola and Aptos service areas. Smaller increases will occur in La Selva Beach and County Area A (Figure 1-2). Some of this urban expansion will be from infilling, but fringe development could occur west of Santa Cruz and on the northern edge of the East Cliff-Capitola-Aptos urban area. Alternative OD4B, which relocates the Santa Cruz plant to the west side of town, would increase pressure for development in that area, as its growth is currently constrained by a lack of capacity in sewer lines to the Nearys Lagoon plant downtown. Open lands between Aptos and La Selva could also be developed. The land use changes would be the most obvious impact of the growth. Valuable agricultural land west of Santa Cruz and in the La Selva Beach area may be lost to residential-commercial use, as could open space and wooded areas north of the existing Santa Cruz-Aptos urban corridor. Provision of the usual public services (i.e., schools, roads, police and fire protection) would also be required, placing additional responsibilities and costs on local government.

An increase in local water demand is one of the more significant secondary impacts of the anticipated service area growth. The drought of 1975 to 1977 greatly depleted existing surface and groundwater supplies. Existing water demand already utilizes about 15,860 acre-feet of a total developed water supply of 25,050. This annual supply assumes normal rainfall replenishment. The 10-year anticipated service area growth

would increase water demand by 7,042 acre-feet in 1989. By 1999 an additional 7,268 acre-feet would be needed. This exceeds currently developed normal rain year water supplies by over 5,000 acre-feet. New sources of water will obviously be needed to supply the populations anticipated within the project service area. Agricultural reuse of wastewater as proposed in OD/RE5 and OD/RE7 will not mitigate the increase in service area water demand, but it could benefit water supplies in the lower Pajaro Valley.

Increases in urban land also affect local water quality conditions by increasing *nonpoint sources* of pollution. Urban runoff is typically high in metallic compounds, biostimulants, oil and grease, and *biochemical oxygen demand* (BOD). Erosion associated with construction activity adds to siltation of surface waters. The increase in amount of *impermeable* ground surface (pavement, structures) adds to the volume of surface runoff and decreases groundwater recharge from precipitation.

The principal potential impacts of growth on vegetation and wildlife include removal of vegetation, loss of habitat and increased human activity in or near natural areas. The riparian vegetation strips that border service area streams and the coastal wetlands both within and adjacent to currently urbanized areas are the most significant wildlife habitats likely to be affected. Sound planning for specific development projects can avoid the more significant losses of habitat, but a general increase in human activity is unavoidable.

The air quality implications of anticipated growth in the project service area and county as a whole include continued violation of both federal and state oxidant standards in 1982 and beyond. Both Santa Cruz and Monterey Counties have been designated by EPA as "nonattainment" areas for this pollutant. This designation, combined with the projection of continued oxidant violations, can have a major influence on the future direction of the Santa Cruz wastewater facilities planning effort. The 1977 Clean Air Act Amendments require that plans be developed to bring all nonattainment areas into compliance with the National Ambient Air Quality Standards (NAAQS) by 1982. In this regard the North Central Coast Air Basin's portion of the State Implementation Plan is being developed by the Association of Monterey Bay Area Governments (AMBAG). This plan must develop mitigation strategies and implementation schemes capable of reducing oxidant levels below NAAQS to the satisfaction of EPA. In the absence of an effective and implementable State Implementation Plan, the Clean Air Act authorizes EPA to withhold, condition, or restrict any grant for construction of sewage treatment facilities if it is determined that the state does not have an approved implementation plan which expressly quantifies and provides necessary management programs to deal with the air pollution emissions which may reasonably be anticipated to result directly or indirectly from the new sewage treatment capacity

to be created by such construction. Therefore, the successful development and completion of a plan to mitigate anticipated oxidant levels in the Santa Cruz-Monterey area may be necessary prior to awarding federal grants for wastewater system improvements in Santa Cruz.

#### Mitigation Measures

A wide variety of *mitigation* measures have been suggested to reduce the severity of or eliminate the potential direct and indirect adverse impacts of the proposed wastewater project. Controls to reduce the impact of construction activity (to be implemented by the wastewater management agency and its construction contractors) include: limiting construction activity and equipment to the smallest area possible; locating corporation yards and materials stockpiles in areas that avoid degrading local aesthetics; providing alternate or secondary traffic routes around construction areas so as to minimize traffic disruption; and revegetating all disturbed surfaces to minimize erosion and aesthetic degradation.

The losses of agricultural land necessary to implement Alternative OD4B, OD/RE5 and OD/RE7 cannot be adequately mitigated without relocating the proposed facilities. Development of new agricultural land does not replace in-kind valuable soils that are permanently lost from production. The loss of wetland in Nearys Lagoon proposed as part of OD1 and OD/RE5 could possibly be mitigated by relocating the new secondary treatment facilities. A new location, separated from the primary treatment facilities, would have to be found. This may be undesirable from an economic and operation viewpoint. The loss could also be mitigated by creation of new wetland habitat adjacent to the existing area. Dredging, flooding, and revegetating vacant property to the northeast could replace the lost wildlife and recreational values in time, but this would take a significant planning and management effort on the part of the City of Santa Cruz.

Recommendations have been made to control the effects of the irrigation ~~role~~ of the wastewater proposed in Alternative OD/RE5. Changes in irrigation practices could help to maintain agricultural productivity and minimize groundwater impacts in the face of a change in water supply. The farmers themselves would be responsible for this mitigation. Additional water treatment might remove an additional increment of salts and trace elements, but this would increase the costs of an already extremely expensive alternative.

Potential impacts on surface and groundwater quality are best controlled by providing the best possible quality of wastewater. This should be accomplished by the wastewater management agency through proper source control (i.e., requiring pretreatment or elimination of waste flows with high pollutant levels at the source of the flow, prior to discharge to the wastewater collection system) and use of the most advanced treatment processes that are economically feasible. Potential water quality degradation along the Santa Cruz coastline can best be avoided by constructing the longer outfalls proposed in the facilities plan. This, however, will require a higher capital investment and may not provide a significant reduction in the threat of water pollution when compared to the intermediate and shorter proposed outfalls.

AMBAG has developed a detailed list of potential mitigation measures to deal with the secondary effects of regional growth on Santa Cruz-Monterey area air quality. Control measures for stationary, mobile and transportation sources of pollutants and land use strategies to reduce pollutant emissions are included. Stationary source controls deal primarily with the production, storage and transfer of gas and oil products. The Monterey Bay Unified Air Pollution Control District (MBUAPCD) is capable of implementing this type of emission control in Santa Cruz County. Mobile source and transportation controls deal with changes in allowable vehicle emissions and changes in present transit patterns in the area. The California Air Resources Board (ARB), Caltrans, local government agencies and local transit districts are capable of implementing these types of changes. Land use changes that might improve future air quality conditions in Santa Cruz County can be developed and implemented by local government planning agencies with technical assistance from AMBAG.

A summary of the major mitigation measures proposed in the body of the Draft EIS/EIR is included on the following pages.

#### Summary Evaluation of Alternatives

Each of the four major alternatives (OD<sub>1</sub>, OD<sub>4B</sub>, OD/RE<sub>5</sub>, and OD/RE<sub>7</sub>) is capable of solving the local water quality and public health problems associated with the current Santa Cruz wastewater treatment system. Each also includes upgrading treatment to federal secondary treatment standards and extending the ocean outfall to meet state ocean discharge requirements. The two no-project alternatives considered in detail in the EIS/EIR (NP<sub>1</sub> and NP<sub>2</sub>) would not meet the federal secondary treatment requirement. However, it is now

SUMMARY - POSSIBLE IMPACT MITIGATION MEASURES

<u>Mitigation</u>	<u>Possible Implementing Entity</u>
<u>Construction Impacts</u>	
<ul style="list-style-type: none"> <li>o Source control of noise, air emissions, dust</li> <li>o Reroute, control flow of traffic</li> <li>o Confine soil and vegetation disturbance to smallest area possible; reseed</li> <li>o Schedule construction to coincide with periods least likely to interfere with adjacent land uses</li> <li>o Implement alternatives that require least wetland removal</li> <li>o Create new wetland to replace that lost to construction</li> <li>o Locate new treatment facilities on vacant industrial property</li> <li>o Conduct test excavations at known archeological sites or reroute pipelines to avoid sites</li> </ul>	<p>Construction contractor            Construction contractor            Construction contractor            Construction contractor            City and County of Santa Cruz            City and County of Santa Cruz            City and County of Santa Cruz            City and County of Santa Cruz</p>
<u>Operation Impacts</u>	
<u>Water Quality</u>	
<ul style="list-style-type: none"> <li>o Utilize outfall routes with greatest dispersion potential, least likelihood of affecting near-shore waters</li> <li>o Utilize highest level of wastewater treatment possible, improve source controls</li> <li>o Pretreat agricultural runoff before discharge</li> <li>o Monitor effects of groundwater injection on groundwater quality</li> </ul>	<p>City and County of Santa Cruz            City and County of Santa Cruz            Local farmers, RWQCB*            City of Watsonville, RWQCB,            Santa Cruz County</p>
<u>Seismic Hazards</u>	
<ul style="list-style-type: none"> <li>o Design facilities to withstand anticipated seismic events</li> <li>o Avoid construction in areas of high liquefaction potential; dewater sites if necessary</li> <li>o Construct berm around sites subject to tsunami inundation or inundation from dam failure</li> </ul>	<p>Design engineers            City and County of Santa Cruz,            construction contractor            City and County of Santa Cruz,            construction contractor</p>
<u>Flood Hazards</u>	
<ul style="list-style-type: none"> <li>o Locate all facilities outside potential flood hazard areas</li> <li>o Construction berm around sites subject to flooding</li> </ul>	<p>City and County of Santa Cruz            City and County of Santa Cruz,            construction contractor</p>
<u>Air Quality (odors)</u>	
<ul style="list-style-type: none"> <li>o Cover aeration and secondary sedimentation tanks, enclose sludge centrifuges</li> <li>o Relocate treatment plant to nonurbanized area</li> </ul>	<p>City and County of Santa Cruz            City and County of Santa Cruz</p>
<u>Public Health</u>	
<ul style="list-style-type: none"> <li>o Avoid wastewater irrigation near domestic wells or relocate wells</li> <li>o Maximize irrigation efficiency to avoid percolation of effluent</li> <li>o Conduct pilot study of injection-extraction system</li> <li>o Utilize highest level of wastewater treatment and disinfection possible</li> <li>o Follow wastewater irrigation guidelines of State Department of Health, Title 22 of California Administrative Code</li> <li>o Implement vector control programs at storage reservoirs</li> </ul>	<p>SCCEHD, local farmers            Local farmers            City and County of Santa Cruz,            City of Watsonville, SWRCB, EPA,            SCCEHD            City and County of Santa Cruz            Local farmers, SCCEHD            City and County of Santa Cruz,            SCCEHD, local mosquito abatement districts</p>

Wildlife, Vegetation

- o Utilize highest level of wastewater treatment possible, improve source controls
- o Acoustically buffer noise sources at treatment plant
- o Maintain berm around treatment plant
- o Pretreat agricultural runoff before discharge
- o Avoid wastewater chlorination or dechlorinate effluent
- o Utilize outfall routes with least rocky bottom habitat

City and County of Santa Cruz  
 Design engineers  
 City and County of Santa Cruz  
 Local farmers, RWQCB  
 City and County of Santa Cruz,  
 RWQCB  
 City and County of Santa Cruz

Resources

- o Utilize those treatment processes with the lowest chemical and energy requirements
- o Select pipeline routes and treatment plant sites with lowest pumping requirements

City and County of Santa Cruz  
 City and County of Santa Cruz

Noise

- o Relocate treatment plant to nonresidential area
- o Acoustically buffer new treatment plant noise sources
- o Maintain berm around treatment plant

City and County of Santa Cruz  
 Design engineers  
 City and County of Santa Cruz

Economics

- o Implement treatment and disposal alternative with lowest cost to both homeowner and local industry
- o Limit treatment facilities sizing to that level considered grant fundable by the SWRCB

City and County of Santa Cruz  
 City and County of Santa Cruz

Soils-Agriculture

- o Utilize treatment processes that maximize salt removal; improve source controls
- o Increase irrigation water applications to leach salts
- o Sprinkler irrigate wherever possible

City and County of Santa Cruz  
 Local farmers  
 Local farmers

Growth-Related Impacts

General Land, Water, Wildlife, Vegetation Resources

- o Encourage infill rather than peripheral development or sprawl
- o Adopt growth management strategies
- o Encourage Williamson Act land protection
- o Size wastewater treatment facilities for existing service area population only
- o Ensure that general plans and zoning ordinances protect recognized valuable or limited wildlife and vegetation resources (e.g., rare and endangered plants and wildlife, unique vegetation)
- o Strictly enforce grading ordinances; monitor construction site land modifications
- o Encourage water conservation
- o Implement wastewater reclamation alternative to augment local water supplies
- o Conduct environmental assessment or impact analysis of new developments as they are proposed

Local planning agencies, city councils, SCCBS  
 Local planning agencies, city councils, SCCBS  
 Local planning agencies, city councils, SCCBS, landowners  
 City and County of Santa Cruz  
 Local planning agencies, city councils, SCCBS  
 Local planning agencies, building departments  
 Local water agencies, city councils  
 SCCBS  
 City and County of Santa Cruz  
 City and County of Santa Cruz

Air Quality

- o Improve emission control equipment at gasoline bulk plants, liquid petroleum storage sites, oil production fields, dry cleaning plants, rubber products plants
- o Cutback asphalt paving
- o Reduce pesticide applications

MBUAPCD  
 MBUAPCD and ARB  
 ARB and EPA

Abbreviations:  
 ARB  
 CALTR  
 EPA  
 MBUAPCD  
 SCCBS  
 SCCBE  
 SCCTC  
 SCTD  
 SWRCB

- o Adopt tighter emission controls on gas trucks, military vehicles, off-road vehicles
- o Improve local public transit systems
- o Encourage carpooling
- o Develop exclusive bus and car pool lanes, establish fringe park-and-ride parking lots
- o Develop bicycle lanes and storage facilities
- o Encourage staggered work hours
- o Adopt indirect private car use restrictions (gas rationing/taxes)
- o Implement regional land use and housing elements that minimize vehicular travel
- o Develop new regional population projections

ARB, EPA and Department of Defense

SCMTD  
SCCTC, Caltrans, public and private employers  
Caltrans, SCMTD, County of Santa Cruz

Caltrans, City and County of Santa Cruz  
Public and private employers  
Federal, state or county government

City and County of Santa Cruz

AMBAG

• Abbreviations

AMBAG - Association of Monterey Bay Area Governments  
ARB - California Air Resources Board  
CALTRANS - California Department of Transportation  
EPA - U. S. Environmental Protection Agency  
MBUAPCD - Monterey Bay Unified Air Pollution Control District  
RWQCB - California Regional Water Quality Control Board, Central Coastal Region  
SCCBS - Santa Cruz County Board of Supervisors  
SCCEHD - Santa Cruz County Environmental Health Department  
SCCTC - Santa Cruz County Transportation Commission  
SCMTD - Santa Cruz Metropolitan Transit District  
SWRCS - California State Water Resources Control Board

possible to seek a modification of this secondary treatment requirement, making advanced primary treatment and ocean disposal to deep water as proposed in NP2 potentially implementable. Both no-project options would improve near-shore water quality, but only NP2 could comply with State Ocean Plan discharge requirements.

Only the two reclamation alternatives would have a beneficial impact on the Santa Cruz County water supply. OD/RE<sub>5</sub> would add as much as 13,410 acre-feet of wastewater to Pajaro Valley agricultural supplies by 1989. OD/RE<sub>7</sub> could improve the quality and long-term viability of agricultural water in the lower Pajaro Valley groundwater basin by reducing seawater intrusion. The benefit, if any, in terms of increased water availability cannot be accurately estimated for OD/RE<sub>7</sub> without additional study and a pilot injection system project. However, these water supply benefits will come only at considerable expense to residents of the respective wastewater service areas and to water users. Alternative OD/RE<sub>5A</sub> has a total present worth of \$48 million in excess of the most expensive secondary treatment option, while OD/RE<sub>7</sub> is \$30 million higher.

Land use conflicts at the several treatment plant sites being considered is also an important factor in project selection. Continued use of Nearys Lagoon (Alternative OD<sub>1</sub>) would necessitate elimination of 3.5 to 5.5 acres of wetland and would perpetuate the close proximity of treatment facilities and recreational/residential land uses. Movement of treatment facilities to the West site (Alternative OD<sub>4B</sub>) would eliminate at least 17 acres of valuable agricultural land and possibly encourage further development on the western boundary of the City of Santa Cruz. Plant movement would also be considerably more expensive than maintaining treatment at Nearys Lagoon. The tertiary treatment facilities required in Alternatives OD/RE<sub>5</sub> and OD/RE<sub>7</sub> would also eliminate sizeable acreages of valuable agricultural land in or near the Pajaro Valley.

Finally, the long-term reliability and flexibility of the alternatives are an important consideration. All of the alternatives would utilize treatment processes that have been proven to be effective through years of successful operation at other locations. The more complicated tertiary treatment systems (OD/RE<sub>5</sub> and OD/RE<sub>7</sub>) are more apt to have occasional malfunctions or breakdowns due to their inherent complexity. The alternatives that require major chemical inputs (OD/RE<sub>5</sub>, OD/RE<sub>7</sub>, NP<sub>1</sub>, and NP<sub>2</sub>) are more dependent on the long-term availability of manufactured or processed mineral resources than the biological treatment systems (OD<sub>1</sub>, OD<sub>4B</sub>). All of

the alternatives maintain an ocean discharge; the reliability and acceptability of this disposal mode during periods of plant malfunction or breakdown are therefore similar. Alternative OD<sub>1</sub> has the least expansion flexibility due to its location. Alternative OD/RE<sub>5</sub> has an identical constraint on flexibility of its primary and secondary treatment components. In terms of flexibility to changes in treatment requirements, it is difficult to make comparisons without knowing what the changes would be. The no-project alternatives could best respond to a slackening of treatment requirements, while OD<sub>7</sub> would have difficulty adjusting to increased requirements due to space limitations in Nearys Lagoon. Alternatives OD<sub>1</sub> and the no-project alternatives would perhaps be the most flexible to changes in local reclamation potential, unless new potentials developed in agricultural areas west of Santa Cruz or in the Pajaro Valley. OD<sub>4B</sub> would obviously best serve future reclamation markets west of Santa Cruz while OD/RE<sub>5</sub> could serve new markets in the Pajaro Valley. OD<sub>1</sub> could be more easily modified to accommodate reclamation in the Pajaro Valley area than OD<sub>4B</sub>.

Public acceptance of the proposed alternatives is difficult to judge at this stage of the planning process. There has been strong government agency and general public support for improving the existing Santa Cruz wastewater system, but no obvious support for a single specific solution. All four action alternatives can meet public agency legal requirements and guidelines. The irrigation reuse option involves public health questions that concern both state and county health departments, and soil and crop damage questions that concern the agricultural community. There is, however, strong public support for beneficial reuse of wastewater. State and federal law strongly support reclamation. Ocean disposal without reuse does not satisfy this public desire for reclamation. There has also been strong public concern expressed over the effects of continued ocean discharge of wastewater on marine life and the ocean environment in general. Strong sentiments have been voiced on both sides in regard to the Santa Cruz plant location. Numerous government agencies and individual citizens are interested in preserving the wildlife and recreation values of Nearys Lagoon and are therefore opposed to expansion of wastewater facilities into the marsh. Conversely, both agencies and individuals have expressed concern over the high cost and lost investment involved in abandonment of Nearys Lagoon as a treatment site in favor of a new location. Until the public hearing on this Draft EIS/EIR, it is impossible to draw conclusions about the public acceptance of the alternative projects being considered.