

**FINAL ENVIRONMENTAL IMPACT REPORT
SOUTH SHORES CONCEPT PLAN**

Volume I: Final EIR and Response to Comments

**Prepared by: Environmental Impact Planning Corporation
319 Eleventh Street
San Francisco, California 94103
(415) 864-2311**

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**Prepared for: City of Redwood City,
California**

- **Changes from the text of the Draft EIR are indicated by a solid dot to the left of the revision**

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I. SUMMARY OF PRINCIPAL FINDINGS

The EIR addresses the proposed General Plan amendment to allow development of a 1,095.9-acre site in Redwood City, California. The potential impacts of the project as proposed in the South Shores Concept Plan are described as are alternatives to the project. Special technical appendices were included in the Draft EIR addressing bridges over sloughs, a levee assessment, geotechnical assessment, hydrology, water quality and economics.

- Major issues identified in this report include traffic impacts on local and regional transportation facilities, impacts on sensitive wildlife areas of Bair Island and urban conversion of historic marshland, land use and noise conflicts with San Carlos Airport, and an increase in the current job/housing imbalance in the area.

PROJECT DESCRIPTION

South Shores, Inc., a subsidiary of Mobil Land Development Corporation, proposes a concept plan for the mixed-use development of South Shores, an area bounded to the west by the Bayshore Freeway, on the east by Corkscrew Slough, on the north by Steinberger Slough, and on the south by Redwood Creek and the boundary of Redwood City General Improvement District No. 1-64.

The concept plan calls for 3 categories of uses for the site: residential, including single-family detached, single-family patio, townhouse, garden apartment; commercial, including a marina, hotel/convention center, offices and neighborhood commercial; and public or open space uses including school, park, community service center, ecological reserve, controlled waterways and roads.

The project area is currently designated "Urban Reserve". The proposed project calls for amendment of Redwood City's General Plan and rezoning of the project site. The proposed project would involve site preparation, including filling of diked areas, levee improvement, construction of bridges and excavation of lagoons and a marina.

RELATIONSHIP TO PLANS

The ABAG Regional Plan sets goals for housing and employment increases; this infill development within Redwood City would be compatible with these goals by providing housing and employment. The project would have adverse impacts to vegetation, wildlife, and air quality, inconsistent with the Regional Plan goals for protection and enhancement of the Bay environment.

The San Francisco Bay Plan is concerned with public access to baylands; the proposed provision of public access to the sloughs and former saltponds would be consistent with these goals. The proposed creation of an ecological preserve on the southwestern bank of Corkscrew Slough would be in accord with goals of marshland protection. However, the proposed commercial, residential, and marina uses of Pond A-12 would be inconsistent with the plan for a waterfront beach and park area. Development of the saltponds precludes marsh restoration; restoration of these areas would serve the Plan's goal of enlargement and restoration of Bay wetlands. Marsh restoration is also designated for the saltponds in the document by United States Fish and Wildlife Service and California Department of Fish and Game entitled, "Protection and Restoration of San Francisco Bay Fish and Wildlife Habitat".

- The Redwood City General Plan designates the project area as urban reserve. The proposed project would be consistent with the Plan making provisions for housing, recreation and employment opportunities, however, the ratio of employment to housing is inconsistent with Plan goals. The land use designation for the area would have to be amended to mixed use. Impacts to wildlife habitat would be inconsistent with some of the General Plan's goals.
- The Waterfront Development Plan designates commercial, industrial, residential and open space land uses at the project site. South Shores would be consistent with the development goals established by the Waterfront Committee.

ZONING MATTERS

The current zoning is TP (Tidal Plain) for the most part, with small areas of IR (Industrial Restricted), CG (General Commercial) and TP-T (Tidal Plain, Transient Residential Units). Zoning changes to reflect proposed land uses would be necessary for the proposed project, CG, IR, and P-D (Planned Development).

JURISDICTIONAL AUTHORITIES

Seven principal agencies have direct jurisdiction over the proposed project: San Francisco Bay Conservation and Development Commission, U.S. Army Corps of Engineers, State Lands Commission, San Francisco Bay Regional Water Quality Control Board, Bay Area Air Quality Management District, the City of Redwood City, and San Mateo County Airport Land Use Commission.

GEOTECHNICAL ASSESSMENT

The site is a historic tidal marsh, diked in 1946. Some marsh areas remain, particularly along Corkscrew Slough, but the major portion of the land is drained salt evaporation ponds, all of which were removed from operation by January of 1966. The soil is typically of soft, compressible, sedimentary deposits (younger bay mud) underlain by firm to stiff older bay mud. A granular alluvium is present in some areas. The depth at which bedrock is to be found varies on the project site. No large slides resulting in a major loss of diked sections have been known to occur, although localized slumping of perimeter dikes has taken place and has been repaired. The entire area may be gradually subsiding. Potential seismic hazards include ground shaking, and small scale landslides. Other potential impacts include erosion, corrosion, differential settlement of fills, and overtopping of levees.

A soil erosion control plan should be designed to minimize erosion during both construction and operation. Techniques should be employed to reduce post-construction settlement, to accommodate differential settlement, and to produce stable slopes. Noncorrosive materials or protective coatings should be used to avoid corrosion damage. Site specific earthquake design should be developed to reduce the damaging effects of possible earthquakes; these could include, but are not restricted to, use of controlled, compacted fill, flat-sided slopes, and setbacks from sloughs and depressions.

HYDROLOGY

The project site is surrounded by several waterways. Because the site is mostly flat and surrounded by dikes, it forms a watershed of its own. Borrow pits surrounding the ponds store water most of the time as do some historic marsh drainage channels.

The project site would be flooded during high tides if the dikes were breached. Erosion and sedimentation problems could be experienced during construction. Due to the impervious nature of the substrate drainage could also be a problem.

To mitigate potential impacts, dikes should be improved or repaired to resist flooding. The proposed lagoons may be adequate for storage of storm water; however, a detailed design study of the project should consider the impact of storm runoff on flood control capacity, and the alteration of the tidal current pattern due to increased runoff.

WATER QUALITY

Wastewater and stormwater originating from the proposed development would have effects on the surrounding waterways, which are connected to the Bay. Urban storm water runoff from the project site would contribute pollutants and sediments to the inland waterways, with possible impacts to the surrounding hydrologic and biological systems. Dredging, filling and construction at the project site would cause temporary erosion and sedimentation problems. Inland navigation and use of the proposed marina could contribute minor amounts of pollutants to the waterways.

The impact of stormwater discharge into the sloughs would depend upon quantity of flow, frequency, mixing and flushing action of the slough and the residual pollutant concentrations of the effluent. These factors have not been determined.

Water quality conditions should be monitored, including runoff quantities and pollutant concentrations. An erosion control plan should be developed prior to project construction and techniques instituted to reduce the transport of pollutants to urban runoff. Wastewater originating from the development must be treated prior to discharge into natural waters. This would require expansion of the SBSA Treatment Plant. Marine sanitation facilities improvements, and public education about water quality problems could mitigate impacts due to inland navigation.

VEGETATION AND WILDLIFE

Although a large portion of the South Shores and Bair Island area is presently dry salt evaporation ponds, the region as a whole remains one of the most valuable wildlife areas in South San Francisco Bay. The area that would be affected by the proposed project is not restricted to the South Shores project site itself, but includes adjacent Bair Island. Portions of that island are important biologically and are included in the San Francisco Bay National Wildlife Refuge, and a Department of Fish and Game Reserve. Six ecologically distinct habitat types would be affected by the proposed project: tidal salt marsh, dry evaporation ponds, raised levees, upland grass and shrubs, tidal mudflats, and open waters. No upland habitat is found on the project site itself, however. South Shores

and Bair Island are regularly used by at least four rare and endangered animal species: California least tern, California clapper rail, salt marsh harvest mouse, and brown pelican.

Impacts resulting from the proposed project would relate primarily to urban conversion of potentially restorable salt marsh habitat, and the effects of urbanization on sensitive ecological areas on and immediately adjacent to the project site. The project would have potentially significant impacts on breeding populations of at least 3 of the 4 federally-listed rare and endangered species that make use of the area; locally rare water bird breeding colonies may also be impacted. Bridge and road construction, levee improvement and marina dredging would encroach on salt marsh habitat. Most direct habitat conversion would be limited to the evaporation ponds and surrounding levees.

- Biological impacts would include some direct elimination of vegetation, elimination or alteration of fish and wildlife breeding or foraging habitat, and degradation of aquatic habitats from urban runoff. Intrusion into marshes and other important wildlife areas by humans, domestic animals, and urban pests (e.g. rats) would be a particularly severe
- impact. This could result in direct harassment of wildlife, disruption of nesting, and possible abandonment of Bair Island by unique avian breeding colonies. The artificial lagoons would create additional foraging habitat for some bird species.
- Mitigation would involve measures to control sedimentation and urban runoff problems. The ecological preserve area along Corkscrew Slough should be protected by a 100-foot buffer zone bounded by a fence at least 6 feet high. The borrow pits between the fence and the levees should be enlarged. The slough should be closed to recreational boat traffic, if possible. As off-site compensation for loss of habitat value and urbanization of potentially restorable marshland, Pond B-3 should be removed from consideration for future development, and instead restored to tidal marsh. A marsh management and restoration program should be developed by the project sponsor in coordination with USFWS and DFG for Pond B-3, the saltmarsh areas along Corkscrew Slough, and the fringe of marsh surrounding the proposed development site. Implementation costs could be borne by the project sponsor as a part of South Shores project mitigation.

LAND USE

The proposed project site currently consists of diked salt ponds and unmodified salt marsh. The proposed project would replace much of the 1,095.9 acre site with a planned

community development. It would extend urban development east of the Bayshore Freeway and contribute to the cumulative intensification of land uses on the shores of San Francisco Bay.

Significant land use conflicts occur with the adjacent San Carlos Airport. Due to noise and safety considerations the proposed development may be an incompatible land use with the existing airport. Granting of aviation easements would help to protect the airport's status in the area.

The proposed project raises questions relating to fundamental planning issues: the need to balance demand for developable land, with consequent benefits of increased housing and employment, against needs for environmental protection.

VISUAL QUALITY

The project site is relatively neutral in character as viewed from the Bayshore Freeway; elements of water and boats occupy the foreground near the marina, and grassland and birdlife are primary elements at northern portions of the site. Regionally, the undeveloped baylands with flat lands, sloughs and waterways leading to the Bay contrast to the urban landscape west of Bayshore Freeway and north of the site.

The primary visual impact of the project would be to extend the urban development pattern currently existing west of the Bayshore Freeway and northeast of the project site closer to the Bay on open space lands; remaining bayland open space would be lessened.

Either the no-project alternative or a reduced project would mitigate loss of undeveloped baylands. A less dense or less land-intensive project near the northern margin of the site would provide for a less abrupt transition to adjacent open lands. Design of the project (building mass and height) should be to create a harmonious transition in the area's urban form toward the Bay.

TRAFFIC

Existing major streets and highways in the project vicinity are described; existing traffic conditions, transit service, bicycle and pedestrian facilities are assessed for areas and roads which would be most impacted by the proposed project. Since South Shores is

currently undeveloped, there are no existing roads within the project area. Construction impacts would be an additional 90 to 100 daily truck trips on the Bayshore Freeway to carry fill. At project completion and occupancy, about 91,200 trip-ends, or 80,900 vehicle-trips would be generated by the development on an average weekday. Through the year 1995, background traffic growth should occur regardless of whether the Eastside area is developed. The project traffic assignment through 1995 is discussed; directional conditions are shown in tables and figures. The proposed project should have relatively minor impacts on existing pedestrian and bicycle circulation in the urbanized areas west of the freeway, although some adverse impacts may be felt on Whipple Avenue and along El Camino. Cumulatively, the average weekday vehicle trip-end generated by all Eastside projects at build-out would total 292,000.

The proposed build-out of the Eastside area cannot be accommodated without major capacity increases in both trans-freeway and mainline freeway capacity. Because options for increased freeway capacity seem unlikely, the construction of the proposed project would have the effect of decreasing the feasible size of other proposed projects in the Eastside area.

To reduce adverse impacts of traffic, mitigation measures include: reduce peaking of traffic by permitting flexible work hours; provide facilities to increase traffic capacity; relocate land uses to avoid concentration of trip ends in one area; provide facilities to increase traffic capacity; relocate land uses to avoid concentration of trip ends in one area; provide transit; provide incentive for carpool, vanpool, and bus and facilities to encourage bicycle and pedestrian use. Other measures proposed include widening the Bayshore freeway (not in CALTRANS 5-year plan); providing additional ramps near Intersection No. 4 on the Bayshore; constructing an East Bayshore Expressway.

The project sponsor suggests: widen Whipple Avenue by 4 lanes in each direction; include deed of covenants in land sale agreements to require flexible work hours for South Shores employees; improve interchanges, including full cloverleaf interchanges at Whipple and Holly/Redwood Shores Parkway; provide new arterials east of the freeway. These measures were incorporated into the impact analysis, with the exception of the first 2:

- Whipple Avenue was assumed to be 6 lanes. That width appeared acceptable from the traffic assignment models (rather than 8 lanes assumed by the project sponsor).

AIR QUALITY

Data for 1979 from the Bay Area Air Quality Management District for Redwood City show that the air quality complies with standards established by the Clean Air Act of 1967.

The impact of construction would be a temporary increase in dustfall near the site. Indirect emissions generated by auto traffic associated with the project would affect air quality on a local scale, particularly carbon monoxide and lead concentrations. On a regional scale, hydrocarbon and oxide of nitrogen emissions would be increased. Effects of these emissions would be a degradation of South Bay air quality, although it would not be of a magnitude that could be picked up at air monitoring sites.

During construction, unpaved access roads should be wetted to minimize dust emissions. Mitigation measures recommended to improve traffic flow would reduce carbon monoxide concentrations from traffic, even though traffic volumes would not be reduced. Regional and local impacts of the proposed project could be mitigated by reducing project trip generations, through reducing project size, improving transit to the site, providing transit incentives, along with carpool programs and bicycle paths.

NOISE

The proposed project site currently has minimal noise impacts; the San Carlos Airport and the Bayshore Freeways are the main sources of noise, with some contribution from local boating activities.

During construction, noise impacts would be from 260,000 truck trips carrying fill over a 5 to 10 year period. During project operation, the project would have noise impacts mostly from the project-generated traffic on the Bayshore Freeway and surface streets. In the vicinity of the project site, where added trips would be concentrated, some audible noise increases would result.

Potential impacts of the existing environment on the project would be from the San Carlos Airport and the Bayshore Freeway noise contours. Several potential land use/noise conflicts exist. Both office and research/development land uses are designated within the 70 CNEL contour, a "conditionally acceptable" noise environment, according to the State

- Department of Health land use compatibility guidelines, used by the City of Redwood
- City. Several single and multiple-family residential areas lie between the 55 and 60 CNEL levels which according to San Mateo County Airport Land Use Commission standards would require special noise analysis and insulation. Additionally aircraft flyovers would produce single noise events that could be highly disruptive to residents even with noise insulation.

- Care should be taken in planning filling operations to minimize increased highway noise due to haul trucks. A detailed noise analysis of residential portions of the site located between the 55 and 60 CNEL contours should be undertaken before project construction. Specific noise insulation measures should be incorporated into building designs to reduce interior noise levels to 45 dBA. Aircraft noise could not be mitigated in outdoor use areas. Avigation easements should be granted to protect the airport from possible litigation over aircraft generated noise. All prospective residents should be fully informed of the potential for noise disturbance.

ENERGY

The site is currently vacant and does not consume any energy. Pacific Gas and Electric Company would provide services to the project.

The project would result in increased energy consumption in the region for construction and operation of the project. Construction would consume about 9,813 BTU; operation would annually consume 890 billion BTU, equivalent to 165,000 barrels of crude oil. This represents an approximate 2.1% increase in energy consumption for San Mateo County. Transportation costs from project-related vehicles would be 1.05 billion BTU annually. Lifetime costs (50 years) including construction, operation and transportation would be approximately 107,000 billion BTU (20 million barrels of crude oil).

Mitigation measures include implementation of energy conservation standards set by Title 24, Division 20 of the California Administrative Code. Use of solar energy should be considered, particularly active solar systems for domestic hot water, and passive solar design for space heating. Recommendations for energy conservation in each of several design areas are presented, including overall building design, planning building layout, ventilation and infiltration, heating and air conditioning, lighting, domestic hot and cold water, operation and maintenance.

ECONOMIC FEASIBILITY

The marketability of the proposed project and the fiscal impact of the project are discussed. There is a strong probability that the major uses proposed by the developer could be successfully absorbed, although the exact pace of the eventual buildout cannot now be forecast. Costs and revenues from the project are summarized on an annual basis through the 10th year of buildout. The project would generate net revenues to the City in early years, with deficits in middle years followed by a positive revenue picture by year 10 created by addition of transient occupancy taxes. The project would have little net fiscal impact on the City. Total costs for roadway improvements, water systems, sanitary sewers, parks and reclamation for street right-of-way are estimated at \$48.8 million charge which could be borne by builders. Bonding would be required during the buildout to cover short-term shortfalls in cash flow.

PUBLIC SERVICES AND UTILITIES

Wastewater. The estimated wastewater generation of South Shores is 902,371 gallons per day. Combined with estimated flows from Redwood Shores, the total of 1.66 MGD of wastewater would exceed the reserve capacity of the SBSA Treatment Plant.

The SBSA Treatment Plant would have to be expanded; the developer could, as mitigation, pay all or part of the expansion costs. Construction of a Force Main directly to the SBSA Plant would circumvent the problem of wastewater transportation.

Solid Waste. Solid waste generated by the project would be contracted for removal and disposal by BFI Inc.

Police. The Redwood City Police Department would supply services to the project area; it anticipates no new service facilities would be constructed as a result of the project.

Fire. The Redwood City Fire Department would provide services to the project site; an additional fire station and personnel would be required to serve South Shores at full buildout. The costs may be about 1 million dollars; financing has not been determined.

Water. Water would be provided by the City; capital improvements would likely to be constructed by the City with the project sponsors financing actual costs.

Schools. The South Shores area is partially served by the Belmont Elementary School District, Redwood City Elementary School District, and the Sequoia Union High School District for grades 9-12. All Districts have been experiencing a decline in enrollment and the trend is expected to continue.

Utilities. PG&E would provide gas and electricity to the project area, and anticipates no adverse impacts in providing such service.

Maintenance. The City would provide maintenance of public streets, sidewalks, drains, and street lighting, funded from the City's General Fund, with various service fees possibly available when the project is implemented.

● POPULATION AND HOUSING

Redwood City has approximately 55,000 persons, with a population that has stabilized since 1970. A population of 90,000 is projected for the year 2000; of these, 15,000 would be within the waterfront zone, wherein the project lies. The City has an existing housing supply of approximately 23,000 units. A severe housing shortage exists in the area with a job/housing imbalance of 1:0.380.

- The project would add approximately 3,723 dwelling units to the existing housing supply, resulting in a potential population increase of 9,307 persons. This represents a 17% increase in housing for the City, and a 1.6% increase for San Mateo County. Employment created by the project would be approximately 12,900 persons, 71% of the projected 18,000 additional jobs within the City by the year 2000.

- The project would contribute to the existing job/housing imbalance in Redwood City putting additional strain on the already tight housing market. As there is no provision for low and moderate-income housing on the development, a sizeable portion of the new employees could not afford to live in project housing. The proposed construction of office space prior to residential units would aggravate this problem.

- Housing mitigations could include shifting some office and commercial uses on Ponds A-9, A-10 and A-11 to residential uses, and implementing an affordable housing plan for the project.

RECREATION

Present recreation uses include jogging, duck hunting, wildlife observation, recreational boating and fishing.

The project would provide a 600-berth marina, adding to the recreational boating in surrounding waterways. Controlled waterways in the interior of the proposed project site would be used for boating, swimming, and other water-related sports. Opportunities for bicyclists and hikers are likely to be afforded, along with the observation of wildlife.

Impacts to marsh habitat and wildlife of the marsh areas have been discussed in earlier sections. Protection of these sensitive areas and species could be accomplished by closing Corkscrew Slough to recreational boat traffic, and by prohibition of hunting in marsh

- habitat preserved and restored in the project area. Additionally increased summer patrols of the Bair Island wildlife refuge areas should be undertaken to reduce recreational impacts on these areas.

ARCHAEOLOGY

No archaeological sites have been recorded in the proposed project area. However, the size of the site, and known occurrence of archaeological remains in similar areas renders this site sensitive. Once plans for development become finalized areas designated for development should be surveyed for possible archaeological remains prior to development.

ALTERNATIVES TO THE PROPOSED PROJECT

Alternative A. The no-project alternative would avoid adverse effects of the proposed project, and forego beneficial aspects. The site would remain as "urban reserve" and options for its future use would remain open.

Alternative B. Development of Pond A-12 alone would reduce impacts to vegetation and wildlife, visual quality, noise, geology, hydrology and water quality. Financially, annual costs and revenues to the City would be about \$400,000 and \$300,000, respectively, with

one-time user fees of about \$700,000. A stabilized deficit of about \$100,000/year contrasts to a stabilized surplus of about \$250,000/year. Added to the wastewater flow from Redwood Shores, the total wastewater would be well below the reserve capacity for the SBSA Treatment Plant. Traffic, air quality, and energy impacts would be reduced.

- Employment opportunities would increase, though less than in the project. Since this alternative would delete all residential units proposed for the project the alternative would aggravate the Redwood City job/housing imbalance.

Alternative C. Development of Pond A-12 with low density urban use of Ponds A-9, 10, and 11 would have similar impacts to those described for Alternative B. Site preparation, however, would be similar to that required for the project, if Ponds A-9, 10 and 11 were to be used for a golf course or some other public facility. Energy requirements for the importation of fill for these ponds would be 3 times the amount needed for all phases of construction in Alternative B. Recreational opportunities could be increased by this alternative.

Alternative D. Marsh restoration (public acquisition) would entail the restoration of the historic marshland of the project site. It would have beneficial effects in terms of geology, hydrology, air and water quality, vegetation and wildlife, traffic, energy conservation, noise and visual impacts. It would not contribute to housing supply, employment opportunities, nor would it draw on public services extensively. Recreational opportunities would be created in the restored natural area. It would help to preserve and restore Bay tidelands. The potential for restoration of each pond is discussed.

II. INTRODUCTION

This environmental impact report (EIR) describes the potential impacts of amending the General Plan of Redwood City to allow development of a 1,095.9-acre site with mixed land uses including residential, service, commercial, public and open space designations. The South Shores Concept Plan in Redwood City indicates the proposed land use configurations. It is proposed by the landowner and developer, South Shores, Inc., a subsidiary of Mobil Land Development.

This EIR has been prepared in accordance with the requirements of the California Environmental Quality Act (1970), the most recent amendments to the state EIR guidelines, and the guidelines of Redwood City. It has been focused under the CEQA Guidelines, Section 15080, on potentially significant environmental effects identified by the Redwood City planning staff in an Initial Study (Environmental Checklist) on the proposed project, which is included in Appendix A.

The Draft EIR was published April 13, 1981. Two public hearings were held on the document on May 19, 1981 and June 2, 1981. Public comments were accepted by the Redwood City Planning Department from April 13 through July 2, 1981. These letters of comments are reproduced in Appendix B of this Final EIR. As required by CEQA all comments have been responded to. Where appropriate, text revisions to the Draft EIR were made to incorporate these comments into the body of the document. Text revisions are indicated in the report by a bullet (●) in the left-hand margin.

The Final EIR was certified by the Redwood City Planning Commission on September 22, 1981.

The project site is a sensitive parcel of land with environmental constraints requiring careful evaluation. This report is intended to serve as an information document for planners, citizens, the developer, and decision makers by providing comprehensive, objective information on environmental concerns, possible alternatives to the proposed project and methods of mitigating adverse impacts should the project be approved. Discussion includes relationship of the proposed project to planning guidelines and concepts of growth expressed in local and regional planning documents, and explores the

jurisdiction of the several public agencies concerned. The report is intended for use as a tool to enable the City of Redwood City and the public to evaluate the project's net effect on the environment, and to reach informed decisions regarding development of the South Shores project site.

III. PROJECT DESCRIPTION

A. SITE LOCATION AND SETTING

- South Shores is a 1,095.9-acre property within Redwood City, San Mateo County, California (Figure 1). It is bounded to the west by the Bayshore Freeway between the Whipple Avenue and Holly Street freeway interchanges, on the east by Corkscrew Slough, on the north by Redwood Peninsula and Steinberger Slough, and on the south by Redwood Creek and the boundary of the Redwood City General Improvement District No. 1-64 (Figures 2 and 3).¹ The major portion of the site proposed for development consists of dry, solar evaporation ponds, formerly used by Leslie Salt Company for salt production. These are referred to by number; Ponds A-9, A-10, A-11 and A-12 (Figure 3).

The project site was used commercially since before 1890. The existing levee system around Ponds A-9, A-10 and A-11 was constructed in 1946 and placed in salt production in 1947. Pond A-12 was placed into salt production about 1950. The reclamation was accomplished by diking-in the areas by building a levee perimeter system. The levees were constructed by filling from hydraulically dredged materials (Bay mud) from nearby sloughs and borrow ditches. To minimize leakage through the levees, a trench was dredged through marsh grass and peat when such materials were encountered during construction and native mud was placed as backfill. The levee was then built over this mud "core" which is believed to have been an effective barrier to reduce subsurface seepage under the levee system. The island was used by Leslie for salt production until 1965, when the salt ponds were drained.²

Access to Pond A-12 is via Whipple Avenue; there is no overland access to the remainder of the site to the east of Smith Slough.

- ¹The portion of the South Shores project site between Corkscrew and Smith Sloughs is sometimes referred to as a part of Bair Island. The Redwood City Council has determined that such references are incorrect and further defines Bair Island only as those lands north of Corkscrew Slough (Minute Order 81-95, June 1, 1981). This definition, which differs from that used in the Draft EIR, has been incorporated into this Final EIR.

²State Lands Commission, Bair Island Environmental Study, December 1977, page 9.

The entire project site is historic marshland. Some areas of salt marsh remain on the proposed project site outside of the levees particularly along Corkscrew Slough. In low areas, which are covered daily by tidal water, the vegetation consists of stands of cordgrass; on higher ground, pickleweed and its associates dominate. The salt ponds support little marsh vegetation, although some of the outboard levee banks are covered by pickleweed.

B. PROJECT CHARACTERISTICS

The project is a proposal to amend the Redwood City General Plan for 1,095.9 acres now shown as "Urban Reserve." The landowner and developer is South Shores, Inc., of Redwood City, California, a wholly owned subsidiary of Mobil Land Development Corporation of New York. The concept plan calls for 3 distinct categories of uses for the site: residential, commercial employment, and public or open space (Table 1). The specific uses assigned within these categories include: single-family detached, single-family patio, town-house, and garden apartment for residential uses; marina, hotel/convention center, and neighborhood commercial for commercial employment; school, park, community service center, ecological reserve, controlled waterways, roads and open spaces for public and open space uses (Figure 4).

The development is proposed to be a multiple-use, planned unit development including: a total of 837 single-family dwelling units; 1,127 townhouses; 1,754 garden apartments; a 600-berth marina; a 530-room hotel; 2,106,594 square feet of office space; 914,441 square feet of research and development; and 197,413 square feet of shopping center (neighborhood commercial) (Table 1).

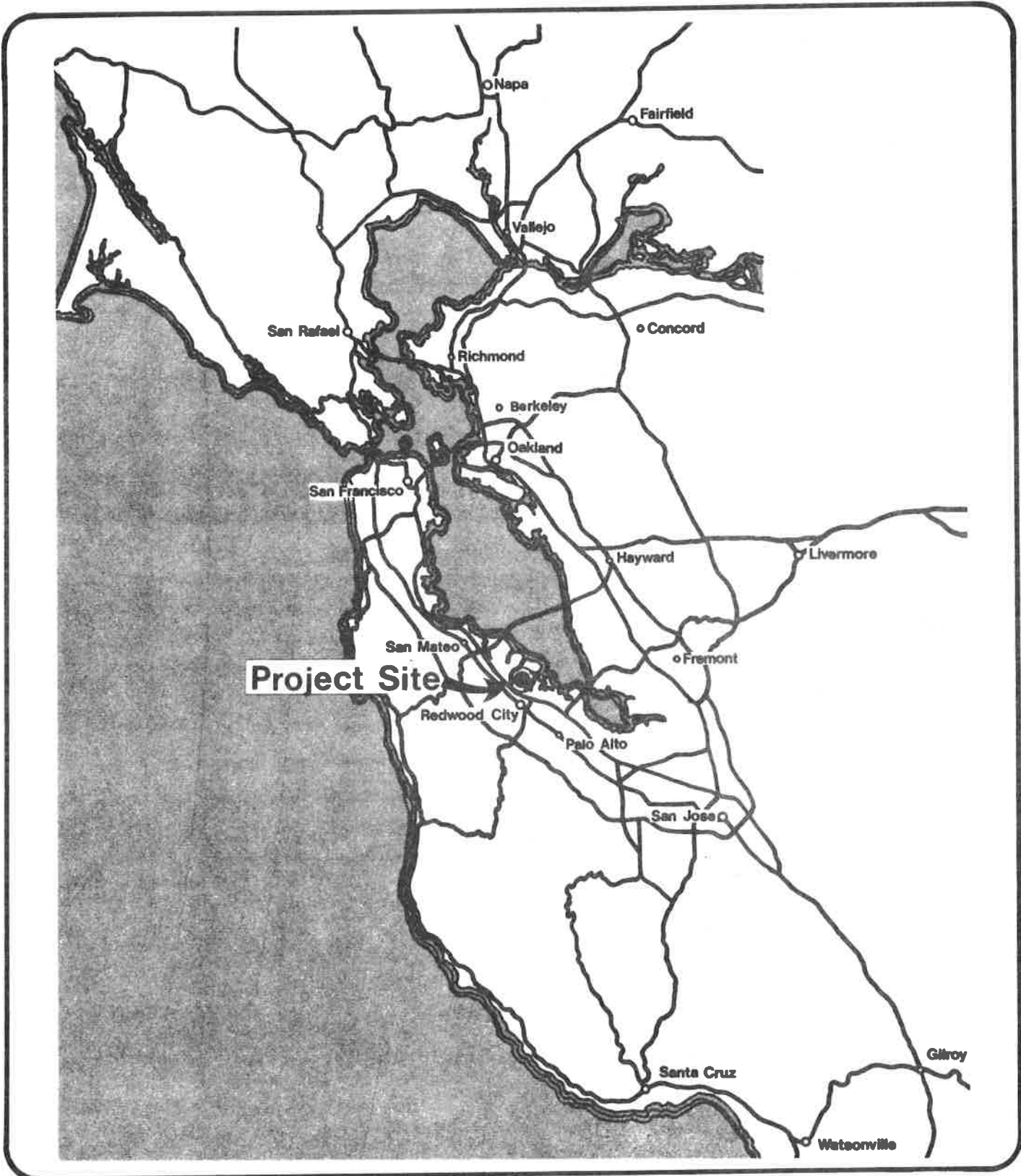
The total acreage in the plan designated for the various uses is shown in Table 2. The total figures are further broken down according to specific land areas of the site: specifically, the acreage for development of Pond A-12 (Table 3); and the acreage for Ponds A-9, A-10 and A-11 (Table 4). There are no utilities or services specified in the concept plan.

If the concept plan were to be approved, a General Plan amendment and rezoning would be necessary. The project site would then be prepared for sale of lots for development according to the proposed plan. The phasing of site preparation and sale of lands would begin with the first office space becoming available in 1985, and finish with the last lots for single-family detached and patio dwellings becoming available in 1993. Details of this phasing are shown in Figure 5 and Table 5.

- Three lagoons would be excavated, one in Pond A-12, and 2 in the areas of Ponds A-9, A-10 and A-11. These would occupy a total of 91.9 acres. The proposed marina would also require excavation of at least part of its total 14.3 acres as well as a 400-foot section of Smith Slough. Marina excavation would remove approximately 300,00 cubic yards of material. A total of 156.9 acres is presently natural marsh outside of the existing dikes; much of this marshland would be set aside as ecological preserve land.

Although the method of reclamation and construction for the project has not been delineated, the necessary site preparation would probably be carried out according to methods previously employed for the adjoining Redwood Shores project, developed by Redwood Shores, Inc., also a subsidiary of Mobil Land Development Corporation. Depressions in Ponds A-9, A-10, A-11 and A-12 would have to be filled with native materials and raised to a desired grade. The existing levees would first have to be repaired, then elevated further to the final Elevation 109 with an average crown width of 25 feet. Approximately 6.5 million cubic yards of fill would be required. Part of the need for fill could be met by using materials excavated for creation of lagoons and the marina, as well as reconditioned dredge material. Other sources would be sought for the remainder of earth needed. In certain areas, a surcharge may be employed as soon as possible after filling to hasten the settlement process; it would be removed later to finish grade.

- Other site improvements would include construction of 2 bridges which would cross Steinberger Slough and Smith Slough.



Regional Location Map

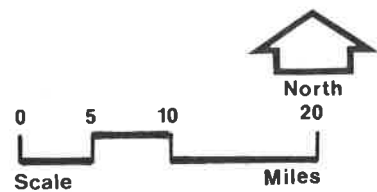
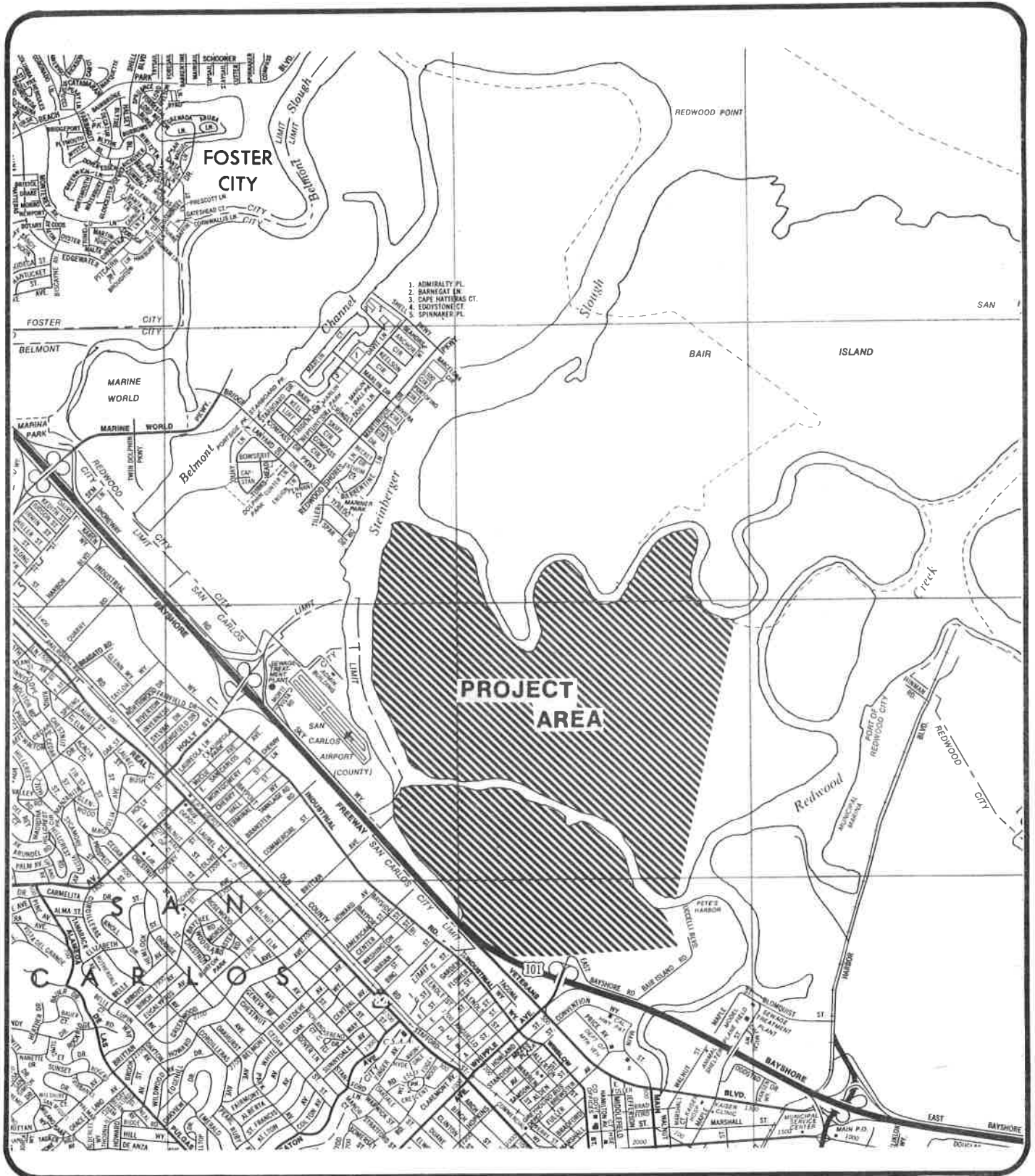


Figure No. 1



Site Location Map

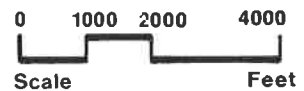
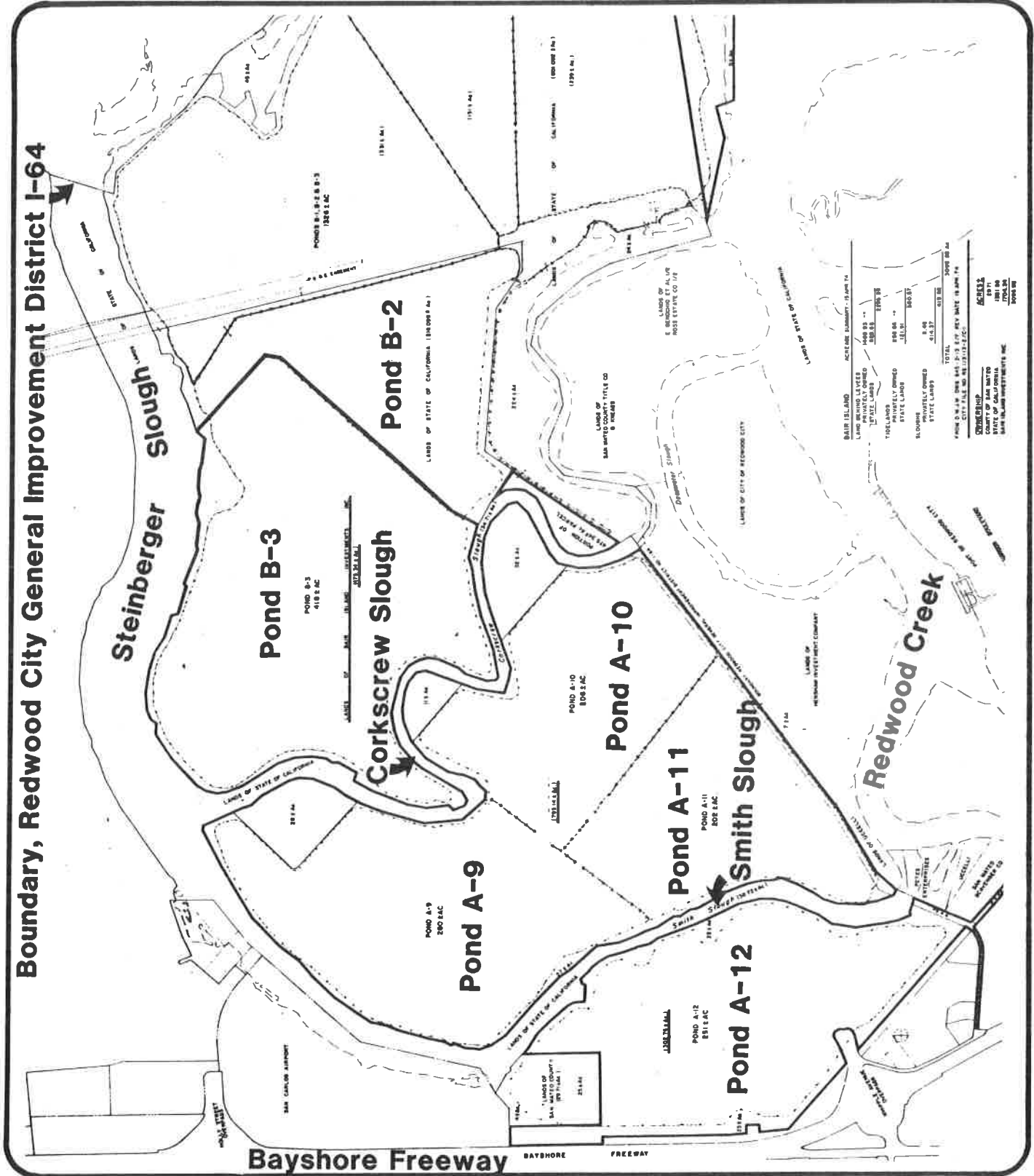


Figure No. 2

Boundary, Redwood City General Improvement District I-64



Salt Pond Boundaries

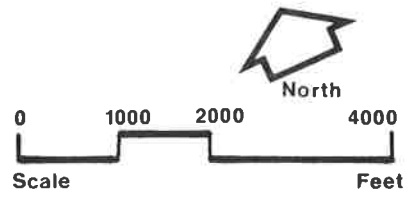
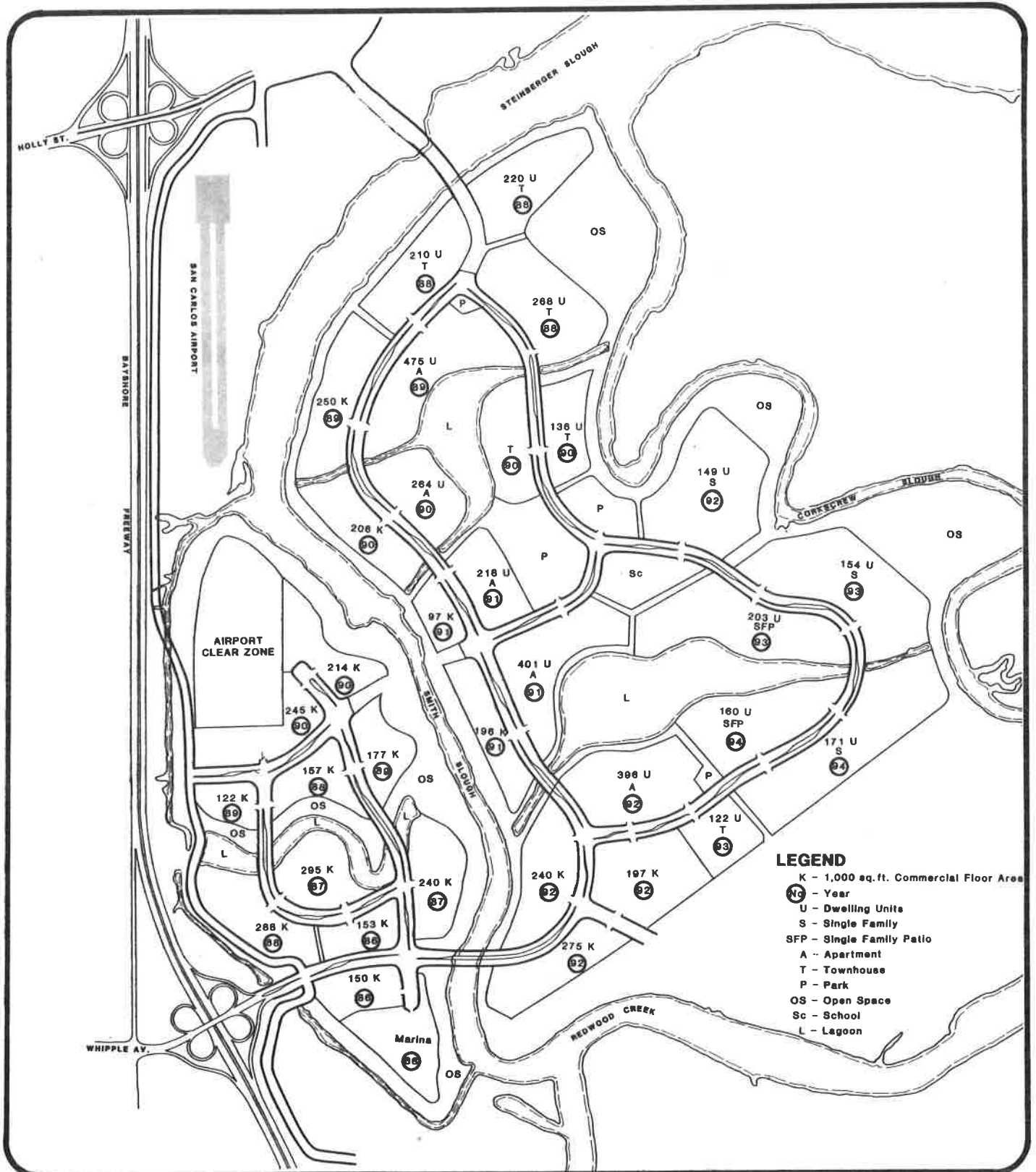


Figure No. 3



LEGEND
 K - 1,000 sq. ft. Commercial Floor Area
 (88) - Year
 U - Dwelling Units
 S - Single Family
 SFP - Single Family Patio
 A - Apartment
 T - Townhouse
 P - Park
 OS - Open Space
 Sc - School
 L - Lagoon

Time Phasing of Proposed Plan

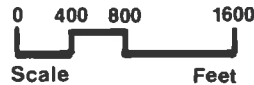


Figure No. 5

TABLE 1

South Shores Concept Plan - Development Summary

RESIDENTIAL

Single Family Detached (SF)	474 units
Single Family Patio (SFP)	363 units
Townhouse (TH)	1,127 units
Apartment (A)	1,754 units

COMMERCIAL EMPLOYMENT

Service Commercial (SC)	197,413 sq. ft.
Hotel/Convention (SC)	275,000 sq. ft. (530 rooms)
Office (O)	2,106,594 sq. ft.
R/D (R&D)	914,441 sq. ft.
Marina (SC)	600 berths

PUBLIC AND OPEN SPACE

Junior School
 Community Service Center

TABLE 2

South Shores Concept Plan - Acreage Summary, Total Plan

Single Family Detached	94.8	
Single Family Patio	51.9	
Townhouse	94.2	
Apartment	97.5	
SUBTOTAL (Residential)		(338.4)
Retail Commercial	20.6	
Hotel/Convention	16.2	
Marina	14.3	
Office	137.6	
R/D	60.0	
New Clear Zone (No building)	18.0	
SUBTOTAL (Non-residential)		(266.7)
SUBTOTAL (Saleable)		605.1
School	11.4	
Parks	23.2	
Public Center	7.4	
Lagoon	91.9	
Roads, Open Space	200.0	
SUBTOTAL (Diked Land)		939.0
Natural Area Outside Dikes	156.9	
TOTAL ACREAGE IN PLAN		<u>1095.9</u>

TABLE 3

South Shores Concept Plan - Acreage Summary - Pond A-12

Marina	14.3	
Office	61.7	
R/D	60.0	
New Clear Zone (No building)	18.0	
SUBTOTAL (Saleable)		154.0
Lagoon	16.5	
Roads, Open Space	80.5	
SUBTOTAL (Diked Land)		251.0
Natural Area Outside Dikes	51.76	
TOTAL ACREAGE IN POND A-12		<u>302.76</u>

TABLE 4

South Shores Concept Plan - Acreage Summary - Ponds A-9, A-10, A-11

Single Family Detached	94.8	
Single Family Patio	51.9	
Townhouse	94.2	
Apartment	97.5	
SUBTOTAL (Residential)		(338.4)
Retail Commercial	20.6	
Hotel/Convention	16.2	
Office	75.9	
SUBTOTAL (Non-residential)		(112.7)
SUBTOTAL (Saleable)		451.1
School	11.4	
Parks	23.2	
Public Center	7.4	
Lagoon	75.4	
Roads, Open Space	119.5	
SUBTOTAL (Diked Land)		688.0
Natural Area Outside Dikes	105.14	
TOTAL IN PONDS A-9, A-10, A-11		<u>793.14</u>

TABLE 5

Time-Phasing of Proposed Development Plan

Year	Proposed Use	Area/Units	Comment
1985	0	140,846 sq ft	
	0	153,331 sq ft	
1986	0	240,451 sq ft	
	0	295,224 sq ft	
1987	0	287,496 sq ft	
	R&D	156,816 sq ft	
	TH	220 units	
	TH	210 units	
	TH	268 units	
1988	R&D	121,968 sq ft	
	R&D	176,853 sq ft	
	0	249,598 sq ft	
	A	475 units	
1989	SC	600 berths	Marina
	R&D	245,460 sq ft	
	R&D	213,444 sq ft	
	0	206,474 sq ft	
	A	264 units	
	TH	171 units	
	TH	136 units	
1990	0	96,703 sq ft	
	0	196,020 sq ft	
	A	401 units	
	A	218 units	
1991	0	240,451 sq ft	
	SC	275,000 sq ft	Hotel/Convention Center
	SC	197,413 sq ft	Neighborhood Commercial
	A	396 units	
	SF	149 units	
1992	TH	122 units	
	SFP	203 units	
	SF	154 units	
1993	SFP	160 units	
	SF	171 units	

0--Office (.3 coverage A-9, A-10, A-11; .4 coverage A-12); R&D--Research and Development (.35 coverage); TH--Townhouse and attached dwellings (12 units/acre); A--Garden Apartments (18 units/acre); SC--Service Commercial (.22 coverage); SF--Single Family Dwellings (5 units/acre); SFP--Single Family Patio Dwellings (7 units/acre).

C. OBJECTIVES OF SPONSOR¹

The proposed project provides for the development of a planned 1,096-acre balanced community with employment, service commercial, residential, educational, community facility, open space and recreational land uses. The revision of the Redwood City General Plan for this area completes a process initiated in 1975. At that time this area was designated Urban Reserve until a specific proposal to revise the General Plan was filed by the property owner. The project sponsor would not construct buildings and facilities characteristic of the proposed land uses but, rather, would improve and divide the property into buildable parcels for future sale.

The objective in the sale of these parcels according to a master plan is:

1. To contribute to an economic balance for the entire City in terms of employment, tax base and recreation.
2. To create a water-oriented, balanced community with controls to achieve high standards of design quality for all developments.
3. To provide a plan to accommodate a variety of consumer preferences, changes in the market, and investment by builders with sufficient strength to guide the growth of the community.
4. To design a community that is consistent with economic, environmental and public facility constraints of the plan area.
5. To meet the housing needs of as many different economic groups as the market place will permit, through innovative land use planning.
6. To create a community with a highly livable environment for residences and businesses which will enhance the recreational water use potential of the Bay.

D. RELATIONSHIP TO LOCAL AND REGIONAL PLANS

The provisions of a number of documents guide future planning, environmental and development decisions to be made in respect to the site. They include the Regional Plan, the San Francisco Bay Plan, the Redwood City General Plan, the Waterfront Development Plan, existing and proposed zoning of the site, and the Subdivision Map Act.

¹Eugene Masciarelli, Project Coordinator, Redwood Shores, Inc., South Shores, Inc., letter, August 21, 1980.

I. The Regional Plan

Goals of the Association of Bay Area Governments' Regional Plan that are of relevance to the proposed project include development of regional and subregional growth consistent with a city-centered concept of regional development, maximization of employment opportunities, protection and enhancement of San Francisco Bay, and its return to a state of ecological well-being.¹

The site is located within San Francisco Bayside San Mateo County Planning area. It is noted that throughout the planning area there is limited vacant land to support future population growth. Foster City and Redwood Shores appear to be the only Bayside communities with vacant land to support substantial new residential developments.² Environmental concerns identified for the Bayside communities are sensitivity to seismic activity, existing air quality conditions, noise and air pollution related to airport activities, and the need to maintain scenic opportunities and provide recreational opportunities in proximity to urban populations. The need for diversified job opportunities, coordinated transit systems and low and moderate income housing opportunities is also noted.³

- The ABAG Regional Plan 1970: 1990 designates the proposed site as predominately residential.⁴ The proposed project would result in infill development within Redwood City and provide additional housing and employment opportunities. It therefore appears consistent with Regional Plan goals for a city-centered region and for maximization of employment opportunities. Pond A-12 is designated as permanent open space⁵ and, as

¹ ABAG, Regional Plan San Francisco Bay Area, 1980.

² Ibid, Subregion I-2.

³ Ibid, Subregion I-3.

⁴ Ibid, Regional Plan 1970:1990, San Francisco Bay Region, Regional Plan Map, 1970.

⁵ Ibid.

described in Sections IV.D., Vegetation and Wildlife, the project would result in significant ecological impacts for San Francisco Bay. Indirect emissions generated by auto traffic associated with the project would contribute to local and regional air quality problems.

2. San Francisco Bay Plan

The San Francisco Bay Conservation and Development Commission (BCDC) Plan is the principal instrument of the McAteer Petris Act of 1965. This Act provides for conservation of the waters of San Francisco Bay and shoreline development. It establishes BCDC as the permit authority for emplacement of fill, extraction of minerals or changes in use of any water land or structure within a 100 foot shoreline band extending inland from the line of highest tidal action reached since 1965. The present extent of BCDC jurisdiction includes Steinberger Slough, which extends south between Highway 101 and Pond A-12 to south of Whipple Avenue; Smith Slough, which separates Pond A-12 from Ponds A-9, A-10 and A-11; Redwood Creek, which flows to the bay east of the project site; Corkscrew Slough which divides Ponds A-8, A-9, A-10, and A-11 from Bair Island; and small areas of tidal marsh along Corkscrew Slough and on the bayward edges of Redwood Peninsula and Bair Island. The diked off salt ponds no longer subject to tidal action are not within BCDC jurisdiction.¹ (See also discussion in Jurisdictional Authorities below.)

The San Francisco Bay Plan maps illustrate the western part of the project site as a "high value waterbird habitat" with tidal marsh along the shoreline and Corkscrew Slough.² The southern area (Pond A-12), between Steinberger Slough and Highway 101, is designated in the Bay Plan as a waterfront park priority site.^{3,4} The area to the east of the site is indicated as appropriate for additional port and marina development. Ponds A-9, A-10, and A-11 are depicted on the map as urban space.⁵

¹ Jones and Stokes Associates, Inc., Final Report Wildlife Reconnaissance - Inventory for Bair Island and Redwood Peninsula, 1972, page 27.

² San Francisco Bay Conservation and Development Commission, San Francisco Bay Plan, as amended July 1979, Map I.

³ Ibid., Southern San Mateo County Plan Map 8.

⁴ Ibid., Proposed Major Uses of the Bay and Shoreline.

⁵ Ibid., Southern San Mateo County Plan Map 8.

Policies applicable to the proposed project concern: maintenance of marshes and mud flats; reopening to the bay of salt ponds and other managed wetlands withdrawn from their former use; public access to and along the waterfront; and preservation and enhancement of scenic views along the waterway.¹

The General Plan for South Shores proposed by South Shores, Inc., indicates development which is in some ways consistent with the BCDC Plan, i.e., an ecological reserve is proposed on the southwestern side of Corkscrew Slough providing some marsh habitat. Controlled waterways and public open space would provide public access to the Slough and hence allow use of former salt ponds and views to Bay-associated areas. The marsh restoration of Pond B-3, suggested in this report, would partially offset the cumulative loss of marsh area within San Francisco Bay. However, it is apparent that there are 2 major inconsistencies between the Bay Plan and the project as presently proposed. First, the South Shores plan indicates commercial, residential and marina development on Salt Pond A-12: the area indicated by BCDC as appropriate for waterfront beach and park area. Second, utilization of former salt ponds is proposed, surpassing an opportunity to enlarge and restore Bay wetland areas.

3. Protection and Restoration of San Francisco Bay Fish and Wildlife Habitat

This document was a joint study undertaken by U.S. Fish and Wildlife Service (FWS) and the California Department of Fish and Game (DFG). It contains policies and management guidelines of the 2 agencies and notes "San Francisco Bay is the largest estuarine ecosystem in California. Even though 80% of its historic intertidal marshlands have been dredged, filled and diked for conversion to harbors, industrial, commercial, residential and other uses, it remains the most important coastal wetland in the State. The preservation of existing wetlands and restoration of those lowlands lying within the historic marsh margin of the Bay are goals of the highest priority for both the U.S. Fish and Wildlife Service and the California Department of Fish and Game."²

¹San Francisco Bay Conservation and Development Commission, San Francisco Bay Plan, as amended July 1969.

²Jones and Stokes Associates, et al., Protection and Restoration of San Francisco Bay Fish and Wildlife Habitat, 1979, page i.

Management guidelines of the DFG of relevance to the proposed project specify that wherever possible, historic tidal marsh areas should be restored to productive fish and wildlife habitat; if permitted development results in reduction of surface or volume of the Bay, or permanent loss of diked but unfilled historic marsh with potential habitat value, the loss must be offset by restoration of an area of comparable size and value.¹

Fish and Wildlife Service policies include the following:

"The Service actively discourages activities and developments in or affecting the nation's waters and wetlands which would individually or cumulatively, with other developments on a waterway, unnecessarily damage or degrade fish, wildlife, aquatic and wetland ecosystems.

"It is the Service's position that there exists a national recognition that wetland and shallow water habitats have such high ecological and social values as to consent to their destruction or degradation only where there is no question that

- the public interest demands it....The service usually recommends against the issuance of U.S. Army Corps of Engineers' permits for non-water-dependent projects particularly where biologically productive wetlands are involved and alternative upland sites are available."²

Project-site fish and wildlife habitats are described in Section IV.D. of this report. The project site is also noted as an historic marsh. In terms of the San Francisco Bay Fish and Wildlife Optimization Scenario, the site is designated "existing and potential fish and wildlife habitat" and is thus considered appropriate for marsh restoration.³

¹Jones and Stokes Associates, et al., Protection and Restoration of San Francisco Bay Fish and Wildlife Habitat, 1979, page i.

²Another policy concerning preservation of wetlands in perpetuity, also of relevance to the proposed project, is mentioned briefly in the Jurisdictional Authorities (Section III.D.6.).

³Jones and Stokes Associates, et al., Protection and Restoration of San Francisco Bay Fish and Wildlife Habitat, 1979, Volume I, Plate I-17.

4. Comprehensive General Plan Redwood City

The Land Use Plan of this document designates the site "urban reserve."The written part of the General Plan¹ contains a number of goals and policies of relevance to the proposed project. They include general land use, housing, employment and open space criteria and are summarized briefly as follows:

Land Use: Channel growth in core areas, considering indiscriminate growth patterns, allocating community facilities and services so that there is equal access and availability within all neighborhoods. Preserve, enhance and restore the natural environment in the process of present and future development, treating the quality of the environment and design integrity as major factors in all development considerations; encourage subdividers to set aside land for parks, encourage preservation and beneficial restoration of natural marsh lands.

- Housing: The Housing Element is designated to promote and insure: 1) the provision of adequate housing for all persons; 2) the provision of housing selection by location, type, price and tenure; and 3) an open and free choice of housing for all citizens, both present and future.

- The goals of Housing Element are designated as follows:

"1. Supply: A sufficient supply of housing to satisfy the need for a safe and sanitary dwelling of adequate size and acceptable cost for every city resident, both present and future.

- a. Maintenance and conservation of existing housing stock by rehabilitating, renovating, and refurbishing those structures which will allow such changes.
- b. Seeking funds to subsidize the building of low and moderate-income housing which is fiscally and environmentally viable.

¹Comprehensive General Plan Redwood City, 1975, City of Redwood City.

- c. Development of sufficient housing with features to meet the needs of Redwood City's handicapped, aging, and others with special physical requirements.
- d. Development of housing which promotes energy conservation and less dependence upon the automobile.
- e. Development of housing which makes best use of available acreage so that the requirements of both housing and open space can be met.

"2. Distribution: A sufficient distribution of new, replacement, and rehabilitated housing by type, size, and cost so that each household regardless of race, cultural origin, or economic status is provided a reasonable choice of locations within the City.

"3. Municipal Services: Provide municipal services to maintain residential areas with equality of municipal services in all neighborhoods."

- The Redwood City General Plan, published in 1975, states that the population growth has outpaced non-residential development with the result that the labor force outnumbers jobs within the City. To combat this job/housing imbalance the General Plan suggests that there should be at least 1 net increase in job opportunities for every 2 person increase in the population.
- The job/housing imbalance has reversed in recent years; the job/housing ratio is currently 1:0.380.¹ Thus, the statement in the General Plan is no longer accurate. The need for housing now outweighs the need for additional employment opportunities. The proposed project would provide housing for approximately 9,300 persons and jobs for about 12,000 exacerbating the current job/housing imbalance.

A variety of residential densities is planned throughout the City. For the waterfront and hillside areas, a higher density of 6,000 square feet per dwelling unit is anticipated.

- However, these densities should be compatible with proposed surroundings by virtue of unit size, location, siting, design and function.

¹There is 1 new job for every .380 housing units being constructed.

Open Space: The lowlying bayland zone of dikes, water areas, marshes, streams and sloughs is indicated as a major open space zone; the site is not, however, indicated as an open space area on the Open Space Plan. Goals for open space include provision and maintenance of an open space system that allows public access to publicly owned open space when it will cause little or no damage to the environment; preserve plant and animal communities which possess unique scientific, aesthetic or ecological value; discourage unnecessary or premature conversion of open space lands to urban use, and discourage urban development patterns either environmentally or monetarily costly to the community; and protect and conserve wildlife areas which are primarily wildlife habitat or which have major ecological significance. Use of school facilities combined with neighborhood recreation areas is encouraged.

Conservation: Prime animal habitat areas should be conserved by protecting the natural vegetative growth of the Redwood City area including marsh vegetation. Judicious restraint should be exercised in the control of other forms of life essential to the food chain in animal habitats.

- The proposed project appears consistent with some of the policies of the General Plan insofar as it would create a comprehensively planned community providing additional
- housing, recreational and employment opportunities. However, the project would conflict with the General Plan goals to balance employment opportunity/labor force imbalances.

- The project would create adverse impacts upon wildlife habitat, although proposed artificial lagoons would create foraging habitat for some avian species. There is a need to evaluate the extent of the proposed urban development against the environmental criteria contained in this and other referenced planning documents. Consideration should also be given to the timeliness of the proposed project, and its relationship to other projects within the Peninsula area, including Redwood Shores and the Port of Redwood
- City area, particularly with regard to the traffic constraints identified in the Eastside Transportation Network Study.

Prior to project implementation, if approved, the existing General Plan land use designation of "urban reserve" would require amendment to reflect the land use mix of the proposed project. It is possible that a similar procedure to that of the Redwood Shores development would be followed and the project site would be redesignated as "employment," "open space," "residential," "commercial," and "waterway" designations.

● 5. Waterfront Development Plan

The City of Redwood City established guidelines specifically to minimize potential land use conflicts in development of the Redwood City Waterfront. A primary concern of the Waterfront Development Plan is park and open space; one of the goals stated in the Plan is to reserve a large multi-acre site on Bair Island for a regional park. However, implementation of the project would not be inconsistent with the Waterfront Plan. The plan also stipulates that residential development only should be allowed on Redwood Peninsula and Bair Island.¹ The Waterfront Plan shows industrial uses for Pond A-12, residential, commercial, wildlife refuge and park and open space land uses for Ponds A-9, A-10 and A-11.

6. Zoning Matters

At present, most of the site is zoned TP (Tidal Plain); some small areas immediately adjacent to the Bayshore Freeway, south of the Whipple Interchange, are zoned IR (Industrial Restricted) CG (General Commercial) and TP-T (Tidal Plain, Transient Residential Units).

The TP district includes marshlands adjacent to San Francisco Bay. Its purpose is to permit temporary land uses (salt ponds, agriculture, public parks and recreation facilities) which can ultimately be replaced by more permanent land uses. Conditional uses include commercial recreation areas, outdoor theaters, airports, dirt, rock and fill businesses, salvage yards, landfill operations, sewage disposal plants, warehouses and storage buildings. The IR district provides for the location of selected industries, wholesale establishments, specified retail establishments and heavy commercial uses, including machine shops, laboratories, warehouses, cabinet, electrical and plumbing shops, offices, automotive sales, and public and quasi-public uses.

Zoning changes to reflect proposed land uses would be necessary. Such changes may include reclassification to GC (General Commercial) district which permits business and professional offices, boat sales, sales and service establishments, hotels and motels and laboratories. Conditional uses include commercial recreation facilities, bars and

¹Waterfront Development Plan, 1974, City of Redwood City, p. 4.

restaurants and warehousing. IR (Industrial Restricted) district would permit light industrial, warehousing and office land uses.¹ Residential areas would probably be covered by P-D (Planned Development), permitting more comprehensive planning than conventional residential zoning districts.

All land uses would be subject to design review procedures.

● 7. Subdivision Map Act

The purpose of the Subdivision Map Act is to coordinate planning laid out by local authorities and to assure that proper improvements by local authorities are made so the burden is not on the taxpayer. The purpose of the Act is also to protect individual transferees as well as the public at large.

The Subdivision Map Act states that a subdivision can only be denied or disapproved if it fails to meet certain criteria. These provisions are listed below.

1. Consistency with General and Specific Plans
The subdivision map must be consistent with general and specific plans.
2. Physical Suitability for Type of Development
 - a. The Act requires a geologic report defining and delineating any hazard of surface fault.
 - b. The proposed residential development must be adequately served by a particular sewage disposal system.
3. Density of Development
The site must be physically suitable for the proposed density of development.
4. Environmental Damage
Approval of the subdivision map could be denied if the project is likely to generate adverse impacts on fish, wildlife or their habitats.
5. Public Health Problems
Approval could be denied if the design or type of project is likely to cause serious public health problems.
6. Waste Discharge Requirements
The proposed project must not be in violation of the California Regional Water Quality Control Board.

¹ Mobil Oil Estates Limited, General Plan Report, Redwood Shores South Ponds A-12, A-9, A-10, and A-11, 1977.

7. Conflict with Public Easements

Approval will be denied if there is a conflict with easements acquired by the public. (Approval may be given if alternate easements are provided.)

8. Local Design Standards

Local agencies are required to disapprove subdivision maps for failure to meet requirements or conditions imposed by local ordinance. Subdivision design is now required to provide, to the extent feasible, for future passive or natural heating or cooling opportunities.

9. Catchall-Compliance with Map Act and Local Ordinance

The Map Act directs each local agency to enact an ordinance regulating and controlling subdivisions requiring tentative or parcel maps.

10. Housing Needs of Region

Local agencies are required to consider the effect housing needs will have against public service needs.

The proposed project does not appear to conform to Provisions 1, 2, and 4 of the Subdivision Map Act.

8. Jurisdictional Authorities

Seven principal agencies have direct permit jurisdiction over the proposed project. They are San Francisco Bay Conservation and Development Commission, U.S. Army Corps of Engineers, State Lands Commission, San Francisco Bay Regional Water Quality Control Board, the Bay Area Air Quality Management District, the City of Redwood City, and San Mateo County Airport Land Use Commission. Other agencies, such as the California Department of Fish and Game and the U.S. Fish and Wildlife Services lack direct permit authority over the project, but contribute to policy matters and implementation of mitigation measures through the principal agencies.

- This EIR addresses the project sponsor's application for an amendment to the Redwood City General Plan. If that amendment is approved permits would then be required from BCDC, the Army Corps of Engineers, and the Regional Water Quality Control Board.

Information concerning state and federal regulations applicable to the proposed project are summarized below. Further details are contained in responses to notices of preparation and in the Jones and Stokes Associates Inc. (1972) report¹ and are hereby incorporated by reference.

¹Jones and Stokes Assoc. Inc., Final Report Wildlife Reconnaissance - Inventory for Bair Island and Redwood Peninsula, South San Francisco Bay, 1972.

San Francisco Bay Conservation and Development Commission. BCDC has permit jurisdiction over certain features of the project area:¹

(a) All sloughs, the marshlands lying between mean high tide and five feet and mean low tide, and submerged lands (land lying below mean low tide).

(b) A shoreline band consisting of all territory located between the line of highest tidal action since 1965 and a line 100 feet landward of and parallel of that line.

In reviewing the areas of the proposed project within BCDC jurisdiction, the Commission must determine whether or not it is consistent with both the Bay Plan and the McAteer-Petris Act. In addition, BCDC acts as the coastal agency for San Francisco Bay under the Coastal Zone Management Act of 1972. A comment from BCDC would be required on any facility or improvements involving federal funds if such elements could detrimentally affect the coastal zone.²

- It is BCDC policy to provide public access to Steinberger Slough, Smith Slough and Redwood Creek and limit waterfront development to water dependent uses (public access should include paths, beaches, parks and wildlife observation areas).
- The Commission controls and monitors the use of managed wetlands, salt ponds and named waterways. Although the project salt ponds are no longer under BDCD jurisdiction, the project could require permits for bridge construction, levee improvement and marina and lagoon excavation. Permits are granted or denied only after public hearings. In accordance with the Bay Plan, dredged materials could be used to fill depressions on the site to desired elevations. Recreational development and public access to the Bay would be increased at the site by the project.

¹California Government Code, Title 7.2, Chapter 2, Definition of San Francisco Bay, Section 66610 (a), (b), (c) and (d).

²Nancy Twiss, San Francisco Bay Conservation and Development Commission, written communication, February 11, 1981.

U.S. Army Corps of Engineers. The proposed project would require Department of Army authorization under Section 10 of the Rivers and Harbors Act of 1899 and Section 404 of the Clean Water Act, as amended. The Corps' jurisdictional authority under the Rivers and Harbors Act extends to the line of mean high water (MHW) in its unobstructed natural state and, under the Clean Water Act, to all areas subject to tidal inundation in their unobstructed natural condition, regardless of elevation. The Corps also has jurisdiction over discharges of dredged or fill material in the wetlands adjacent to other waters of the U.S., including those separated from other waters by manmade dikes.

At the present time a case (Sierra Club, et al. vs. Leslie Salt Company, et al., No. 80-4095) is pending in the Ninth Circuit Court of Appeals which could affect the Corps' authority over the project site. The issues are whether the levees on Bair Island and South Shores are "dikes" under the Rivers and Harbors Act and whether they have been previously authorized by the Corps of Engineers in past regulations. The lower court held the levees were not "dikes" under the Act and, also, that the Corps had authorized the levees.

The decision whether to issue a permit for the filling or other alteration of wetlands would be based on an evaluation of probable impact of the proposed project on numerous social and environmental factors and its intended use in the public interest.¹

The project may indirectly or directly affect habitat for several federally listed endangered species. The Endangered Species Act of 1973, as amended, requires that the Corps of Engineers ensure that any action which it authorizes will not jeopardize the continued existence of an endangered or threatened species. An evaluation of the effects of the proposed development upon flood hazards and upon the enhancement and preservation of cultural values is also necessary.

The Fish and Wildlife Coordination Act requires that the Corps of Engineers consult with the U.S. Fish and Wildlife Service, the National Marine Fisheries Service and the California Department of Fish and Game regarding the impacts of proposed activities upon wildlife resources.

¹Written communication from Rod Chisholm, Chief, Management and Services Section, Army Corps of Engineers, August 13, 1980.

It has been the policy of U.S. Fish and Wildlife Service to object to the filling of existing or potentially restorable historic wetlands for projects which are not water dependent. The California Department of Fish and Game have indicated that the Department would be opposed to any filling of historical wetlands unless the project is dependent on being located in or in close proximity to the aquatic environment and where alternative sites are not available. Diked-off, but unfilled areas within the Corps jurisdiction, are regarded as being capable of supporting a productive tidal marsh. The Department's position for these areas is that for every acre permitted for development, a compensating area equivalent to potential wildlife productivity must be restored as marsh wildlife habitat.¹

- The Department of Fish and Game has been mandated by the California State Senate to increase the amount of wetlands in California by 50% by the year 2000.²

The Resources Agency has an adopted wetlands preservation policy which does not permit authorization or approval of a project that fills or otherwise harms or destroys wetlands unless the project is water-dependent or an essential transportation, water conveyance, or utility project.

State Lands Commission. A new bridge is proposed to cross Smith Slough as an extension of Whipple Avenue. A permit from the State Lands Commission would be necessary for construction and maintenance of the structure. Since the ultimate responsibility for the bridge will be assumed by Redwood City, the City should be the permit applicant.

San Francisco Bay Regional Water Quality Control Board. All waters adjacent to Redwood Peninsula and Bair Island are subject to the jurisdiction of the RWQCB which monitor water quality within San Francisco Bay. Any activity involving changes to water quality through disturbance of land surface or discharge requires filing of a Report of Water Discharge. The applicant would therefore be required to obtain a water quality certificate under the provisions of Action 401 of the Clean Water Act, as amended, for the proposed controlled waterways. The Board may also require the applicant to obtain a National Pollutant Discharge Elimination System permit for discharges for artificial waterways before granting a water quality certificate.

¹California Department of Fish and Game Statement to the Redwood City Waterfront-Port Special Plan Area Advisory Committee, December 22, 1977.

²E.L. Fullerton, Director, Department of Fish and Game, State of California, letter to Resource Agency and Redwood City, May 28, 1981.

Bay Area Air Quality Management District. The District could have permitting authority under District Regulation 2 if any light industrial uses were to be designated in the project areas proposed for I R Zoning (see Section I.D.5).

City of Redwood City. Any land use or change in land use activity is subject to consideration by the Redwood City Council and its advisory agencies, the Redwood City Planning Commission and the Redwood City Planning Department. Details as to proposed rezoning and development approvals are described in the preceding paragraphs.

- San Mateo County Airport Land Use Commission. The ALUC has regulatory rights over all development within the CNEL 55 Noise contour and hazard zone area of San Carlos Airport, including portions of the project site. The Airport Land Use Commission, functions under the directorship of the County Regional Planning Commission. Any land use decisions made for the 2-mile radius area by the Airport Commission are subject to review by the Redwood City Council. Conditions as to height of development within the hazard zones of the airport may be imposed upon the project.

IV. ENVIRONMENTAL SETTING, IMPACTS AND MITIGATION

A. GEOTECHNICAL ASSESSMENT

1. Setting

This section is a summary of Technical Appendix III, Geotechnical Assessment that is included in Volume 2 of this Final EIR. For more information the reader should refer to that document.

Previously a tidal marsh, the site was diked in 1946 and extends into the San Francisco Bay. Typically, the bottom of San Francisco Bay is a soft, compressible sedimentary deposit referred to as younger Bay mud. Below this is a preconsolidated older Bay mud, firm to stiff in strength. A granular alluvium exists in some areas between the younger and older Bay mud layers and may also be found at varying depths within the lower mud stratum. Underlying bedrock may exhibit considerable relief and variation in weathering. Erosion, slope failure and subsidence are the geomorphic processes most likely to be occurring across the project site, but the magnitude of their effects appears small. Localized slumping of the perimeter dikes from overtopping or other causes may have occurred, and been repaired from time to time, but no large slides resulting in a major loss of diked sections have been known to occur. Because the younger Bay muds may be slightly underconsolidated, the area gradually may be subsiding under its own weight. Recognizing the proximity of the site to the San Andreas Fault system, which is responsible for the past frequency of seismic activity in the state, the potential of particular seismic hazards to arise at the project site is discussed.

2. Impacts

During construction and throughout its life the project site would be subject to the forces of erosion and a salt-laden corrosive environment.

Placement of fills would increase the present rates and magnitude of settlement. Differential settlements could affect the performance of houses, buildings, utilities, roadways, parking lots and other facilities.

Subsidence under the levee system, if excessive, could permit overtopping. Slope instability, lateral slumping or spreading is more likely to occur during the reclamation-construction phase or during seismic shaking than under term static conditions. Parameters that affect soil stability include rate and height of new fill placement, side slope, type of fill material used and the degree of compaction obtained.

The probability of future faulting or ground rupture at the site is regarded as extremely low. An earthquake could cause moderate to severe shaking throughout the region. Groundshaking would subject the site to horizontal and vertical accelerations to be experienced by embankments, dikes, fills, underwater excavations, bridge and foundations, above-ground structures and utilities. Large-scale landslides are not a problem, but localized slides may occur in the dike and channel areas. Bridge approach fills could also become unstable during seismic activity, but concern for liquefaction of Bay muds appears unwarranted because the mud is essentially a cohesive, clay material. Toward the shoreline however a potentially liquefiable layer continues across borings. The condition may be more extensive proceeding inland and should be explored further in the final soils investigation program. If the levee system is properly constructed to proposed Elevation 109, then sufficient freeboard would be available to prevent overtopping by either a tsunami or seiche.¹

There is sufficient presence of peat at the surface of the site and below ground to warrant study of the potential for natural gas explosions; therefore, surface peat would be removed and subsurface peat would be studied.²

3. Mitigation

An erosion control plan, construction schedule, and sequence of operations developed prior to construction can provide an effective approach to minimizing soil erosion. Corrosion can be avoided by a careful specification of non-corrosive metals or protective coatings and attention to embedment in good quality fills. Techniques are available to reduce post-construction settlements and to accommodate differential settlements. Design approaches and construction procedures are available to produce stable slopes.

¹Seiche: an occasional and sudden oscillation of the water of a lake, bay, estuary, etc. causing fluctuations in the water level, and caused by wind, earthquakes, or changes in barometric pressure.

²Eugene Masciarelli, South Shores, Inc., written communication to Joel Patterson, Redwood City Planner, March 5, 1981.

It is expected that site-specific earthquake design criteria would be developed. Conservative treatment by employment of controlled compacted fill, flat side slopes and setbacks from sloughs and depressions should prevent or at least confine instabilities to localized areas. Such failures would be readily repairable. Many of the construction techniques to accommodate differential settlements would also serve to mitigate the effects of seismic tremors. Although earthquakes may be inevitable, their damaging effects can be greatly reduced.

While there are challenging geotechnical problems associated with this project, they are solvable and their effects may be reduced to reasonable levels of loss or risk through use of known design concepts and construction techniques.

B. HYDROLOGY

1. Setting

This section is a summary of Technical Appendix IV, Hydrology and Hydraulics that is included in Volume 2 of this Final EIR. For more detailed information the reader should refer to that document.

The proposed South Shores project site is surrounded by several waterways which include the Redwood Creek estuary, Corkscrew Slough, Smith Slough and part of Steinberger Slough. Thirty five years ago, a dike was constructed along the boundaries of Ponds A-9, A-10, A-11 and A-12 to prevent the area from flooding during high tides; the dikes were repaired in 1974 and 1976. The project site is practically flat and forms a watershed by itself because of dike construction. Borrow pits along the inboard side of levees were created as a result of the dike construction. These peripheral canals have no outlet, thereby storing water most of the year. Historic marsh drainage sloughs are also present on the pond bottoms and store some water. Water level in the channels rise when there is an appreciable amount of rainfall and drops due to seepage and evaporation. During winter months the pond bottoms become inundated in places forming seasonal wetlands (areas of hydric soils).

2. Impacts

- The project site would be flooded during high tides should there be a breach in the existing dikes.
- Drainage could be a serious problem since the site is located on a level ground and is enclosed by dikes all around; however, a similar situation exists in the neighboring Redwood Shores development with no drainage problems.¹
- Significant erosion and sedimentation problems could be experienced during construction periods.

3. Mitigation

- The dikes should be improved or repaired to resist flooding during high tides.
- Adequate storm sewerage should be constructed; the proposed lagoons may be adequate for this purpose.

¹Eugene Masciarelli, South Shores, Inc., written communication to Joel Patterson, Redwood City, March 5, 1981.

- A detailed design study of the project should consider the impact of storm runoff on flood control capacity, and the alteration of the tidal current pattern due to increased runoff.
- The long-term impacts of channel dredging (proposed on Redwood Creek), which would create a wider, deeper channel, should be studied, related to the proposed development and the entire estuary-bay environment.

C. WATER QUALITY

1. Setting

The following is a summary of Technical Appendix V, Water Quality, that is included in Volume 2 of this Final EIR. For more detailed information the reader should refer to that document.

The waterways surrounding the proposed project site are connected to the San Francisco Bay, and a few of them are used as navigable channels. Consequently, they would be affected by tides and currents, resulting in transport and mixing of pollutants that may enter the waterways from time to time. In addition, the mud flats and shallow areas would form a habitat for wildlife and oxygen-demanding benthic organisms.

There are few quantitative water quality data regarding the tidal sloughs or the Redwood Creek estuary surrounding the project site, because there are no water quality monitoring stations in the vicinity.

Some problems have been identified in localized areas, one due to urban runoff into Steinberger Slough; Smith and Corkscrew Sloughs and Redwood Creek estuary may also be affected by urban contaminants, but no conclusive data are available.

2. Impacts

The wastewater or stormwater originating from the project development would be the major source of pollution.

Water quality problems may be widespread. Increased development of pollutant sources would increase localized water quality degradation, as well as contribute to the cumulative impact to the Bay margin ecosystem as a whole.

Urban stormwater runoff emanating from the project site would accumulate pollutants and sediments in the inland waterways. This could affect the biological community of the waterways. In addition, sedimentation and/or erosion could cause changes in the hydrologic balance of the drainage channels.

Dredging and construction operations such as levee repair would cause temporary problems of erosion and sedimentation.

The impact of stormwater discharge into sloughs depends on several factors including quantity of flow, frequency, mixing and flushing action of the sloughs, and the residual pollutant concentrations of the effluent. Within the scope of this study, it was not possible to determine whether the rate of mixing in the sloughs would be sufficient to assimilate stormwater discharged from the area. However, there might be some adverse impacts of stormwater discharged into the sloughs resulting in localized algal growth and unpleasant odors. Since the quantity of urban runoff and pollutant concentrations have not yet been determined the extent of these adverse impacts cannot be quantified.

Marinas by themselves produce minimal water quality problems in the surrounding waterways. However, occasional observation of refuse, fecal matter and toilet paper of boat origin is common at several marinas. Existing regulations require on-board holding tanks, but the scarcity of shore facilities to pump out waste has offset much of the effectiveness of this regulation.

3. Mitigation

To provide information for determining future impacts and solutions to potential water quality problems, water quality monitoring in the surrounding waterways should be established. Both runoff quantities and pollutant concentrations should be monitored.

The following measures would reduce the impacts of construction activities on water quality.

- Temporary straw bale barriers should be built on small bare areas where sheet flow would occur most often.
- Temporary diversion and interceptor dikes should be constructed at top or toe of slopes, and across distributed right-of-way and similar areas.
- A temporary level spreader is needed where concentrated runoff is to be released on to already stabilized areas.
- Anchored mulch and temporary seeding should be done immediately after grading the site except at building sites and 30 feet border and parking areas.
- Levee slopes should be stabilized with nonerodible linings, riprap or proper seeding.
 - Runoff velocities should be kept low by mechanically shortening the slopes or by keeping gradients low.
- Sediment traps should be provided at the toe of the slopes to prevent or control transportation of sediment along with storm runoff.

- The following mitigation measures are recommended to control and reduce the transportation of pollutants with storm runoff.
 - Schedule street sweeping to concentrate effort just before and during the rainy season. Other techniques include instituting parking regulations to allow sweepers access to curb area, training street sweeper operators to increase pick-up of fine particles (which contain a high percentage of pollutants), and further modifications as part of the continuing planning process.
 - Control use of certain chemicals including regulation of fertilizers and pesticide usage for home gardens and lawns.
 - Clean stormwater collection systems by improving cleaning of catch basins, storm drains and open ditches.
 - Control dumping by implementing oil recycling programs, enforcement of existing anti-dumping ordinances, drafting watercourse protection ordinances and neighborhood composting programs.
 - Develop anti-littering program with the aid of public information programs, placement of litter receptacles and strict enforcement of ordinances.
 - Establish public education and information programs; the public generally lacks awareness of the relationship between polluting substances and their impact on water quality.

The wastewater originating from the development should be treated prior to discharging effluent into the natural waters. The construction of the project would be contingent upon providing satisfactory treatment by way of expanding the SBSA treatment plant facilities to accommodate the increased flows (see Section IV. Public Services). Water quality problems resulting from inland navigation and marinas could be controlled by improving marine sanitation facilities and educating the public using the waterways.

D. VEGETATION AND WILDLIFE

I. Setting

- The South Shores and Bair Island region as a whole constitutes one of the most valuable remaining wildlife areas in South San Francisco Bay. In spite of the large portion of the area that was converted to salt evaporation ponds in the past, the project site and adjacent parcels continue to support large populations of migratory and resident species including at least 4 species of rare or endangered animals. The area has developed into a unique nesting and breeding area, protected from human disturbance and natural predators by the surrounding salt water sloughs.

The area that would be biologically affected by the proposed South Shores project is not restricted to the project site itself, but also includes the biologically important Bair Island across Corkscrew Slough. The importance of this island to wildlife is illustrated by the fact that the San Francisco Bay National Wildlife Refuge encompasses a portion of the area, and the State of California Department of Fish and Game manages another portion as an ecological reserve. Out of necessity, then, this analysis is not confined only to the project site but addresses the entire affected area, including Bair Island.

- Six ecologically distinct habitat types are found in the area that would be affected by the proposed project. These habitats are: tidal salt marsh, drained evaporation ponds, raised levees, upland grass and shrubs, tidal mudflats, and open waters. The Wildlife Habitat Map, Figure 6, illustrates the distribution and extent of these habitats with respect to both the project site and adjacent areas.
- The major portion of the project site consists of drained salt evaporation ponds which, in their present state, are of relatively low value to wildlife. These ponds constitute approximately 916 acres. The raised levees surrounding and dividing the ponds provide habitat of somewhat greater value, because of their sparse vegetative cover. These levees cover about 24 acres. Within the zone of tidal influence, the outboard slope of the levees supports a narrow band of salt marsh. Salt marsh has a wildlife value far exceeding that of the levees and the ponds. In addition to the narrow fringe of salt marsh encircling the inner island, 3 major bends in Corkscrew Slough contain extensive marsh areas. Approximately 157 acres of salt marsh is present on the project site. Significant salt marsh acreage is also found on adjacent parcels and on Bair Island. No upland habitat is found within the actual project boundaries, although its presence on adjacent Bair Island is a major factor in the area's biological productivity.

a. Salt Marsh. Salt marshes are considered one of the most productive ecological systems in the world.¹ Abundant nutrients and light produce a favorable environment for a number of highly productive plants, which form the base of the food chain. Primary productivity in these habitats can exceed 5 tons of organic matter per acre annually, almost twice the average primary productivity of cultivated lands.² The organic detritus resulting from the decomposition of plants nourishes large populations of zooplankton and filter-feeding invertebrates. These small organisms in turn provide food for larger marsh animals, such as fish and birds. Many species of commercially valuable fish depend upon salt marshes as "nursery grounds" where their young growth stages can take advantage of the protected environment and abundant food. Salt marshes also appear to play an important role in buffering the air and water from man-caused pollutants. Marshes produce large quantities of oxygen and contribute to the maintenance of good water quality by filtering out a range of water-borne pollutants and sediment.

The amount of salt marsh acreage around San Francisco Bay has been reduced drastically in the last 100 years. According to a 1979 study for the California Department of Fish and Game and the U.S. Fish and Wildlife Service, tidal marshlands baywide have been reduced by at least 75% in historic times.³ The situation in South San Francisco Bay is even worse; 87.5% of the tidal marshes in that area have been altered or eliminated.⁴ In the context of these massive reductions, the report notes, all remaining salt marsh areas must be viewed as precious commodities to be preserved, maintained, and if possible, enhanced.

The entire South Shores/Bair Island area is historic salt marsh which has been subjected to extensive disturbance. During the late 1800s and early 1900s, limited salt marsh reclamation took place, although much of the reclaimed land reverted to marsh when the initial levees broke or overflowed.⁵ Extensive reclamation of the marshlands did not occur

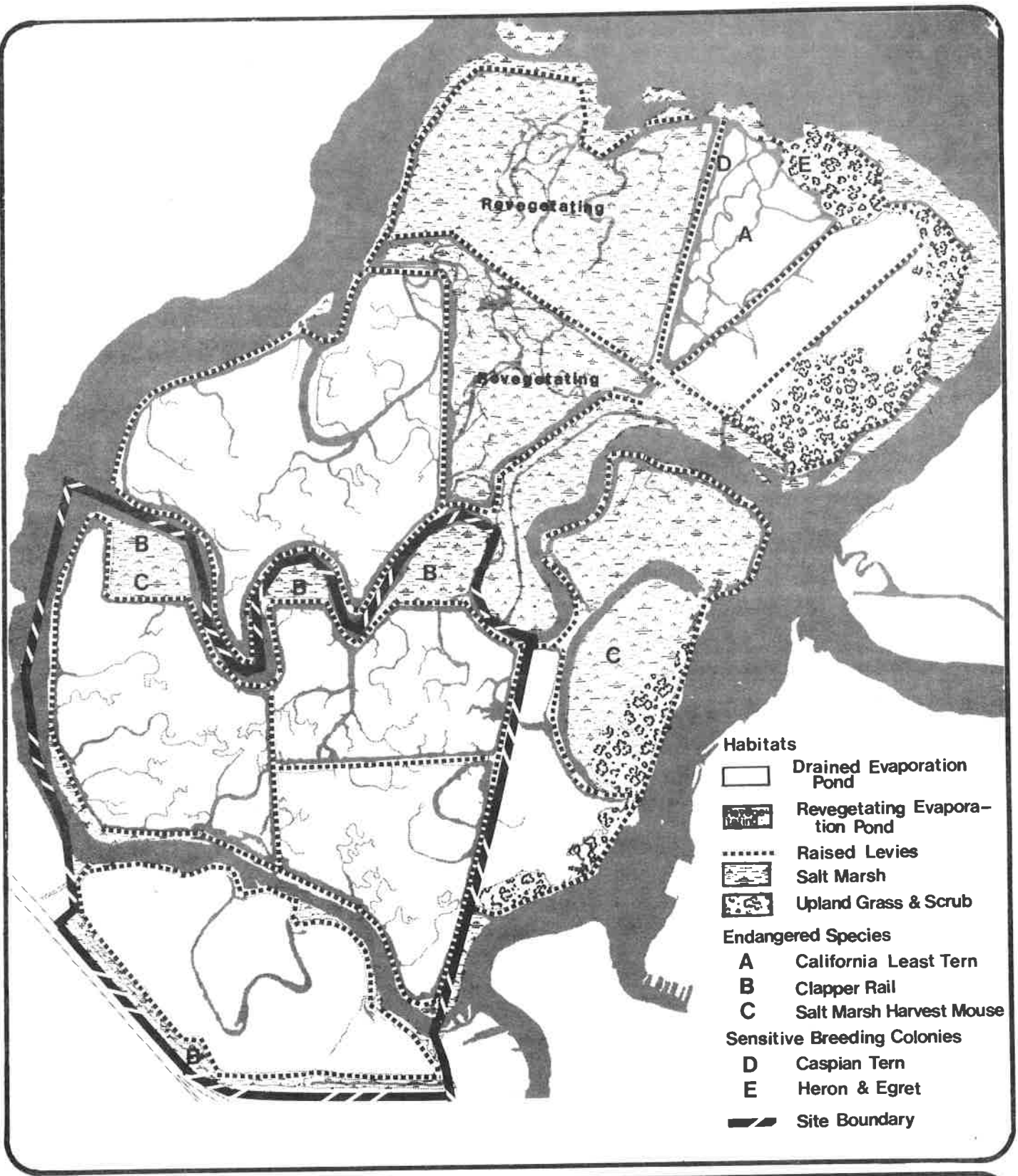
¹R.H. Whittaker, Communities and Ecosystems, The MacMillan Co., New York, 1970.

²Jones and Stokes et al., Protection and Restoration of San Francisco Bay Fish and Wildlife Habitat, August 15, 1979.

³Ibid.

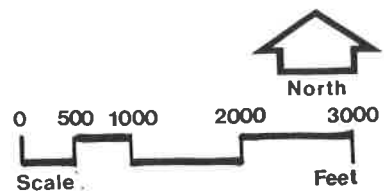
⁴Ibid.

⁵State Lands Commission, Bair Island Environmental Study, December 1977.



Wildlife Habitat Map

Base Map Source: U.S. Army Corps of Engineers Infrared Aerial Photographs, May 1980



● **Figure No. 6**

until about 1946 when Leslie Salt Company began development of the present system of saltwater evaporation ponds. Because of these reclamation efforts, only a fraction of the historic salt marsh acreage is still in existence.

Present-day salt marsh is restricted to a few sizeable areas along Corkscrew Slough, Redwood Creek, and the bay side of Bair Island (see Figure 6). These areas are all outside of the levee system. Pond B-1 on Bair Island has been breached and is reverting to salt marsh. In addition, a narrow fringe of marsh can be found around almost the entire area on the outboard slopes of the levees within the zone of tidal influence.

Within the proposed South Shores development area, three expanses of marsh totaling 71 acres are located at the major bends of Corkscrew Slough. The marsh fringe surrounding the project site brings the total amount of marsh to 157 acres. Vegetation in these areas is typical of salt marshes throughout the South Bay. Cordgrass (Spartina foliosa) occupies the lowest growth zone. It is able to tolerate up to 21 continuous hours of tidal flooding and can grow as low as 2 feet above mean lower low water (MLLW). At about mean high water (MHW) cordgrass is replaced by pickleweed (Salicornia virginica). Pickleweed dominates the higher marsh environment, but other species are intermixed, especially in the upper reaches of the pickleweed zone. These include Jaumea carnosa, Frankenia grandifolia, sea lavender (Limonium californicum), gum plant (Grindelia humilis) and salt grass (Distichlis spicata). The marsh vegetation in these areas is generally in excellent health.

Abundant populations of small insects, crabs, worms, and other invertebrate animals provide ample food for larger animals, including a number of species unique to this habitat. Both the California clapper rail (Rallus longirostris obsoletus) and the salt marsh harvest mouse (Reithrodontomys raviventris) are federal and state listed endangered species restricted to this habitat type and known to inhabit salt marshes on the project site and on adjacent Bair Island.

The California clapper rail is an endemic bird of estuarine marshes of central and northern coastal California. Loss of habitat since 1900 has resulted in significant declines

in both range and population size and consequently the bird has been declared "endangered" by the federal and state governments.¹² Although in the past the California clapper rail has bred in other central and northern California estuaries (and may still do so at Elkhorn Slough, Monterey Co.), breeding is apparently now confined to the greater San Francisco Bay Area.³ South San Francisco Bay is now the major population center for the species. Within San Mateo County most of the remaining habitat is found on Greco Island, Bair Island and marshes bordering Redwood Creek, Westpoint, Corkscrew, Smith, Steinberger and Belmont Sloughs.⁴

The marsh areas along Corkscrew Slough are prime California clapper rail habitat and previous surveys have established their presence as a breeder there. Surveys by Mr. Robert Gill, U.S. Fish and Wildlife Service, on January 8 and May 12, 1974, produced 18 sightings along Corkscrew and Deepwater Sloughs.⁵ Six rails were observed along Corkscrew Slough during an informal visual survey by Mr. Tom Harvey on January 11, 1979.⁶ During EIP field investigations for this report, an additional clapper rail sighting was recorded for the area. On January 15, 1981 a clapper rail was also sighted by Harvey in salt marsh between the Bayshore Freeway and Pond A-12. These survey figures are undoubtedly much lower than the actual population size due to the secretive nature of the birds. Although more censuses would be needed to establish the number of birds using these areas, the continuing presence of a breeding population is well documented.

¹U.S. Fish and Wildlife Service, United States List of Endangered Fauna. Office of Endangered Species and International Activities, 1973.

²California Department of Fish and Game. At The Crossroads, A Report on California's Endangered and Rare Fish and Wildlife, 1978.

³Robert Gill, Jr., Status and Distribution of the California Clapper Rail (*Rallus longirostris obsoletus*), California Fish and Game 65(1):36-49, 1979.

⁴Thomas E. Harvey, California Department of Fish and Game Research Associate, personal communication, October 3, 1980.

⁵Ibid.

⁶Robert Gill, Jr., Op cit.

Gill also reports clapper rails from along Smith Slough. According to Harvey, rails could be expected to occur in salt marsh areas around the entire perimeter of the project site.

The salt marsh harvest mouse is an endemic species to San Francisco Bay, found only in the saltwater and brackish marshes surrounding the Bay. Pickleweed salt marsh is the preferred habitat of this species. Because of extensive habitat destruction the species is now restricted to scattered populations within its original range and has been listed as "endangered" by the federal and state governments.¹ The mice are extremely salt tolerant, able to subsist solely on salt marsh plants and saltwater. It often appropriates the abandoned nests of salt marsh song sparrows.²

Salt marsh harvest mice have been recorded from both the South Shores area and Bair Island; suitable habitat exists wherever there is salt marsh. The most recent record is on April 1978 from the marsh and upland area surrounded by Deepwater Slough.³ Other records exist from along Corkscrew Slough and from Redwood Point (1971, 1974 and 1975).⁴ These records indicate the continuing presence of the species in the area. Although they can be expected at any place around the proposed South Shores development where there is salt marsh, their presence is especially probable in the 3 large marsh areas along Corkscrew Slough.

The salt marsh races of the song sparrow and common yellowthroat also are found in the same marsh areas. Both birds are genetically distinct varieties of widespread species and are dependent on salt marsh habitats.

The salt marsh song sparrow is a common resident of the island and breeds in the marshes.⁵ According to Mr. Brian Walton, of the University of California, Santa Cruz,

¹U.S. Fish and Wildlife Service, United States List of Endangered Fauna. Office of Endangered Species and International Activities, 1973.

²Jones & Stokes Associates, Reconnaissance - Inventory for Bair Island and Redwood Peninsula South San Francisco Bay, San Mateo, California, 1972.

³Howard Shellhammer, Professor of Zoology, San Jose State University, personal communication, October 21, 1980.

⁴Ibid.

⁵Brian Walton, Director, Predatory Bird Research Group, University of California, Santa Cruz, personal communication, October 17, 1980.

the song sparrow population on Bair Island is probably becoming more reproductively isolated as the riparian corridor along Redwood Creek is diminished due to development pressures.¹

The salt marsh race of the common yellowthroat, a small warbler, is also found in the marshes of the island. It is not likely to breed on the island however as fresh water or brackish marshes are necessary for successful breeding, neither of which are found in the area.

Other animals that depend upon the salt marshes surrounding Bair Island include great blue herons, black-crowned night herons, common and snowy egrets, a variety of shorebirds and waterfowl, and harbor seals.

Because of the dense concentration of herons and egrets breeding on Bair Island, the salt marshes around the project site are an important source of food during the rearing of the young. Harbor seals are common in the waters of Redwood and Steinberger Sloughs and use the secluded salt marsh areas along Corkscrew Slough as haul-out areas.

b. Raised Levees. Raised levees are an important wildlife habitat primarily for the breeding opportunities that they provide. These levees are above the level of tidal flooding, and do not become inundated with rainwater as do the salt ponds. Because of this, species from both marsh and salt pond areas nest or breed on the levee banks and top.

The levees have a generally sparse vegetative covering. A number of herbaceous plants characteristic of the upper salt marsh zones grow high on the levees, although the most common and conspicuous is a non-native ice plant (Mesem bryanthemum nodiflorum). Although these plants provide some cover for smaller wildlife species, much barren area remains.

While the Caspian tern is not known to nest within the South Shores project boundaries, raised levees are the preferred nesting substrate for the Caspian tern colony on Bair Island. This is one of the largest breeding colonies in the Bay Area, numbering over 500

¹Brian Walton, Director, Predatory Bird Research Group, University of California, Santa Cruz, personal communication, October 17, 1980.

pairs in 1980.¹ As the colony expands, birds could begin to use levees on the inner portion of the island as well. Other species that are known to nest on levees in the area include salt marsh song sparrow, savannah sparrow, long-billed marsh wren, California clapper rail, saltmarsh harvest mouse, house mouse and other rodents.²

The vegetation found on the outboard slope of dikes is often used by salt marsh harvest mice. During the highest high tides these mice leave the pickleweed marsh and take refuge in the dike vegetation above the level of the tide. This is illustrated somewhat by the most recent harvest mouse record in the area. That mouse was trapped in an upland area well above the salt marsh along Deepwater Slough.³

The levees are also important as "loafing areas" for shorebirds and waterfowl, especially during high tides and storms.

c. Upland Grass and Shrubs. In several locations where dredging spoils have been placed on Bair Island, an upland vegetation community has formed (see Figure 6). These areas are covered by a variety of grasses and herbaceous species with coyote bush (Baccharis pilularis) providing some vertical stratification of the vegetation. These upland areas are prime breeding habitat for a number of avian species including great blue heron, black-crowned night heron, snowy egret, white-tailed kite, marsh hawk and possibly short-eared owl (Table 6).⁴ No upland habitat is found within the actual project boundaries.

The heron breeding colonies are of particular significance as they are the only remaining great blue heron and black-crowned night heron colonies in South San Francisco Bay. These two species previously had a number of breeding locations in the South Bay, but now are restricted to Bair Island. The snowy egret is a more recent breeder in South

¹Michael Rigney, Research Associate, South Bay Institute for Avian Studies, personal communication, August 18, 1980.

²California State Lands Commission, "Wildlife Habitat Committee Report," Bair Island Environmental Study, December 1977.

³Howard Shellhammer, Professor of Zoology, San Jose University, personal communication, October 21, 1980.

⁴Robert Gill, Jr., South San Francisco Breeding Bird Survey, 1971, California Department of Fish and Game, June 1972.

San Francisco Bay; breeding in the area was reported for the first time in 1969. Heron and egret nests normally are built in tall trees to afford protection from predators. On Bair Island, however, the nests are located atop coyote bush, gum plant and pickleweed, in all cases less than 5 feet from ground level. This extraordinary situation is made possible by the lack of terrestrial predators on the island. This absence of predators is due to the salt water sloughs isolating the island from the mainland.

The white-tailed kite, a species protected by state law, also nests in these upland areas. Kite nests have also been reported on old fishing shacks along the south side of Corkscrew Slough. White-tailed kite populations declined significantly in the early part of the century prompting great concern over the species. Kite populations in South San Francisco Bay were also low, but as in the rest of California, the population has gradually increased again. Nests of this species on Bair Island are also located low to the ground, again due to the lack of terrestrial predators on the island.¹

- d. Drained Evaporation Ponds. The majority of the proposed South Shores development is composed of drained solar evaporation ponds. Ponds A-9, 10 and 11 comprise 672 acres with an additional 244 acres in Pond A-12. The ponds, which were originally salt marsh, were reclaimed by the Leslie Salt Company between 1946 and 1952. The historic marsh drainage network can still be seen as topographical differences in the bottom of the ponds. Borrow pits surround each pond on the inboard side of the levee. These water-filled trenches were dug to provide material for the construction of the levees. The bottom of the ponds are a highly saline substrate with numerous dessication cracks. The salinity inhibits the growth of plants, and as a result the ponds are barren of vegetation.

The relative value of these salt flats to wildlife is low. Several species do make use of such ponds however. Burrowing owl, American avocet, black-necked stilt and killdeer are known to breed on the abandoned salt ponds of Bair Island² and could reasonably be expected also to use the salt ponds of South Shores. Fifteen other bird and 4 mammal species are known to use these pond areas. During the winter, rainwater accumulates on

¹Robert Gill, Jr. South San Francisco Breeding Bird Survey, 1971, California Department of Fish and Game, June 1972.

²State Lands Commission, "Report of the Wildlife Habitat Committee," Bair Island Environmental Study, December 1977.

● the pond surfaces forming areas of hydric soil which constitute seasonal wetlands. Large numbers of shorebirds and waterfowl use the ponds at these times; as many as 10,000 willets, godwits and dowitchers have been estimated using the ponds at one time.¹

The California least tern (*Sterna albifrons browni*) nests on the bottom of the dry evaporation ponds located on the northeast portion of Bair Island (see Wildlife Habitat Map, Figure 6). The California subspecies of the least tern is listed by the federal and state governments as "endangered."

The California least tern is a migratory species that breeds in California and winters in Mexico. Its historic breeding range is from Baja California to Monterey County, California although since 1967 breeding pairs have been observed in San Francisco Bay. There are numerous spring and summer records for the area prior to that date, however, so nesting may have occurred in San Francisco Bay previously.²

The California least tern has suffered serious declines in population since the early 1900s. Continued loss of both nesting and feeding habitat and high levels of human disturbance in nesting areas appear to be responsible for this decline. The least tern prefers a nesting substrate of sand, dirt or dried mud adjacent to a lagoon or estuary where small fish are readily available for food. Many of the traditional nesting locations in Southern California were located on sandy beaches that are now heavily used by people. This increase in ocean front human activity has rendered many of the breeding areas unsuitable; the terns have made increasing use of mud and sand flats away from the ocean.

The destruction of many suitable breeding areas in the traditional range of the California least tern may in part be responsible for the increased colonization of San Francisco Bay by the species. A number of sites around the South Bay are now known to support least

¹State Lands Commission, "Report of the Wildlife Habitat Committee," Bair Island Environmental Study, December 1977.

²Sanford Wilbur, The Literature of the California Least Tern U.S. Fish and Wildlife Special Scientific Report - Wildlife No. 175, 1974.

tern breeding colonies including Bay Farm Island, Alameda Naval Air Station, the Oakland Airport, Alvarado Salt Ponds, and Bair Island.¹ The number of breeding pairs using different sites varies from year to year due to predator problems, human disturbance and natural weather conditions.

Bair Island has been used as a least tern breeding site since 1969 (Table 6). The 1980 nesting season was the most productive to date for Bair Island with a total of 32 breeding pairs.² This was probably due in part to the early dispersal of a colony at Alameda Naval Air Station. Approximately 25 pairs of nesting least terns used Bair Island during the 1981 breeding season.³ This figure is notable in that the Alameda breeding site was also successful in 1981. Bair Island has thus become one of the most important breeding sanctuaries for this species in the Bay Area. An expanding breeding population could begin to make use of similar habitat found within the South Shores project boundaries.

While being used for salt production, the ponds provided habitat for many more species of birds than at present. During the early stages of saltwater evaporation such ponds sustain enormous quantities of invertebrate organisms. Some of the more abundant inhabitants include fairy shrimp, brine shrimp, copepods, water-boatmen beetles and brine flies. These serve as food items for many species of birds. Between 1967 and 1969 Anderson observed evaporation ponds in production at Coyote Creek similar to those found on Bair Island. Fifty-five bird species were observed using those ponds for feeding, loafing and breeding.⁴ Shorebirds, ducks, grebes and Bonaparte's gulls made heaviest use of those ponds.

¹J.L. Atwood, R.A. Erickson, P.R. Kelley, and P. Unitt California Least Tern Census and Nesting Survey, 1978.

²Michael Rigney, Research Associate, South Bay Institute for Avian Studies, personal communication, August 18, 1980.

³Roy Lowe, Wildlife Biologist, San Francisco Bay National Wildlife Refuge, personal communication, August 6, 1981.

⁴William Anderson, "A Preliminary Study of the Relationship of Saltponds and Wildlife - South San Francisco Bay." California Fish and Game 56 (4): 240-252, 1970.

TABLE 6

A. HISTORICAL SUMMARY OF CALIFORNIA LEAST TERN NESTING ON BAIR ISLAND

<u>Year</u>	<u>No. of Breeding Pairs</u>
1981	25
1980	32
1979	6-8
1978	0
1977	1
1976	14
1975	14
1974	8
1973	0
1972	0
1971	0
1970	8
1969	15

B. ESTIMATED NUMBER OF BREEDING PAIRS OF COLONIALY NESTING BIRDS ON BAIR ISLAND

<u>Species</u>	<u>No. of Breeding Pairs, 1980</u>
Great Blue Heron	20
Black-crowned Night Heron	350
Snowy Egret	250
Caspian Tern	500

Sources: Michael Rigney, Research Associate, South Bay Institute for Avian Studies, personal communication, August 18, 1980, (breeding seasons 1969-1980).

Roy Lowe, Wildlife Biologist, San Francisco Bay National Wildlife Refuge, personal communication, August 6, 1981 (breeding season 1981).

e. Tidal Flats. Exposed mud flat areas adjacent to the project site provide rich feeding grounds for numerous shorebirds. These mud flats are particularly extensive at the intersection of Corkscrew and Steinberger Sloughs. Willets, marbled godwits, avocets, whimbrels, long-billed curlews, yellowlegs and various sandpipers forage intensively on these mudflats. Abundant invertebrate populations are available as food in the surface and subsurface mud.

f. Open Waters The waters surrounding Bair Island contain a variety of small and medium-sized fish. These fish are the food source for a number of the avian species that nest in the area, and the presence of abundant fish is necessary for the maintenance of those breeding colonies. Among the fish-eating birds that nest in the area are the California least tern, Caspian tern, black-crowned and great blue herons, and snowy egret. Harbor seals, which are common in the area, also rely on the fisheries. The brown pelican, a federally listed endangered species, commonly uses the area during the summer months as a feeding ground. It does not breed in Northern California.

g. Rare and Endangered Species. Bair Island is regularly used by at least 4 species of rare and endangered animals. These are the California least tern, California clapper rail, salt marsh harvest mouse, and brown pelican. These species have been discussed in detail in the preceding sections. The entire South Shores - Bair Island complex east and north of the Bayshore Freeway has been recommended for designation as essential habitat in Recovery Plans being prepared by the U.S. Fish and Wildlife Service for the salt marsh harvest mouse and California clapper rail.

Peregrine falcons, another federally listed rare and endangered species, nested on Bair Island in the late 1800s and early 1900s.¹ Although there is little probability of this occurring in the future, it is interesting to note that this is the only record in the State of California for a peregrine falcon nesting on the ground. This emphasizes the isolation from ground predators that existed on the island at that time and still exists. Although no

¹Carl Thelander, Breeding Status of Peregrine Falcons in California, Masters Thesis, San Jose State University, 1977.

vegetation on the levees adjacent to marshes inhabited by the mice could expose them to increased predation pressure.

- Improvement of the levee would also affect the adjacent salt marsh ecosystems through increased sedimentation of the marsh and disturbance from construction noises. Noise from the earth movers could disrupt animal activity patterns in the marsh, especially during the breeding season. Initial placement of the fill material would result in increased erosion from surface runoff. Much of this eroded material would enter the outboard salt marshes. Since bay mud would be used for the levee improvement this increased sedimentation may not be highly significant in comparison with natural sedimentation from bay water. Accidental placement of dredged materials on the outboard side of levees could smother marsh vegetation in localized areas.
- The proposed 600-berth marina would have a number of associated impacts. Detailed plans have not yet been presented and thus the amount of salt marsh habitat that would be eliminated or created cannot be accurately determined. In the area of the proposed marina, a narrow fringe of marsh lines Smith Slough and a smaller slough that runs between Pond A-12 and the Bayshore Freeway; these marsh areas would either be eliminated or significantly reduced in size. Dredging of the marina and a 400-foot channel to Redwood City would temporarily increase the turbidity of the surrounding waterways, adding to their sediment loads. Increased boat traffic would also generate energetic wave action that could cause some erosion of nearby shorelines. The marina itself would create some additional foraging habitat for fish and certain omnivorous bird species such as terns and gulls. Depending upon the final design, some species of ducks and egrets may also take advantage of the area.

Channel dredging would eliminate the benthic invertebrates that inhabit the shallow slough bottoms and mudflats. In turn, this would reduce the food supply of the shorebirds, cormorants and fish that feed upon these invertebrates. Dredging would also displace the waterfowl and shorebirds using the mudflats as loafing areas, along with herons and egrets that use them for fishing. The actual dredging operation could have short-term effects on the quality of aquatic habitat by increasing turbidity and decreasing dissolved oxygen concentrations.

The artificial lagoons proposed would create additional foraging habitat for some avian species. Terns, gulls, brown pelicans, cormorants, and egrets would take advantage of the

feeding opportunities given proper construction of the lagoons. If not properly designed and maintained, these artificial lagoons could experience water quality problems. In particular, nutrient-rich landscaping and other urban runoff could create conditions favorable for the excessive growth of algae. Should such eutrophication occur, the biological oxygen demand (BOD) would increase with a consequent decrease in dissolved oxygen available to aquatic organisms.

Other urban runoff pollutants would also enter the lagoons. Runoff from parking areas and roads contain petroleum products, combustion by-products (including heavy metals and organic wastes). All pollutants entering these lagoons would eventually be discharged into the adjacent sloughs. Some pollutants are particularly noxious in wetlands. Petroleum products (particularly oils and tars) coat plants and animals and if present in large quantities, may kill them. Organic material can deplete oxygen, causing anaerobic conditions, leading to botulism in waterfowl. It is, however, rather unlikely that quantities of either of the above-mentioned pollutants would be sufficient to cause catastrophic events. More likely, the addition of pollutants would result in no immediate visible effects, but rather additional stress on the biota.

- Urbanization would irreversibly preclude return of the salt ponds to tidal action and salt marsh. The U.S. Fish and Wildlife Service considers the project site to consist of approximately 10% of this type of potentially restorable habitat in South San Francisco Bay.¹ In view of the large amount of historic San Francisco Bay salt marsh that has been dredged, filled or diked for conversion to other uses, the preservation of existing wetlands and the restoration of lowlands lying within the historic marsh margin are of the highest priority for both the U.S. Fish and Wildlife Service and California Department of Fish and Game.² The salt ponds comprising the project area are an historic portion of the marsh that were reclaimed for the most part within the last 30 years. As such they are generally suitable for rehabilitation as salt marsh. As salt marsh their value to wildlife would be incomparably greater than at present, providing a rich habitat for numerous

¹James McKeivitt, Field Supervisor, U.S. Fish and Wildlife Service, letter of comment, July 2, 1981.

²Jones and Stokes, et al., Protection and Restoration of San Francisco Bay Fish and Wildlife Habitat, August 15, 1979.

species. (See Section VI.D. for discussion of potential marsh restoration of the project site).

The open space lands adjacent to the development would be inviting areas for recreational activities. Youngsters in particular would probably make use of the marsh areas and could have a major impact through collecting or harrasing animals. Youngsters armed with B.B. guns and .22 rifles, could be highly disruptive, if not lethal, to foraging birds. The mere presence of people in these marsh areas would be sufficient to displace, at least temporarily, foraging waterfowl and shorebirds.

- The effect of such intrusions on breeding populations is potentially much more severe. Individuals that use the areas only for foraging are less sensitive than nesting birds. Foraging birds can move elsewhere while the disturbing element is present, and return after it has left. Human intrusion into a nesting colony can cause the adult birds to at least temporarily leave the nest unguarded. This exposes the eggs or young in the nest to increased risk of predation from other bird species, or if present, terrestrial predators. Young birds may leave their nests before they are adequately prepared to do so. If the intrusions continue repeatedly the nesting adults may abandon the area as a breeding location.

Bair Island may experience increased human intrusion through two routes. Youngsters could cross Corkscrew Slough on rafts or by swimming. The proposed 600-berth marina would increase the amount of recreational boat traffic in the area. Exploration of the outer island either by boat or on foot would be an attractive excursion. This increased boat traffic around the island may have some effect on the birds using the area but foot entry would be a far more serious problem.

Increased recreational boat use of Corkscrew Slough could cause its abandonment by harbor seals as a haul-out area.

Unauthorized entry of the National Wildlife Refuge would probably be greatest during the summer when the weather permits more boating activity. This time period coincides with the breeding period of a number of the avian species using the area. Due to budgetary constraints, increased patrol of the National Wildlife Refuge in this area would necessitate decreased patrol in other areas. Thus, increased enforcement problems in this location could have an effect on other portions of the refuge as well.

Human-associated animals such as dogs, cats and rats can cause major depredations of native wildlife, particularly with regard to breeding birds. A large residential population invariably includes domestic pets, some of which intentionally or unintentionally run loose. Dogs would be able to enter the marsh areas adjacent to Corkscrew and Deepwater Sloughs, and could probably swim across Corkscrew to Bair Island.

Loose dogs in the marsh areas could do considerable damage to such ground-dwelling species as the California clapper rail. In at least one incident at the Palo Alto Baylands Reserve a loose dog was implicated in the death of a clapper rail,¹ and similar depredations of clapper rails have been reported in marsh areas adjoining Foster City.²

Predation on the salt marsh harvest mice along Corkscrew Slough by cats could impact the suspected population there. The population size may be quite low already owing to limited available habitat. Further reductions may reduce the population below a viable level leading to extirpation of the species in that locality.

Should dogs swim across Corkscrew Slough, which is less than 50 feet wide in many places, the avian breeding colonies on the outer island would be in jeopardy. As mentioned previously, these colonies are all located either at or slightly above ground level. Nests of terns, herons, egrets, kites and possibly short-eared owls would be exposed to predation. There are unfortunate historical precedents for the destruction of insular breeding colonies once they have been invaded by terrestrial predators such as coyotes or dogs. Most recently, when coyotes gained access to Negit Island in Mono Lake they decimated the entire California gull breeding colony there. The gulls subsequently have abandoned the island as a nesting area.

Because of the unique nature of the Bair Island breeding colonies, this type of predator infiltration could affect the wildlife composition of the entire San Francisco Bay region. Herons and egrets from this rookery³ disperse throughout the Bay Area, and Bair Island is now one of the major nesting localities for the endangered California least tern.

¹Ted Chandik, Interpretive Ranger, Palo Alto Baylands Reserve, personal communication, November 23, 1980.

²Phillip Bellamy, Department of Biological Sciences, San Francisco State University, personal communication, February 4, 1981.

³Site of gathering for breeding.

Norway and black rats are an omnipresent associate of urban areas that threaten native fauna. The black rat already appears to be present on Bair Island although in low numbers. The Norway rat, however, is generally unable to survive in the wilds and is restricted to urban areas. Construction of the South Shores development would increase the population of rats in the area by providing extensive cover and food resources for them. In turn, this increased population could be expected to penetrate the marsh areas and Bair Island in greater numbers than at present. Several nesting bird species are known to be sensitive to rat predation including California least tern and California clapper rail, both endangered species. Invasion of the area by rats can be expected to have a negative, although quantitatively indeterminate effect on nesting success in the affected populations of these two species. The heron rookeries would probably not be significantly affected by rat predation as herons are sufficiently aggressive to defend their eggs and chicks from rats.

The development of a large residential commercial complex at South Shores would increase pressure to develop the private lands of Bair Island and other adjacent areas. Any development on the outer island would, of necessity, involve bridging either Corkscrew or Steinberger Sloughs, or both. Access by bridging, and subsequent development of any portion of Bair Island, would almost certainly cause the abandonment of the sensitive heron and egret rookeries as well as many of the other breeding colonies found there, including the endangered California least tern.

The project as proposed suggests bridging Smith Slough at 2 separate points, and Steinberger Slough at 1 point. Although there are no specific plans for bridge design as yet, any construction activity in these sensitive zones would be disruptive to vegetation and wildlife; further, the operation of such bridges could have continuing noise impacts on wildlife.

3. Mitigation

The following suggested measures would partially mitigate potential impacts of the proposed project.

During construction phases, runoff should be interrupted and directed into retention ponds or holding lagoons. Every effort should be made to prevent sediments from entering the

- wetlands. No construction work or vegetation disturbance should be allowed on the outboard side of levees except where bridge crossings are proposed or for necessary construction work on the marina. Fill slopes, levees and artificial lagoons should be reseeded before first rains of the succeeding season; revegetation should be done as much as possible with native species. Sources of native plants, seeds, and technical information are available from the consultant upon request.

During project operation discharge of pollutants from the site could be minimized through regular cleaning and sweeping of roadways and parking areas; provision of catch basins on site; use of grass or gravel verges around perimeter of parking lots as a filter for storm runoff before entering storm drains (see also Water Quality mitigations).

- To mitigate for the urban conversion of approximately 916 acres of dry salt pond that are classified as potentially restorable marshland, a marsh management and restoration program for the adjacent areas should be developed and implemented. This program should include restoration of Pond B-3 to tidal marshland and protection of the existing salt marsh areas around the proposed South Shores development. These include the 3 major salt marsh areas along Corkscrew Slough as well as the fringe of marsh around portions of the project site bordering Corkscrew, Smith and Steinberger Sloughs, and between the Bayshore Freeway and Pond A-12.

As noted elsewhere in this report (Section VI.D., Alternatives) the ponds of the outer island have the highest potential for salt marsh restoration due to their lower salinity contents during pond operations. A 1977 study of the restoration potential of Ponds B-2 and B-3 concluded that these ponds are generally suitable for restoration.¹ Through carefully planned breaches in the levees these ponds could probably revert to marsh without extensive and costly substrate modifications.²

Restoration of Pond B-3, currently owned by Bair Island Investments Inc., another subsidiary of Mobil Land Development Corporation, would provide approximately 418 acres of off-site mitigation for construction of the project. It would increase the amount of primary habitat available to 2 of the endangered species potentially impacted by the project

¹State Lands Commission, "Report of the Salt Marsh Ecosystem Committee," Bair Island Environmental Study, December 1977.

²Dr. H. Thomas Harvey, Harvey and Stanley Associates, personal communication, November 4, 1980.

peregrines currently nest in the area, a number of individuals that nest in the north coast counties winter in the South Bay each year, feeding on shorebirds and terns.¹ Because of the abundance of these prey species, additional observation of Bair Island in the winter may reveal use of the area by hunting peregrines.

A plant considered by the California Native Plant Society as "rare but not endangered" has been reported from the Bair Island area.² Cordylanthus maritimus ssp. palustris, the Point Reyes bird's beak, was collected in the area before 1945. The locational data given on the specimen were not precise, however, and the plant has not been observed there in recent years. It is a species restricted to salt marshes and due to large scale habitat destruction since its collection, it is possibly eradicated at that site.

2. Impacts

The South Shores development, if implemented as proposed, would have a number of adverse impacts on the biotic resources of the area. These impacts relate primarily to urban conversion of potentially restorable salt marsh habitat, and the effects of this urbanization on sensitive ecological areas on and immediately adjacent to the project site. The project would have potentially significant impacts on breeding populations of at least 3 of the 4 federally protected rare and endangered species that make use of the vicinity; locally rare avian breeding colonies may also be impacted.

The majority of development is proposed to take place within the bounds of the drained salt evaporation ponds A-9, 10, 11, and 12. Little actual construction is anticipated in the salt marshes surrounding the project site; however, bridge construction, levee improvement and marina dredging all would encroach in varying degrees upon present salt marsh habitat.

Most direct habitat conversion would be limited to the evaporation ponds and their surrounding levees. While these ponds appear relatively barren, their conversion to urban use would preclude their use by shorebirds and waterfowl as a refuge during winter storms

¹Carl Thelander, Biosystems Analysis, Inc., personal communication, October 17, 1980.

²Jan Nachlinger, Botany Research Associate, California Natural Diversity Data Base, personal communication, October 14, 1980.

and as feeding and nesting grounds at other times. Additionally, potential breeding habitat for the California least tern, an endangered species, and several other bird species would be lost.

Improvement of the levees would eliminate the sparse to dense vegetative covering now found mostly on their tops and outboard slopes. Additional material would be placed on the levees and compacted to produce a very hard surface. Experience at the Redwood Shores development has shown this type of levee to be very resistant to burrowing by small mammals.¹ Vegetation does not grow well on the highly compacted levee surface; landscape plants must, therefore, be placed in beds prepared with soil amendments.²

Such levee improvements would directly displace species currently using the levees for foraging or breeding. Mobile species may attempt to relocate on other levees; because of limited resources, however, many of these relocation attempts would probably be unsuccessful. Other less mobile species would perish during levee improvement.

The degree to which the levees would revegetate is unknown, but revegetation would to a large extent determine the value of the repaired levees to wildlife. Because of the concrete-like nature of the high-density clay after compaction, the levees would probably not be conducive to use by small burrowing mammals.

The California clapper rail, an endangered species, is known to use well-vegetated levees for nesting. The improvement of the levees may eliminate some nesting habitat of these birds. Rails also use vegetated high ground adjacent to salt marshes to escape the highest tides. Removal of vegetation from these levees may force rails out into the open more frequently, exposing them to a greater threat of predation.

Another endangered species, the salt marsh harvest mouse, also uses well-vegetated levees. In addition to breeding in these areas, the mice take refuge in the levee vegetation during the highest high tides. As in the case of the clapper rail, elimination of

¹Eugene Masciarelli, Project Coordinator, South Shores Inc., personal communication, December 8, 1980.

²Ibid.

(the salt marsh harvest mouse and the California clapper rail). No known least tern nesting sites would be inundated. By precluding urban development of Pond B-3 and therefore the impacts associated with bridging and developing the outer island, such marsh restoration would help protect those least tern breeding areas known. The other unique avian breeding colonies on Bair Island would also benefit from such protection.

Restoration of Pond B-3 would complement other restoration projects planned or underway on Bair Island creating one of the more extensive salt marsh areas in the South Bay. Pond B-1 is currently open to tidal action and is in the process of reverting to marsh. Pursuant to the 1975 Phelps Slough mitigation agreement between Mobile Oil Estates and the California Department of Fish and Game, Pond B-2 is also planned for salt marsh restoration.¹ The restoration of Ponds B-1, 2 and 3 would create a total of approximately 940 acres of contiguous salt marsh habitat.

- The ecological preserve areas along Corkscrew Slough should be protected by a 100-foot buffer zone with a fence at least 6 feet high along the inner edge of the buffer zone. The buffer zone should be measured from the slough edge in areas in which no preserve land fronts the slough. Borrow trenches along the inboard side of the levees should be enlarged along Steinberger, Smith, and Corkscrew Sloughs to provide a further barrier to human and domestic animal intrusion to marshes.

The suggested marsh management and restoration program should be developed by the project sponsor in coordination with the California Department of Fish and Game and the U.S. Fish and Wildlife Service. Implementation costs could be paid by the project sponsor as a part of the South Shores project mitigation.

To reduce the impact of increased boat traffic from the proposed marina, Corkscrew Slough should be closed to recreational boat traffic if possible particularly during the summer months. To reduce the potential for recreational boaters trespassing in the Bair Island portion of the National Wildlife Refuge additional patrols by refuge personnel should be instituted. This would be of particular importance during the nesting season,

¹Ted Wooster, Environmental Services Supervisor, California Department of Fish and Game, personal communication, April 2, 1981.

through September 1. Because funds for these patrols could probably not be obtained from the refuge's normal operating budget the project sponsor could contribute to their funding.

Domestic animals should be strictly controlled within the development; cats should be belled, and dogs confined or on leash. These restrictions would be necessary even though fences, sloughs and borrow trenches would limit access to the outer island and marsh areas by roaming feral or domestic animals; both dogs and cats could swim across Corkscrew Slough without much difficulty at low tides. Norway rats are not deterred by waterways nor by fencing; there should be a program for control of rats including sealed trash receptacles, carefully managed baiting, and trapping efforts or other methods.

The potential impacts to the endangered species, (clapper rail, least tern and salt marsh harvest mouse) would be mitigated by the means described above for protection and restoration of the various areas of marsh habitat, and offsite compensation for the potentially restorable habitat to be lost if the project is actuated. It should be emphasized that the salt marsh is an ecosystem with a complex network of interacting and interdependent plants, animals, and physical factors. A systemic approach to the protection of the entire ecosystem must be taken to safeguard the individual components.

- The measures described above have been designed to lessen the potential impacts of the project on the sensitive wildlife areas within and adjacent to the project site, including the State Wildlife Refuge and the Bair Island portion of the San Francisco Bay National Wildlife Refuge. Even if these measures are diligently adhered to, however, the impact of this project on area-wide wildlife resources is potentially severe.

E. LAND USE

I. Setting

The project site is located on the northern side of the Bayshore Freeway within the 22-square mile waterfront area of Redwood City, which extends from Marine World Africa USA in the north to the Leslie Company salt ponds in the south. At present, the site consists of diked salt ponds and unmodified salt marsh. The only manmade structures are levees, high-voltage cable towers, associated maintenance catwalks, and several abandoned fishing cottages.

To the west of the site, across Steinberger Slough, is the Redwood Shores development. This area is being developed as a planned community with approximately 7,450 dwelling units, office complex and industrial/manufacturing employment. It is substantially similar in concept to that of the proposed project. Business park land uses are located adjacent to the freeway; single-family and multi-family residential uses are located from there to the east and are oriented towards controlled waterways. Perimeter areas adjacent to San Francisco Bay, Steinberger Slough and Bair Island are proposed as open space.¹ Access is planned across Steinberger Slough between Redwood Shores and South Shores to Ponds A-9, 10 and 11, from the Holly exchange and shopping center (Figure 4).

The San Carlos Airport, located northwest of the project site, is used primarily by light aircraft operating locally. Traffic pattern overflights by planes waiting to land form a racetrack-shaped pattern over the project site. Airplanes fly in this pattern at an elevation of about 800 feet during normal weather conditions, and lower under adverse weather conditions. These overflights produce noise on the ground, reflected in the airport noise contour map (Figure 24). These noise levels are low when measured on a 24-hour average basis, but single noise events from individual planes passing over a given point on the ground can produce significant, transient increases in noise levels on the ground. The land beneath the traffic pattern is currently vacant, and therefore, no adverse noise impacts occur. The vacant land also acts as a safety buffer zone for pilots in case of an inflight operational emergency.

¹Permanent public access to and along Steinberger Slough, within the Redwood Shores area, is assured as a result of a 1972 donation of land by the applicant to the State of California.

The clear zone on the south end of the runway is a result of the need for such a safety buffer zone. The Airport Master Plan proposes that this clear zone be extended 1,400 feet south onto the South Shores project site to accommodate proposed runway extensions.¹

The Henshaw Investment Company lands are located to the south of the site, west of Redwood Creek. These lands may be developed for industrial purposes. Also to the south is the 200-berth Pete's Harbor Marina, a restaurant, and several boat and marine supply stores. On the frontage road between Whipple Interchange and Pete's Harbor is a mixed variety of land use including car dealership, drive-in theater and light industry. The Leslie Salt Company salt pile and ponds, the Redwood City 150-berth marina, boat tie-up and storage facility, and the Port of Redwood City, a bulk cargo port, are located further to the east. In addition to port activities, other land uses in this area include 2 scrap metal facilities, Kaiser cement and gypsum storage sites, a pallet manufacturing company and Texaco Sales Terminal.

The proposed upgrading and expansion of the 212 acres owned by the Port of Redwood City and the 1,400 acres including the Leslie Salt Company salt ponds and areas to the east have been the subject of at least 2 recent planning reports.² The Port desires to use to the maximum potential all waterfront properties bounding the 30-foot deep Redwood Creek channel by developing deep draft marine facilities to the extent that back-up lands will support. Public commercial/recreational facilities are also proposed. This would include expansion and improvement of recreational boating facilities of the Redwood City Marina and development of a high-quality restaurant/shop area in the Marina vicinity.³

To the north of the South Shores site across Corkscrew Slough are Pond B-3, its surrounding dikes and marshland, owned by Bair Island Investments, Inc. (a subsidiary

¹August W. Compton and Associates, San Mateo County Airport Plan, July 1975, p. 104.

²HKS FEIR on Alternative Development Concepts for 2315 Acres in and Adjacent to the City of Redwood City, 1977; City of Redwood City, BCDC Redwood City Waterfront, Port Area, Special Area Plan Study, 1979.

³Ibid., p. 29. Other development proposals in the site vicinity, noted briefly above, are described in detail in the Barton-Aschman report, Long Range Transportation Planning Redwood Peninsula, 1975.

of Mobil Land Development Corporation), which is a study area for future development; lands of the State Fish and Game Refuge; and lands of San Francisco National Wildlife Refuge.

To the south, across the Bayshore Freeway, is commercial and industrial development.

2. Impacts

The proposed project would replace much of the 1,095.9 acres of marsh, mudflats and salt ponds of Bair Island area (Ponds A-12, A-9, 10 and 11) with a planned community development. Details of these land uses and their configuration throughout the site area appear in Section III, Project Description, and Tables I-4.

The project would extend urban development east of the Bayshore Freeway and contribute to the cumulative intensification of land uses on the shores of San Francisco Bay. The site is included in the 152 square miles of marsh habitat reclaimed within the Bay, representing an addition to the 75% to 80% of historic intertidal marshlands.¹

Population, employment, economic, visual, transportation, and vegetation and wildlife impacts associated with this change in land use are detailed in respective sections of this report.

- Project implementation would place a residential land use beneath the traffic pattern of the San Carlos Airport, leading to potential land use conflicts with that prior land use stemming from noise and safety considerations. While the residential portions of the project would be in an acceptable 24-hour average noise environment, they would be subject to the intrusion of single noise events from overflying aircraft (see Section IV.I., Noise). Further, development of these residences would limit the area where a pilot could land in the event of engine failure during takeoff or while holding in the traffic pattern, thus increasing the risk to both the pilot and to persons on the ground. Both the noise and the risk of emergency landing would be greatest during bad weather, when pilots would be flying in the traffic pattern closest to the ground.

¹General reclamation activity is described by Jones and Stokes (1979) report, op cit. The effects of such conversion are detailed in the report which notes that "in combination with air and water pollution and human disturbance, this habitat loss places inordinate stress on fish and wildlife populations and entire species that have already been greatly reduced in numbers."

- Another potential conflict would stem from project lighting. Pilots landing at night could encounter difficulty in locating the airport, and could have their night vision disturbed, because of the project's lighting.
- The proposed airport acquisition of an additional 1,400 feet of clear zone would conflict with the commercial land uses proposed by the Concept Plan. The Airport Master Plan specifically recognized the potential for land use conflicts in this area and recommends low-density land uses which would minimize such conflicts. Such land uses include "golf courses, motorcycle and bicycle courses, open park areas, ball fields or most any low-density or garden activities."¹ They do not include office, retail or commercial uses as are proposed in this project.

3. Mitigation

The proposed project raises a number of questions relating to fundamental planning issues including the need to balance demand for developable land with consequent benefits of increased housing and employment availability against needs for environmental protection.

- The City should condition project approval on the granting of aviation easements to the airport (i.e. the County) over those portions of the site that lie beneath the airport's traffic zones and flight paths. Such easements would guarantee the Airport the right to use the airspace covered by the easement without threat of litigation over noise generation. It could also be used to limit liability in the case of an emergency landing. Such easements could be implemented as a deed restriction; potential buyers of project land and structures should be fully aware of the existence and implications of such easements.
- To avoid interference with night flying aircraft project lighting should be shaded to prevent as much light as possible from leaking upward.

¹August W. Compton and Associates, San Mateo County Airport Plan, July 1975, p. 105.4

The evaluation of these issues is the responsibility of the various jurisdictional agencies for the project (see Section II.D., Relationship to Local and Regional Plans). Considerations should include not only the mitigation measures suggested throughout this report, but also impacts upon the wildlife areas adjacent to the site.

F. VISUAL QUALITY

1. Setting

Because the project site and surrounding baylands are flat from eye-level vantage points on and near the site, it is difficult to see just how far the baylands extend into the distance before joining the waters of the Bay. Near the intersections of Whipple Avenue and U.S. 101, the project site contains bare earth interspersed with areas of grasses (see Section IV.D., Vegetation and Wildlife). To the north and east, vision is unrestricted due to the absence of structures. The masts of sailboats moving in the distance give a visual clue to the location of sloughs. To the northwest may be seen the prominent hills of San Carlos and other hillsides of the north Peninsula area. Hills of the East Bay may be seen from the site with Mount Diablo noted in the distance. The Leslie Salt facility and boats of the Municipal Marina lie within the field of view further south (Figure 8), and hillsides of the Coast Range to the west complete the panorama available from the site.

From a visual standpoint, near U.S. 101 the site itself offers no unique features that set it apart from the setting, other than the absence of development. A perception of human scale is lacking and the only elements to establish a sense of vertical dimension are the transmission line tower structures traversing the area. The project site is therefore relatively neutral in character as viewed from the U.S. 101 corridor. Greater visual interest is provided near the marina where the elements of water and boats occupy foreground views. North portions of the site near the San Carlos Airport, where a varied shoreline contains grassland and birdlife, are primary elements of the setting (Figures 7 and 9).

From a regional standpoint, views of the baylands from hillside locations (Figure 9) allow full visual access of the project site and adjacent land areas. The flat topography, sloughs and waterways leading to the Bay present to the observer a broad undeveloped landscape that contrasts with the urban landscape largely west of U.S. 101. Exceptions would be the Redwood Shores residential development north of the site and the lands of Foster City. Baylands that are largely undeveloped predominate for 4 to 5 miles southeast of the site.

2. Impacts

Visual impact is measured by the amount of visual change that takes place in the environment as the result of an activity. It is a measure of the degree to which the viewer is aware of development within the landscape and includes the compatibility of

visual change to the surrounding environment. In addition, the number of people that would view the project on a daily basis (visual exposure) would be a criterion for degree of visual impact.

Residential, commercial, industrial and open space land uses would be constructed on the project site (see Section III., Project Description). The primary visual impact of the project would be to extend the urban development pattern that exists west of U.S. 101 and northeast of the project site closer to the Bay on what is currently open space land. Remaining bayland open space would be lessened, which could be considered visually adverse by some, depending on the aesthetic inclination of the observer. The U.S. 101 corridor would experience greater urban encroachment than is currently the case. This would be tempered, however, by the density of development, which would equate to intensity of development and actual land coverage by structures and roadways.

Sixty acres of land would be devoted to industrial (research and development) land uses around the San Carlos Airport (Figure 4). One hundred and thirty seven acres of land generally surrounding the industrial area would be put to office space use. The office land area serve as a buffer between the industrial area/U.S. 101 corridor and residential development to the east. The residential portion of the project would vary from single family dwellings of 5 units per acre on about 53 acres of land - the least intensive land use - to garden apartments of 18 units per acre on 98 acres of land, estimated to be the most intensive land use. Some lands on the east margin of the project site would be retained as an ecological reserve. Because the project sponsor has developed the Redwood Shores project north of the site, it would be expected that the architectural styles of the residential units in this project would be similar to those of Redwood Shores, in effect extending previously constructed areas to the southeast as noted. The visual contrast between developed project lands and undeveloped baylands to the north and southeast would become more acute, or abrupt, than it is currently.

From U.S. 101, major views of the site south of the Whipple Avenue overcrossing are obscured by structures. However, once past Whipple Avenue the site comes into view to northbound travelers of U.S. 101. Office and industrial buildings would be expected to obscure views to inner portions of the site and open baylands beyond. To those familiar with the project area, the loss of open space and restriction of views would become noticeable. The land uses proposed adjacent to U.S. 101 would generally be compatible

with existing land uses west of the freeway. The U.S. 101 corridor would become more strongly defined adjacent to the project site by the vertical height and mass of the proposed structures. Correspondingly, nighttime lighting of streets and buildings would reinforce a sense of corridor along U.S. 101, in turn emphasizing the urban environment.

3. Mitigation

Either the no-project alternative or a project of reduced size and density would mitigate the loss of undeveloped baylands (see Section VI., Project Alternatives). A project that is less dense or less land-intensive near the northern margin of the site would provide for a less abrupt transition to adjacent open lands. This may be accomplished by emphasizing single family housing developments in these areas at 4 units or less per acre rather than townhouses at 12 units per acre. The inclusion of increased parkland in the northern portion of the site would reinforce the transition in development density from U.S. 101 to undeveloped bayland areas. It should be noted that this procedure would be effective only if lands of Bair Island to the north would not be developed in the future.¹

Ultimate use of the airport clear zone adjacent to U.S. 101 has not been specified. The feasibility of developing the clear zone as a wildlife refuge or public open space use should be investigated.² This would provide an open space trade-off for the development of baylands, as well as providing a visual amenity adjacent to U.S. 101.

Design review of the project should ensure that structures proposed adjacent to U.S. 101 are compatible in scale with buildings west of the freeway. Significant dissimilarities in building mass and height should be avoided to create a harmonious transition in the area's urban form toward the Bay.

¹Pond B-3 of Bair Island is designated as a study area for future development (Figure 4).

²Such investigation should be conducted with San Mateo County, the owner of the clear zone acreage.

G. TRAFFIC AND TRANSPORTATION

I. Setting

Since the South Shores area is undeveloped, there are no existing roads inside the project area. The roads given priority for study are those which would be most impacted by South Shores development. These include the Bayshore Freeway (U.S. 101), and the two trans-freeway routes, Whipple Avenue and Holly Street - San Carlos.

The current street grid in Redwood City was, for the most part, fully developed 3 decades ago. The City was essentially "built out" at that time, and only spot widenings have occurred to handle increased traffic volumes. Local and regional facilities were not designed at that time to accommodate development in the area east of the Bayshore Freeway. When it became evident that development in the Eastside area might occur, a major regional trunk facility (the Bayfront Freeway) was proposed paralleling the Bayshore Freeway. However, this route is no longer being seriously considered because of lack of funding and environmental concerns about the Bay, among other reasons.

While this may appear to be principally of historical concern, it does highlight a major concern, which is that any additional regional traffic generated by the proposed project must be handled on existing highways and/or through spot modifications at key congestion points on the system. That principle has guided the approach to developing a proposed roadway system, and assessing traffic impacts on existing highways.

a. Major Streets and Highways. The lane widths (both directions) of major streets and highways are shown in Figure 10, along with the most recent traffic volume counts in Figure 11.

The Bayshore Freeway carries the greatest amount of daily traffic, with 137,000 vehicles/day at Whipple Avenue (1979 estimate). Some of these figures are several years old and may not reflect existing conditions faithfully. For example, the Caltrans counts are based upon old counts for each segment of U.S. 101, and are increased annually based upon the growth at a single counting station in the north and southbound direction.¹

¹The control station is located near Third Avenue in San Mateo.

The ADTs for freeway ramps in the study area are shown in Figure 12.

b. Peak Hour Traffic. Hourly fluctuations in traffic on the Bayshore Freeway for north and southbound traffic are shown in Figure 13. Although there are some "spikes" in traffic volumes during peak periods, traffic is consistently heavy throughout much of the day. Directional flows tend to be fairly evenly balanced throughout the day. This becomes important when considering the efficacy of using staggered work hours to spread out the peak traffic. If traffic is already evenly spread and near capacity during much of the day, then the usefulness of this mitigation measure is lessened. Peak 60-minute freeway ramp volumes are shown in Figure 12. Peak-hour traffic (two-direction) on major local streets is generally 8% to 9% of daily traffic, generally considered near the norm for urban arterials in a city such as Redwood City.

c. Transit. Existing transit service is provided by San Mateo County Transit (SamTrans) to areas west of the Bayshore Freeway. No park-and-ride facilities or transit routes serve the South Shores area at present. Future transit service to the Eastshore area will undoubtedly be warranted, but its implementation will depend upon funding availability and priorities within SamTrans. Existing transit routes are shown in Figure 14.

- d. Bicycle and Pedestrian Travel. Bikeway routes proposed in Redwood City include
- various types of facilities, mostly on-street. A bikeway to the east of the Bayshore Freeway is planned and a portion has recently been funded. The initial phase will involve construction of 2 bridges and asphalt bikepaths connecting existing eastside roads capable of carrying bicycle traffic.
 - This bikeway is planned to pass through Pond A-12. A 10-foot wide bridge over Redwood Creek would be constructed at the southern boundary of the pond with the bikeway connecting to East Bayshore Road. At Whipple Avenue a new 12-foot wide bikepath would be constructed along the top of the western pond levee. Just south of the airport another bridge would cross the slough to connect with Skyway Road.

Major pedestrian movements are mostly limited to the downtown area, where walking distances are short and the parking supply more constrained.

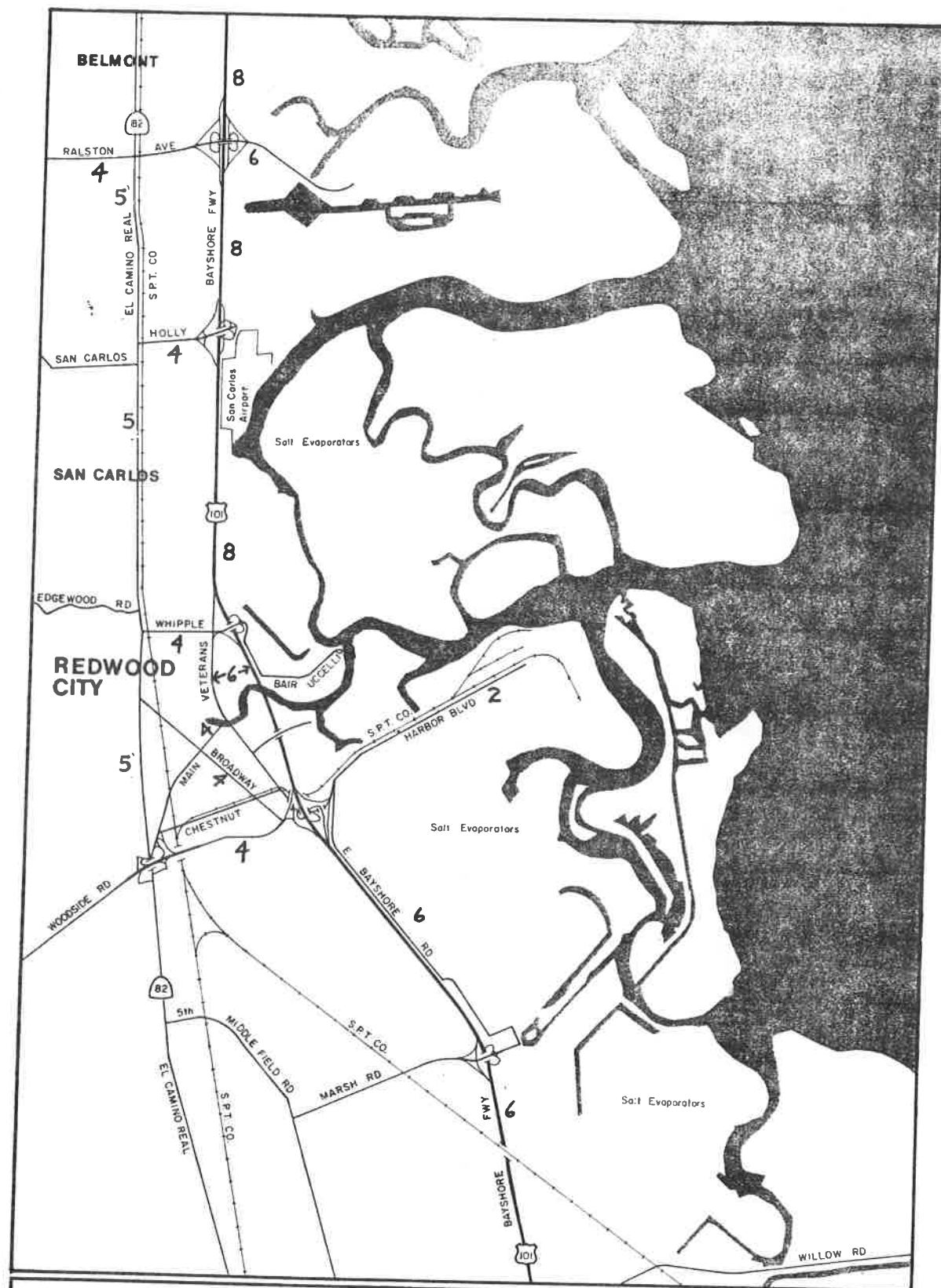


Figure 10
 EXISTING LANE WIDTHS (BOTH DIRECTIONS) ON
 MAJOR ROUTES



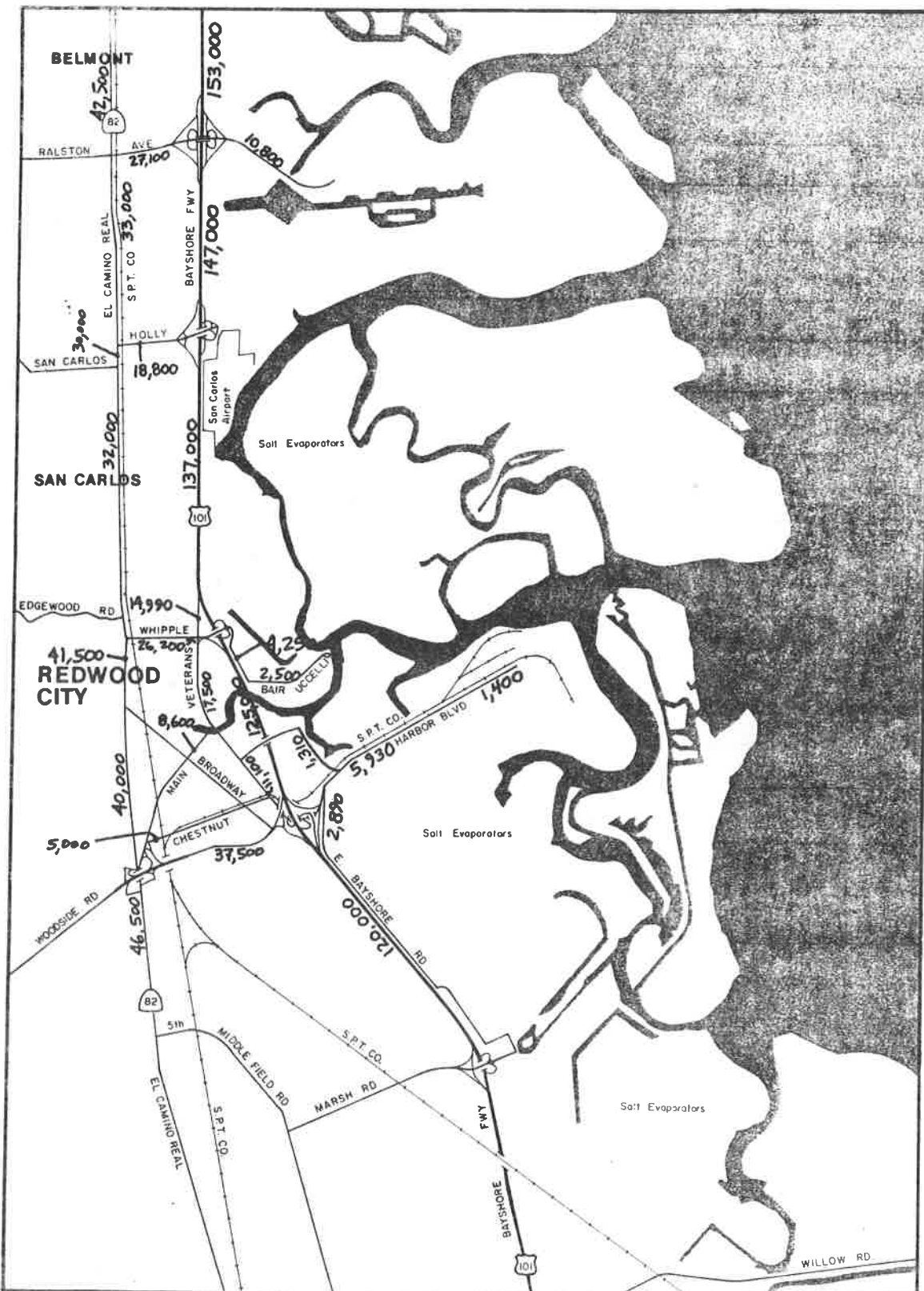
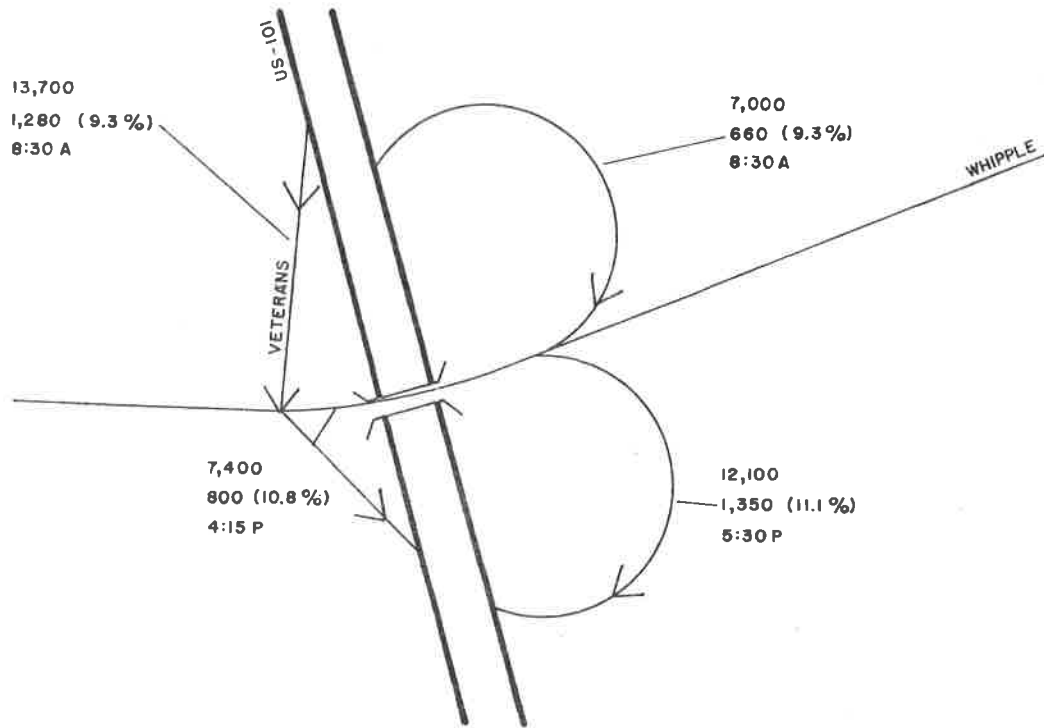
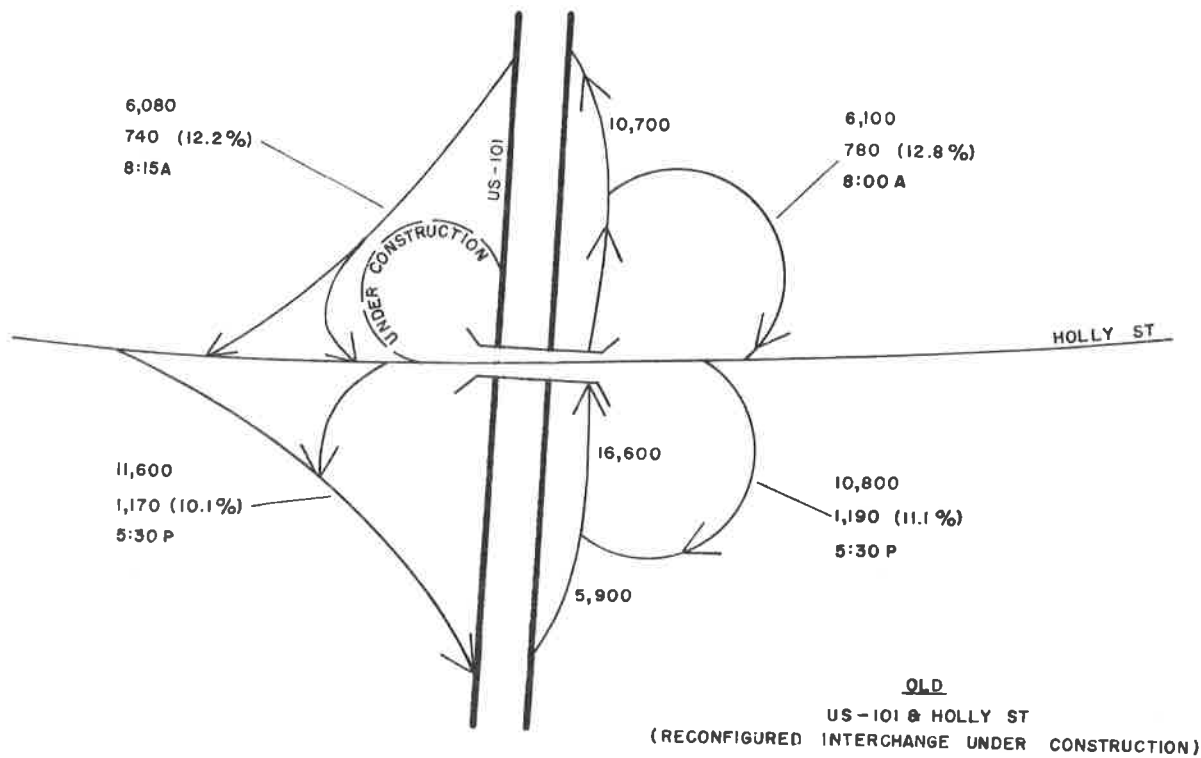


Figure 11
 AVERAGE DAILY TRAFFIC (ADT) VOLUMES
 (Most recently available ADT)





US-101 & WHIPPLE AVE

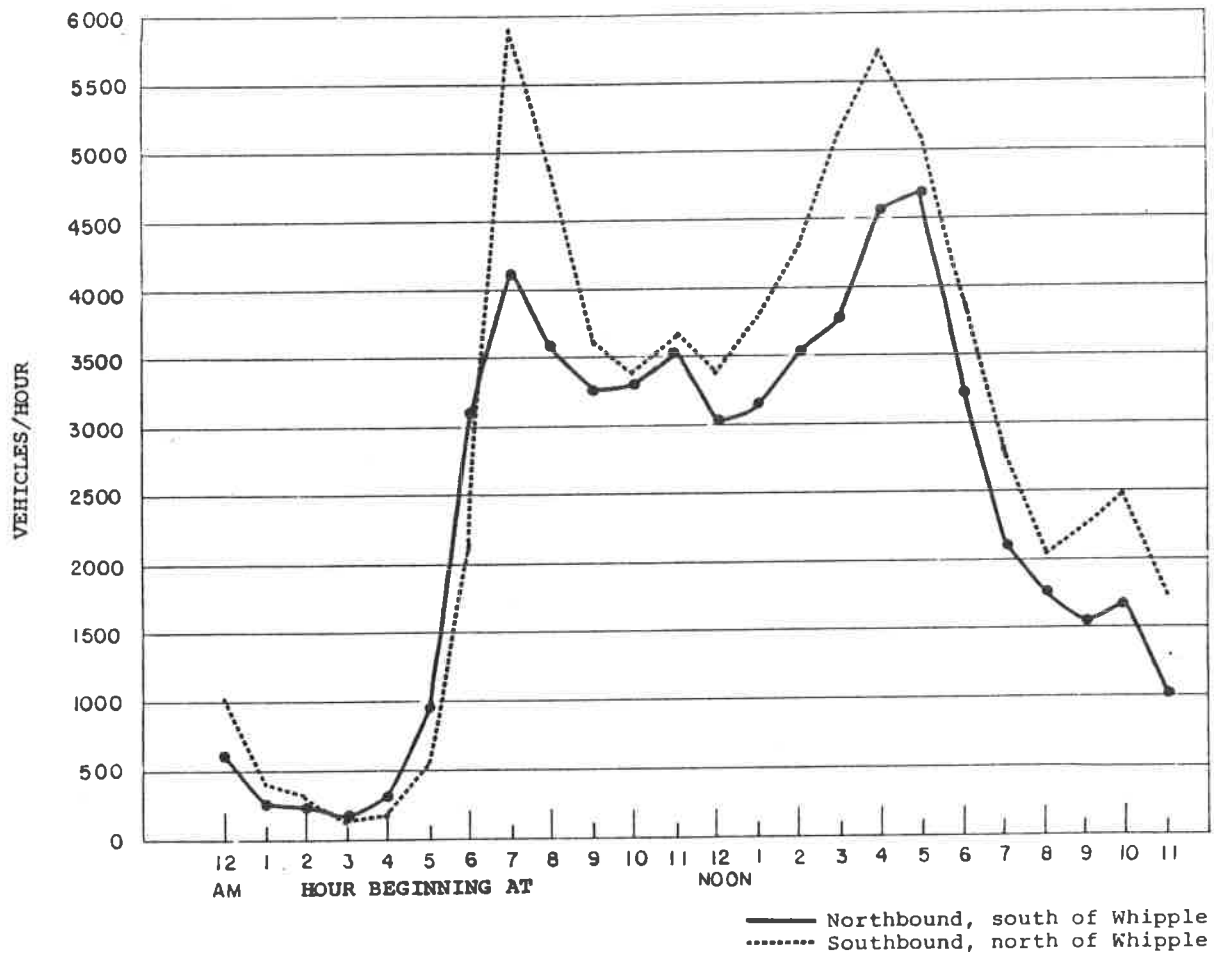
KEY

7,400	AVERAGE DAILY TRAFFIC
800 (10.8%)	PEAK 60MINUTE TRAFFIC (% OF ADT)
4:15 P	PEAK 60 MINUTES ENDS AT THIS TIME

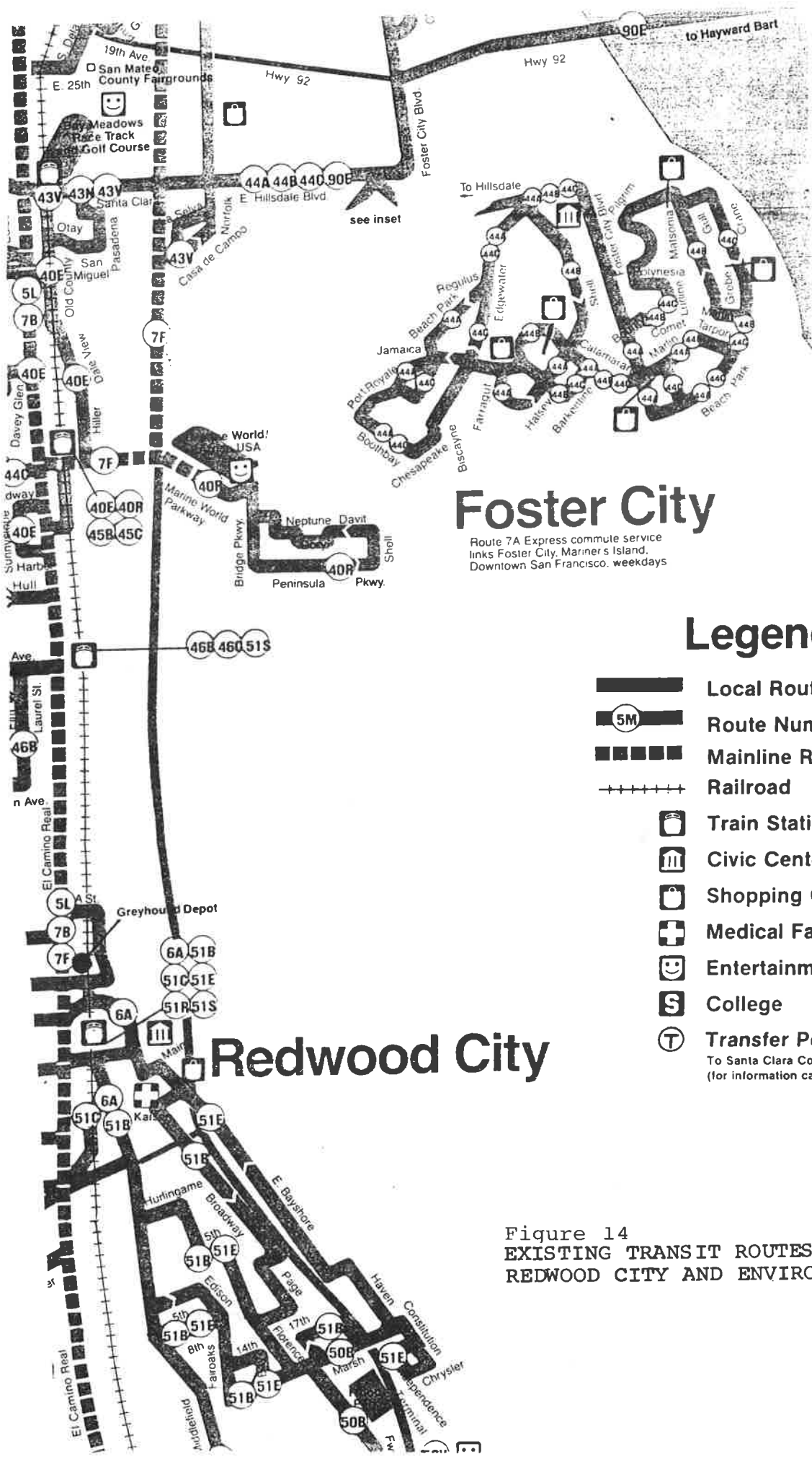
COUNTS TAKEN JULY 1977
SOURCE: CALTRANS
NO SCALE

Figure 12
EXISTING FREEWAY RAMP VOLUMES

Figure 13
 ESTIMATED 1979 HOURLY TRAFFIC FLUCTUATIONS ON US-101



Source: CALTRANS Detail Traffic Counts of 8-23-77 and growth factor computed from Traffic Volumes 1979



Foster City

Route 7A Express commute service links Foster City, Mariner's Island, Downtown San Francisco, weekdays

Legend

- Local Route
- Route Number
- Mainline Route
- Railroad
- Train Station
- Civic Center
- Shopping Center
- Medical Facility
- Entertainment Center
- College
- Transfer Point
To Santa Clara County Transit
(for information call 965-3100)

Figure 14
EXISTING TRANSIT ROUTES (1980)
REDWOOD CITY AND ENVIRONS

e. Existing Traffic Conditions. The "Level of Service" concept is used in highway capacity studies to provide a qualitative description of the nature of traffic problems in an area. A description of the various service levels is provided in Table 7.

Figure 15 shows the volume to capacity (V/C) ratio of traffic on the Bayshore Freeway mainline. Capacity was computed using the formula:

$$C = 2,000 NWT$$

Where: C = Capacity (mixed) vehicles/hour, total for one direction

N = Number of lanes

W = Adjustment for lane width and lateral clearance

T = Truck adjustment factor

For level, tangent highways of the type along U.S. 101, W has a value of 1, and the truck adjustment factor is 0.97, based on a 4% trucks.¹ Thus, the capacity/lane is 1,940 (mixed) vehicles/hour. Volume calculations were based upon peak-hour factors at a permanent counting station nearest these sections (Third Avenue in San Mateo) and applying these to other sections of the freeway.

The most significant traffic problems occur on the 6-lane section of U. S. 101 south of Whipple Avenue, where the V/C ratio is close to capacity (0.95) during the morning peak in the southbound direction (Figure 15). Traffic volumes in the immediate area of the South Shores and Redwood Peninsula developments are somewhat better, generally around level of service "C" or "D", generally considered "acceptable" for urban areas.

Because collector/distributor (C/D) roads are provided at most interchanges along U.S. 101, capacity is generally not a problem.² Capacity generally is controlled by the lesser of:

¹Office of Traffic Engineering, Caltrans, "1979 Annual Average Daily Truck Traffic on the California State Highway System," July 1980.

²Collector/distributor roads (or "auxiliary lanes") are located on the right side of a freeway. By separating the vehicles which are accelerating and weaving from the mainline, they increase mainline capacity.

TABLE 7

Roadway Level of Service Concept

LEVEL OF SERVICE A

Volume/Capacity Rate = 0-.59

- Free Flow conditions
- Low volumes
- High operating speed
- Uninterrupted flow
- No restriction on maneuverability
- Drivers maintain desired speeds
- Little or no delay

LEVEL OF SERVICE B

Volume/Capacity Ratio = .60-.69

- Stable flow condition
- Operating speeds beginning to be restricted

LEVEL OF SERVICE C

Volume/Capacity Ratio = .70-.79

- Stable flow but speed and maneuverability restricted by higher traffic volumes
- Satisfactory operating speed for urban conditions
- Delays at signals

LEVEL OF SERVICE D

Volume/Capacity Ratio = .80-.89

- Approaching unstable flow
- Low speeds
- Major delays at signals
- Little freedom to maneuver

LEVEL OF SERVICE E

Volume/Capacity Ratio = .90-.99

- Lower operating speeds
- Volumes at or near capacity
- Unstable flow
- Major delays and stoppages

LEVEL OF SERVICE F

Volume/Capacity Ratio = 1.00 or greater

- Forced flow conditions
- Low speeds
- Volumes below capacity, may be zero
- Stoppages for long periods because of downstream congestion

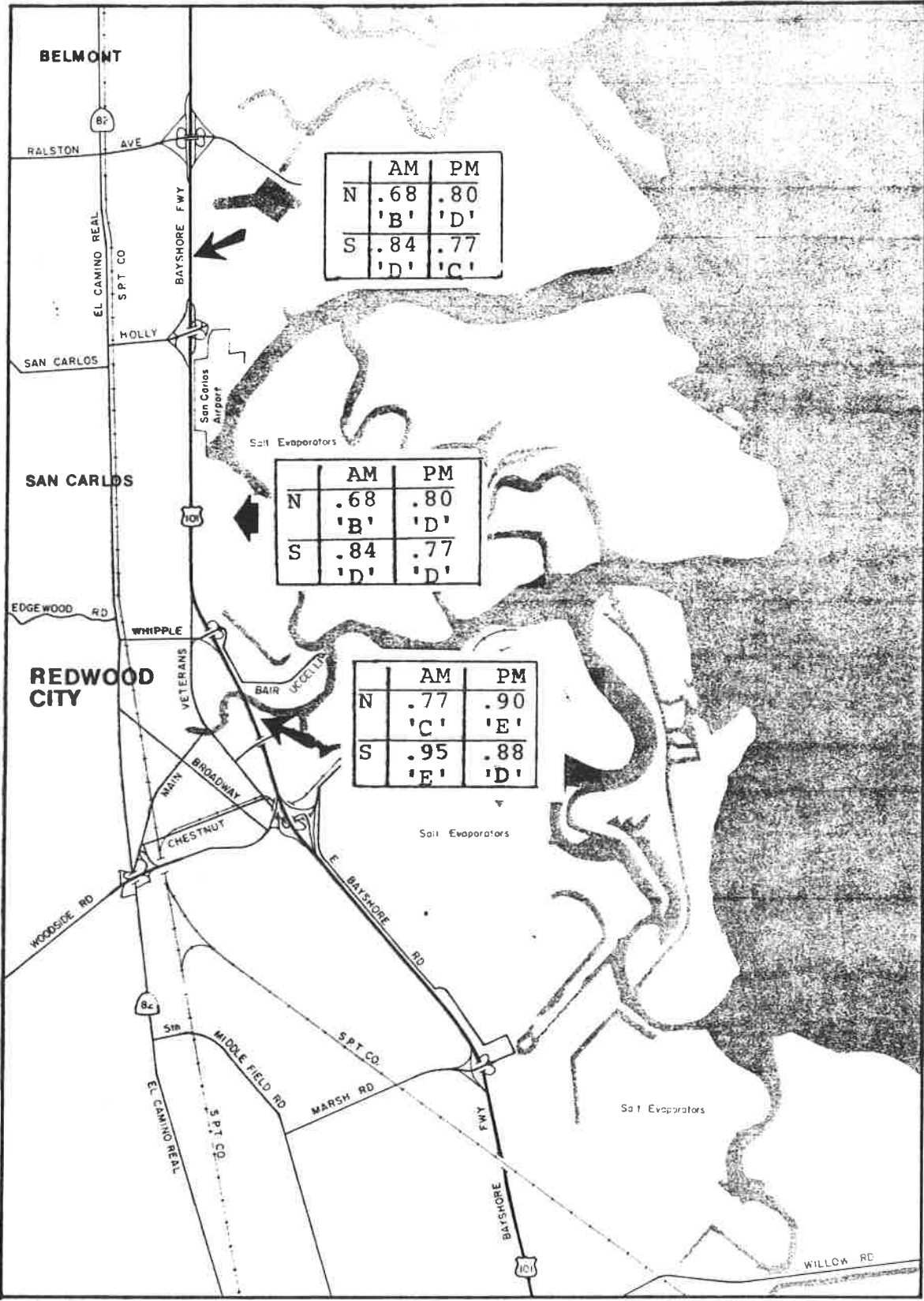


Figure 15
PEAK PERIOD TRAFFIC CON-
DITIONS ON US-101

	AM	PM
N		
S	.77	
	'D'	

← Volume/Capacity Ratio
← Level of Service

the actual ramp capacity (1,500 to 1,700 vehicles per hour) or the mainline freeway merge capacity. It is this latter constraint which is binding along U.S. 101. The two locations where this situation is most acute are the Ralston Avenue/Marine World Parkway and Whipple Avenue interchanges.

At Ralston Avenue, the 300-foot length between the on and off-ramps results in Level of Service "D" in the southbound direction during the p.m. peak hour (between 4:00 to 6:00 p.m.). During the a.m. peak, traffic volumes are somewhat less.

At Whipple Avenue, the lack of a C/D road along with the short distance (325 feet) between on and off-loops causes a "F" level condition in the northbound direction between 4:30 and 5:30 p.m. These conditions result in variable speeds for traffic bound for, as well passing through, Redwood City.

Travel time and speed studies were conducted on 2 days to assess problem areas on major routes during morning and afternoon peak hours. The principal problem areas were identified as:

- Bayshore Freeway
Northbound P.M. Peak, very heavy congestion (D/E Level) between Woodside Expressway and Whipple Avenue. Average travel speed: 35 mph (near unstable flow).
- Woodside Expressway
Westbound P.M. Peak, from U.S. 101 to El Camino, traffic is slow (average travel speed 17 mph).
- El Camino
Northbound P.M. Peak, from Woodside Road to Whipple Avenue, traffic is slow (average travel speed 14 mph).

2. Impacts

Impacts have been divided into three areas: impact of construction vehicles (principally those used to move fill to the project site), impact of project-generated traffic, and cumulative impact of "build-out" of the Eastside area. The Eastside area is generally defined as the area within Redwood City east of the Bayshore Freeway, north of Marsh

Road, and south of Foster City. A horizon planning year of 1995 has been assumed, per Mobil's construction phasing which calls for completion of all projects by 1993 (see Figure 5).

a. Construction Impacts. The project sponsor proposed bringing approximately 3.25 million cubic yards of fill into the site via truck.¹ With each truck carrying an average of 20 cubic yards, 162,500 round-trips would be generated. The project sponsor has not yet secured a definite vendor for this fill, so the distance and direction of the trips is not known. However, the project sponsor has stated the typical truck trip would be likely to be 20 miles, round-trip.

Assuming all fill is completed over a 7-year period, and 250 work days per year, 90 to 100 additional daily truck trips would be added to the Bayshore Freeway. These trips are likely to be spread evenly over a 7-hour day, resulting in a peak-hour increase in traffic of 13 to 15 trucks.

The impact of the trucks would not be severe, although they probably would be noticeable to drivers on the Bayshore Freeway. Most of the additional inconvenience and delay to motorists would occur on and near the ramps to the Bayshore Freeway at Holly Street and Whipple Avenue. Both these interchanges have "loop" ramps, and because of the inferior acceleration characteristics of large trucks, some queueing of vehicles behind trucks as they approach and accelerate on the Bayshore Freeway would result. This problem would be somewhat greater if trucks originate from the south, since the Whipple interchange has no auxiliary (merge) lanes to alleviate the acceleration delays. The Holly/Redwood Shores Parkway interchange has auxiliary lanes which would help mitigate this problem.²

b. Project Traffic Generation. At project completion and occupancy, about 91,200 trip-ends or 80,900 vehicle-trips would be generated by the development on an average weekday (Table 8).

¹Another 3.25 million cubic yards would be obtained on-site, or via Bay dredging (i.e. barge).

²The Whipple U.S. 101 interchange is currently programmed for reconstruction. No provision is being made for auxiliary lanes.

TABLE 8

Average Weekday Trip-Ends Generated by South Shores

<u>Land Use</u>	<u>No. of Units</u>	<u>Unit</u> ¹	<u>Rate/Unit</u>	<u>ADT</u>
General Office	2,000	KSF	14.0	28,000
R&D Park	915	KSF	10.0	9,150
Service Commercial ²	195	KSF	85.8	16,730
Convention-Hotel	530	Rooms	10.0	5,300
Marina	600	Berths	4.8	2,880
Apartments	1,755	DU	6.5	11,410
Town Houses	1,130	DU	8.0	9,040
Patio Home	363	DU	9.3	3,380
S.F. Detached	475	DU	9.3	4,420
Park	34.6	Acres	20.0	690
Convention Facilities ³	25.0	KSF	6.6	<u>170</u>
TOTAL	-	-	-	91,170

NOTES: 1) KSF = Thousands of gross square feet.

2) "Service commercial" refers to an unspecified mix of service-oriented businesses, such as banks, travel agencies, repair shops, and so forth.

3) Includes 25,000 square feet of banquet/meeting facilities.

SOURCE: Trip generation rates were developed in concurrence with the City of Redwood City, and are based upon rates estimated by CALTRANS (District 4) and the Institute of Transportation Engineers.

Throughout this section, the terms "trip-end" and "vehicle trip" are used extensively. Since the terms are not interchangeable, and are frequently misunderstood, a brief discussion is provided below.

Every vehicle trip creates two trip-ends: one at the origin and one at the destination. In a project study area, however, the interest may be in only those trip-ends which are in the study area. Since some of the pairs of trip-ends are both in the study area (internal) and some pairs are both inside and outside (external), the "two-for-one" equality between trip-ends and vehicle trips does not hold. The ratio depends upon the number of trips within the study area (internal trips) versus those to destinations outside (external trips).

An example may illustrate this better. A townhouse typically produces 8 trip-ends per weekday. For a small group of homes, all these trips would be external to the development, so that each trip-end produced in the development would equate to 1 vehicle trip (4 outbound and 4 inbound trips per day). In a larger development, however, some of these trips would be bound for other areas inside the study area (e.g. a convenience store). The convenience store also generates trip-ends, which are then "linked" to some of the trip-ends produced by the townhomes. In that case, 2 trip-ends equal 1 vehicle trip. But where trip-ends are to (or from) destinations outside the study area, each trip-end produced by a particular land use is equivalent to a vehicle trip.

While this concept may seem somewhat obscure, it is an important distinction which should become clearer in the text.

c. Background Traffic Growth Through 1995. Background traffic growth should occur regardless of whether the Eastside area is developed. Such growth occurs as a result of many forces, the most significant of which is increased real personal income and leisure time.

Forecasts of this type involve art as much as science. Because of the difficulty in making these projections, 2 different approaches have been applied. One involves a simple linear regression analysis of traffic volumes on selected routes over the past 5 years (1975-1979). The second involves applying the broad results of a detailed analysis of

future travel trends, as developed by the National Transportation Policy Study Commission (NTPSC).¹

Traffic volume forecasts for 1995 are shown in Table 9. The 2 forecasts show a substantial difference in forecast traffic for major routes. The NTPSC figure represents the moderate (most likely) and high-growth scenarios for urban person trips, interpolated to 1995. Two factors were assumed to balance each other in using this growth factor (14.6 and 16.8%): while California traffic may grow faster than the national average, increases in average daily vehicle occupancy would also permit the increased person trips to be carried in fewer vehicles. The question here distills to whether one believes the trends prevalent in 1975-1979 will persist for the next 15 years. It was decided that the "high growth" forecasts by NTPSC probably represent the most reasonable estimate of conditions likely to prevail in Redwood City in 1995.

d. Project Traffic Assignment Through 1995. Project traffic assignment is accomplished in two steps: first, the internal vs. external split of trips was estimated (internal trips are those beginning and ending within the South Shores boundaries; external trips have an origin or destination outside the study area); second, directional distributions of trips were developed and applied to all-day trip volumes.

The first step is to assign traffic to external or internal points. Existing environmental documents on proposed developments in the Eastside area vary with regard to what this factor should be. Barton-Aschman has used a 20% internal trip factor for home-based work (HBW) trips, and 17% for home-based other (HBO) trips. No factor for a shopping center of the type contemplated was included, since it had not been proposed at the time of the earlier study. Some slight adjustment of these internal trip-rate factors was required in order for the correct number of trip ends to balance within the development. The factors used are shown in Table 10.

Directional trip distributions of external trips were based upon Barton-Aschman's work for Mobil, which in turn were based on the Metropolitan Transportation Commission's regional

¹National Transportation Policy Study Commission, "National Transportation Policies through the Year 2000," Appendix Table 27, page 416, June 1979.

TABLE 9

Comparative Traffic Volume Forecasts for 1995
ADT (ooo's) Without Projects

Route/Segment	Existing 1	NTSPC 2		Regression
		Moderate	High	
<u>US-101</u>				
Rt. 114 to Whipple	125	143	146	197
Whipple to Holly	137	157	160	213
Holly to Ralston	147	168	172	231
<u>El Camino (Rt. 82)</u>				
Rt. 114 to Broadway	40	46	47	63
Broadway to San Carlos line	42	48	49	84
City Limit to San Carlos Av.	32	37	37	(3)
<u>Woodside. Expressway (Rt. 114)</u>				
Rt. 82 to Middlefield	41	47	48	67
Middlefield to US-101	38	44	44	56
Whipple/W. of Veterans	26	30	30	(3)

1 Generally, 1979 count

2 All traffic increased by 14.6% (see text) for most-likely moderate-growth scenario, and by 16.8% for high-growth scenario

3 No lead-line counts available

TABLE 10

South Shores Trip Distribution

	(a) Trip Ends	(b) Internal Rate	(c) Total Internal Vehicle Trips ³
Resident Trips	28,250	20.0%	2,825
Worker Trips ¹	45,500	16.3%	3,715
Non-Home Based Trips ²	17,420	42.6%	3,710
TOTAL	91,170	--	10,250

¹ Includes office uses, marina, hotel, convention facilities.

² Includes service commercial and parks.

³ Column (c) = Col. (a) x Col. (b) ÷ 2.

The balance of vehicle trips (70,670 per day) are external.

travel model. Barten-Aschman's work assumed build-out on Redwood Peninsula. Since the immediate task was to examine the impacts of South Shores alone, the distribution of trips to Redwood Shores was reduced somewhat to reflect only the trips between South Shores and the existing development. Most of the conclusions reported here are not highly sensitive to this adjustment, however.

<u>Routes Assignment</u>	<u>Percent of Trips</u>	<u>Total Daily Trips</u>
U.S. 101 North	35%	24,735
U.S. 101 South	41%	28,975
West of Freeway (surface streets and Woodside Road)	19%	13,430
Redwood Shores	5%	3,530
TOTAL	100%	70,670

This information is also displayed in Figure 16.

One minor caveat concerns the distribution of trips to Redwood Shores, which will be influenced to a degree by the decision to build the Twin Dolphin Bridge across Steinberger Slough. Building this bridge would mostly affect shopping, personal business, and other similar trip-types. Since these trip-types do not make up a major share of total trips, construction of the bridge probably would increase Redwood Shores' share of total daily trips by a few percentage points.

All-day traffic assignment (internal and external ADT) is shown in Figure 17. This assignment was based on the directional distributions noted previously; where multiple paths existed between two nodes, a diversion curve based on time and distance for each route was used.¹ The travel time inputs for the diversion model assumed travel speeds associated with near-capacity traffic volumes. But the loading is not very sensitive to the assumed speed. The Whipple Avenue interchange is generally far superior to Holly Street. Consequently, over 60,000 vehicles per day would use this route, assuming that the

¹ Moskowitz, K. "California Method of Assigning Diverted Traffic to Proposed Freeways," Highway Research Board Bulletin #130, 1956, as reproduced in Wohl and Martin, Traffic System Analysis for Engineers and Planners, 1967, page 136.

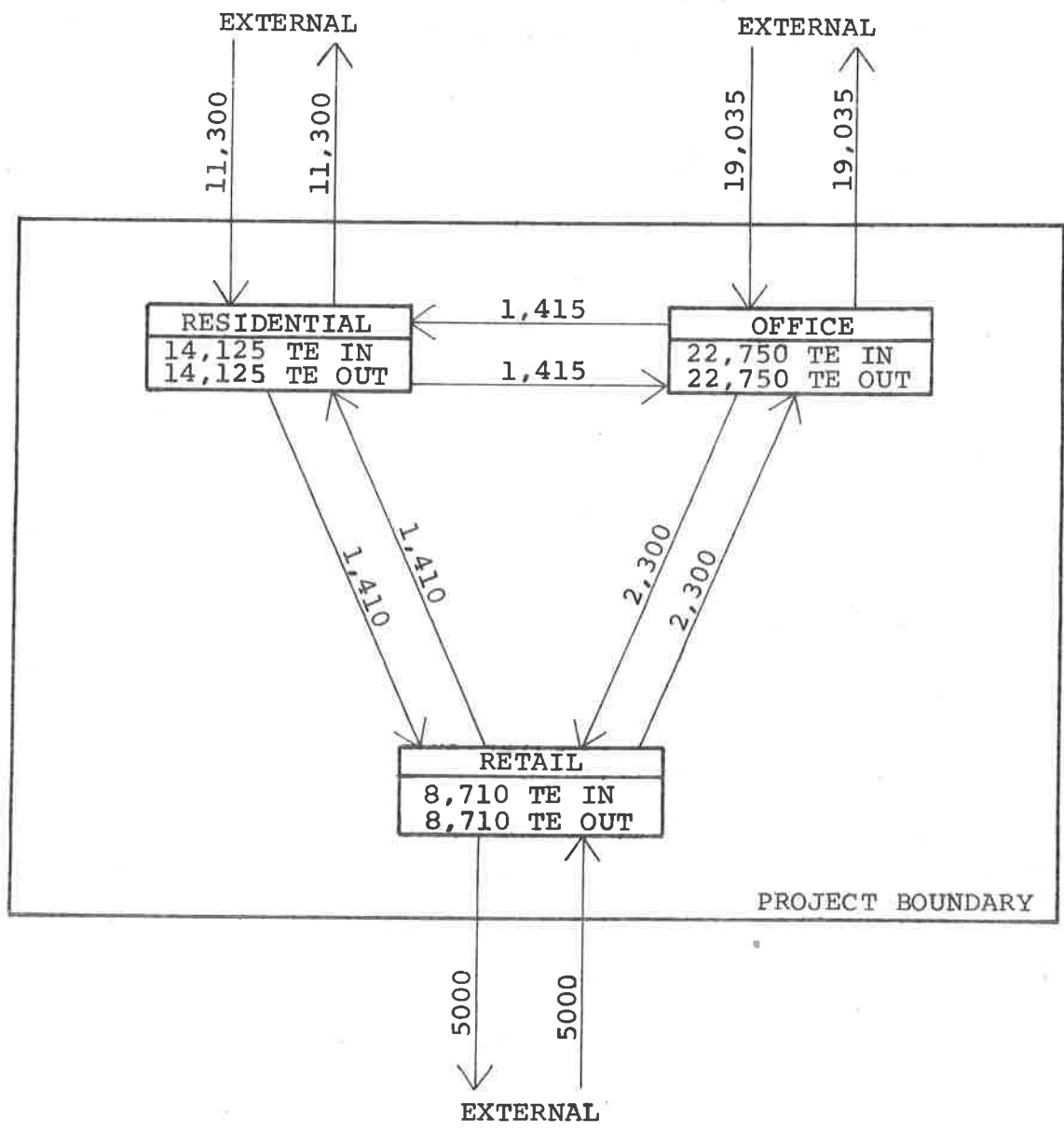


Figure 16
 SOUTHSHORES AVERAGE DAILY VEHICLE TRIPS
 TOTAL DAILY INTERNAL VEHICLE TRIPS: 10,250
 INTERNAL TRIP ENDS: 20,500
 EXTERNAL TRIP ENDS: 70,670
 TOTAL TRIP ENDS: 91,170
 TE=TRIP ENDS

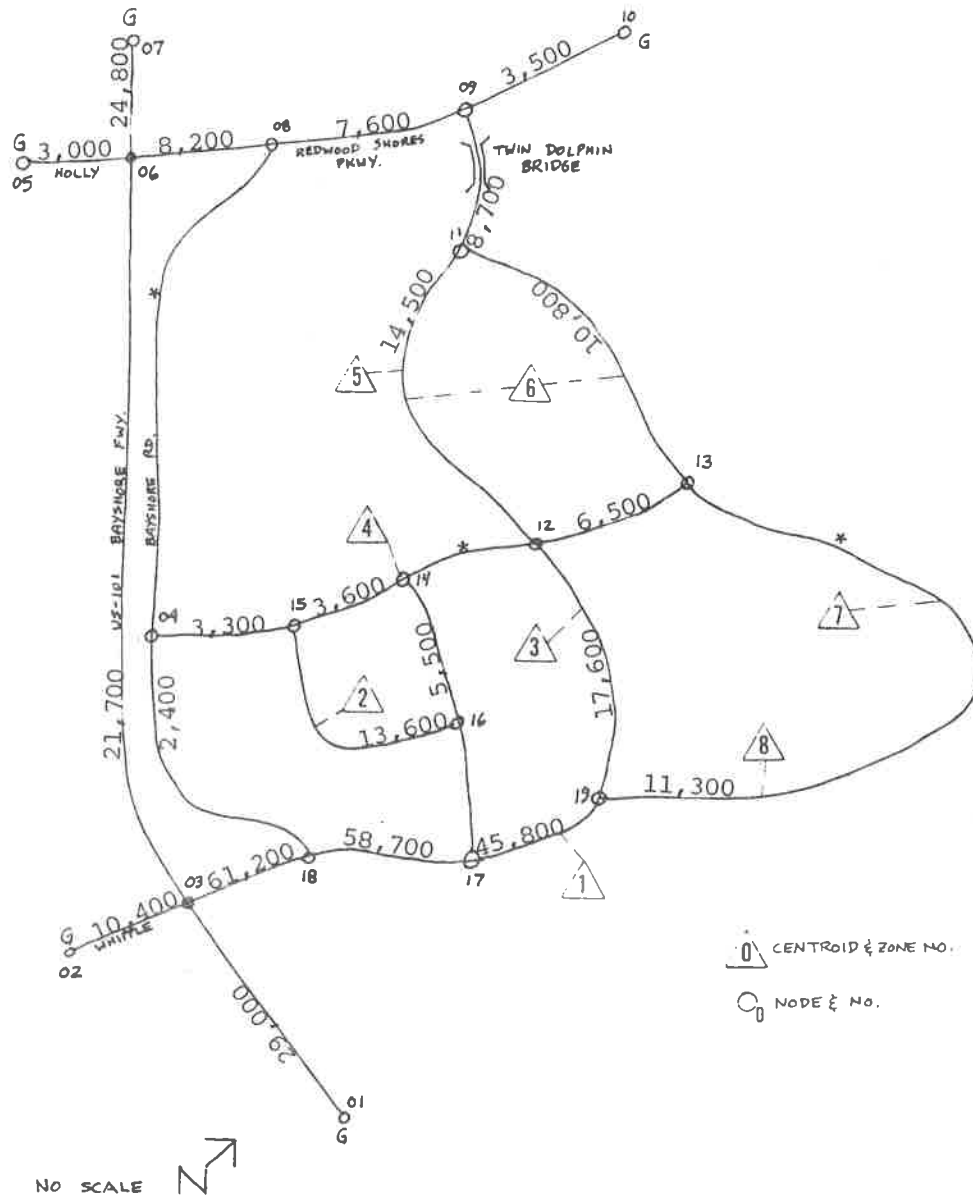


Figure 17

AVERAGE DAILY PROJECT-GENERATED TRAFFIC

*Indicates low-volume two-lane road (under 5,000 vehicles per day)

capacity of the interchange were great enough to provide relatively "free-flow" conditions during peak hours. A computerized traffic assignment model (using a somewhat different diversion curve) found that if the Whipple interchange is congested, a substantial amount of traffic would be diverted along the Bayshore Freeway frontage road to the Holly/Redwood Shores Parkway interchange. If this occurs, however, additional capacity would have to be provided at Holly (rather than Whipple), and in addition, more vehicle-miles of travel would be generated by this detour.

After this section was first prepared and reviewed, the developer commented that it would be his intent to provide only one of the two cross-slough bridges which were contemplated in the initial site plan. Some brief comments are addressed to this change here.

For the full-development scenario, it is most logical to delete the northern bridge over Smith Slough (if one of the bridges must be eliminated). This bridge would carry relatively modest traffic volumes--certainly under 20,000 vehicles per day (depending upon the ultimate location and capacity of highways provided in the area). This traffic would then be diverted to alternate parallel routes, such as Whipple Avenue and the Bayshore Frontage Road. However, this additional traffic would be within the capacity of a 4-lane frontage road (increased from two lanes), and an eight-lane Whipple Avenue (no change in width). The elimination is undesirable for two principal reasons: the third bridge would provide more even distribution of traffic, and would permit better emergency vehicle access (particularly in the event of a seismic emergency).

e. Peak-Hour Traffic Conditions Through 1995. Peak-hour traffic volumes were developed in concurrence with Redwood City staff, based on studies performed by Caltrans District 4 and the Institute of Traffic Engineers. These factors are shown in Table II.

Peak-hour traffic was developed for the critical portion of the average day, the afternoon peak. These volumes, and the direction of the peak movement, are shown in Figure 18 for external trips. Internal trips have been ignored, since they represent only a small portion of total trips and generally move in the minor direction.

Design of road facilities is generally related to the heaviest directional movement from a project, in this case the p.m. peak-hour outbound movement. Calculation of these trips is shown in Figure 18.

TABLE 11

Peak Hour Trip Factors
(Percent of ADT)

<u>Land Use</u>	7:30-8:30 A.M. Peak			4:30-5:30 P.M. Peak		
	<u>In</u>	<u>Out</u>	<u>Total</u>	<u>In</u>	<u>Out</u>	<u>Total</u>
General Office	17.5	1.5	19.0	2.1	18.9	21.0
R&D Park	14.7	1.3	16.0	1.9	16.6	18.5
Service Commercial ¹	2.0	1.7	3.7	5.0	5.4	10.4
Convention Hotel	2.7	4.1	6.8	4.1	3.3	7.4
Marina ²	1.0	0.5	1.5	1.2	3.1	4.3
<u>Residential:</u>						
Apartments	2.4	9.1	11.5	9.3	3.1	12.4
Townhomes	2.4	9.1	11.5	9.3	3.1	12.4
S.F. Patio	2.4	9.1	11.5	9.3	3.1	12.4
S.F. Detached	2.2	8.7	10.9	6.9	4.6	11.5
<u>Park</u>	1.0	0.5	1.5	1.2	3.1	4.3
<u>Restaurant</u> ³	1.0	0.8	1.8	8.2	2.8	11.0
<u>Retail Commercial</u>	2.0	1.7	3.7	5.0	5.4	10.4
<u>Port/Light Industry</u> ⁴	6.3	3.3	9.6	4.0	7.7	11.7

¹"Service commercial" includes an unspecified mix of service-oriented activities, including banks, savings institutions, travel agencies, repair services, medical/dental offices, and so on. The peak-hour factor used here was based on the rate for small retail land-use, both because of the inherent similarities between it and the aforementioned land-uses; and because the rate was similar to the rates for the land-uses comprising the "service commercial" classification.

²Assumes no living aboard boats; rate used was based on park rate.

³Sit-down restaurant (not high-turnover).

⁴Includes both employee auto and truck trips. Source: Wilbur Smith and Associates, "MTC/BCDC Port Planning Project Marine Terminal Traffic Generation Manual," Figure 5 and Table 7.

Source: CALTRANS District 4, Progress Reports on Trip End Generation Research Counts, various years, and Institute of Transportation Engineers, Trip Generation Handbook, 1976.

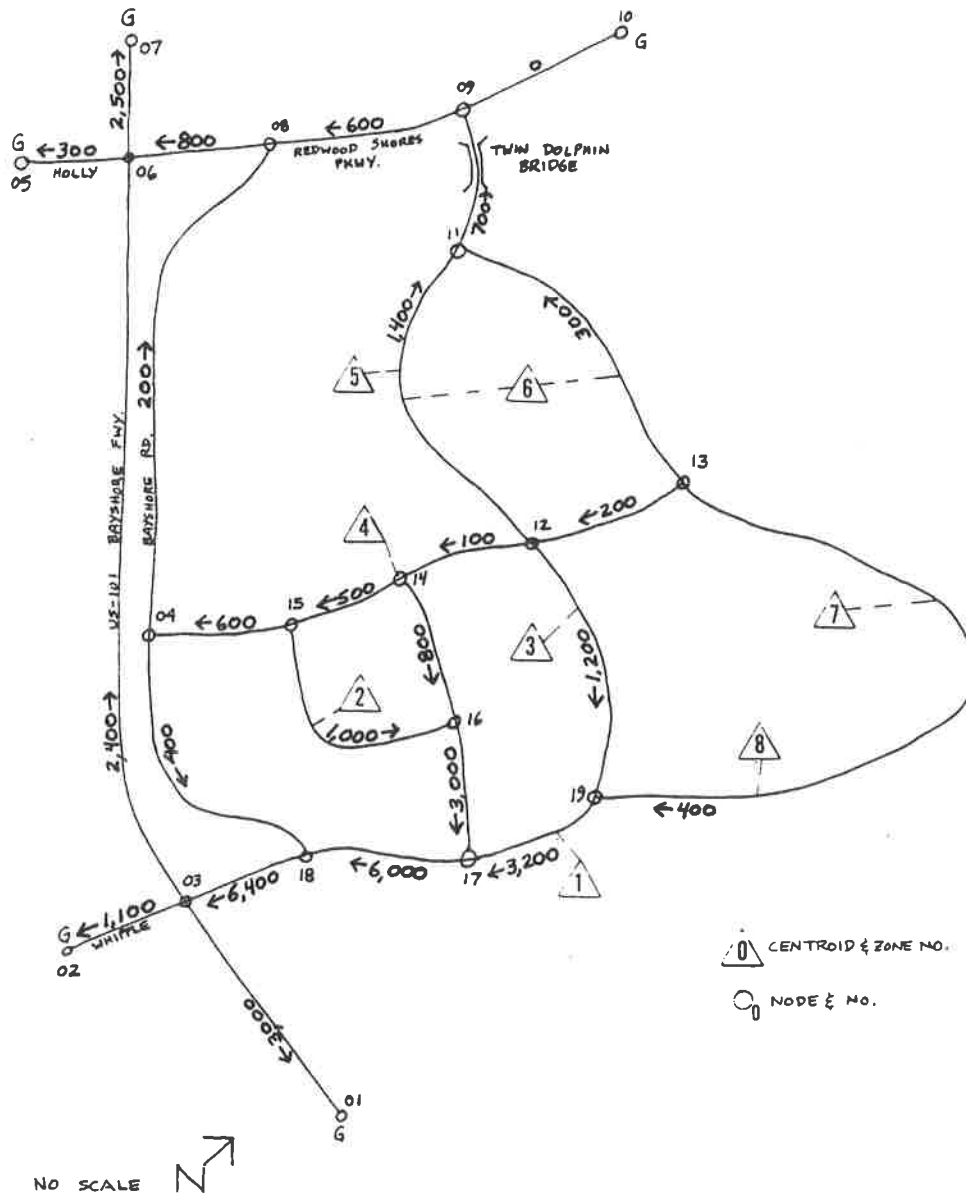


Figure 18

PROJECT-GENERATED PEAK-HOUR TRAFFIC (4:30-5:30PM), AVERAGE WEEKDAY

Arrow next to number indicates direction of major flow. Assignment assumes no major constraints to traffic (i.e. no "F" level intersections or interchanges).

South Shores PM Peak Hour Trip Distribution
(Outbound Vehicle Trips)

<u>Land Use</u>	<u>P.M. Peak Trips</u>	<u>Internal</u>	<u>External</u>
Office	6,500	580	5,920
Resident	840	90	750
Shopping	<u>720</u>	<u>190</u>	<u>530</u>
TOTAL	8,060	860	7,200

The General Plan map for South Shores¹ provides the alignment of streets used for study in this section. However, the project sponsor has not proposed specific lane widths for these streets at present. The only street widths in South Shores recommended by Barton-Aschman were for Whipple Avenue east of the freeway, where 6 lanes were recommended. Whipple west of the freeway (in the built-up portion of Redwood City) was recommended for 8 lanes (it is currently 4 lanes). Consequently, it became necessary to propose an assumed street width for testing against the traffic loadings (Figure 19).

These street widths were assumed based upon the peak-hour (4:30 to 5:30 p.m.) average-day traffic. The guiding criteria were to ensure that no intersection was below level of service "E" during this period of the average day. It should be noted that on half the days of the year (particularly around the beginnings of holiday weekends), traffic will be more severe.

Designing for "E" level service is generally considered less than desirable; levels of service "C" or "D" are usually used in urban applications. However, it became evident that the proposed land uses could not be accommodated without designing Whipple Avenue

¹Dated January 28, 1980.

as 10 lanes or wider; such a width would not only be environmentally undesirable, but would also be extremely costly. Only 2 intersections (#17 and #18) operate at "E" level.

After loading the intersections and performing a critical-lane analysis,¹ only 2 intersections (#17 and #18) actually would perform at service-level "E" (see Table 12), although a large portion of South Shores traffic would funnel through these intersections. Perhaps the more critical problem is that of mainline freeway capacity (Table 13), which demonstrates that without widening U.S. 101 to 10 lanes², the proposed development would saturate the freeway with traffic. Even with widening, the freeway would operate very near capacity during peak hours. Major Modification to the Whipple U.S. 101 interchange would also be required, particularly to provide the necessary on-ramp capacity to U.S. 101 southbound. A 2-lane on-loop or flyover structure has been assumed here. Such a structure could be provided either at Whipple, or at the Holly/Redwood Shores Parkway interchange. If full development of the Eastside area occurs, then this structure would be more critical at Holly/Redwood Shores (high traffic volumes are projected for this route). In that case, much traffic from South Shores would travel along the Bayshore frontage road to access the freeway.

The 4:30 to 5:30 weekday peak hour has been the focus for analysis here because it is generally the 60 minutes during which the regional highways experience their greatest traffic volumes. It should be noted that this is not always the peak hour of individual generators (e.g. schools and shopping centers would have an earlier peak hour, as would offices on flextime, as discussed in the mitigation section).

f. Pedestrian and Bicycle Impacts Through 1995. The proposed project should have relatively minor impacts on existing pedestrian and bicycle circulation in the urbanized areas west of the freeway. The principal areas where some adverse impact may be felt are Whipple Avenue (between El Camino and the Bayshore Freeway) and along El Camino. Both these routes currently have moderate bicycle and pedestrian traffic. Whipple Avenue west of Winslow Street (near the freeway) is in the City's proposed bikeway plan for 1974.

¹See McInerney, Henry B. and Stephen G. Peterson, "Intersection Capacity Measurement Through Critical Movement Summations: A Planning Tool," Traffic Engineering, January 1971, page 45ff.

● ²Not proposed in current CalTrans planning.

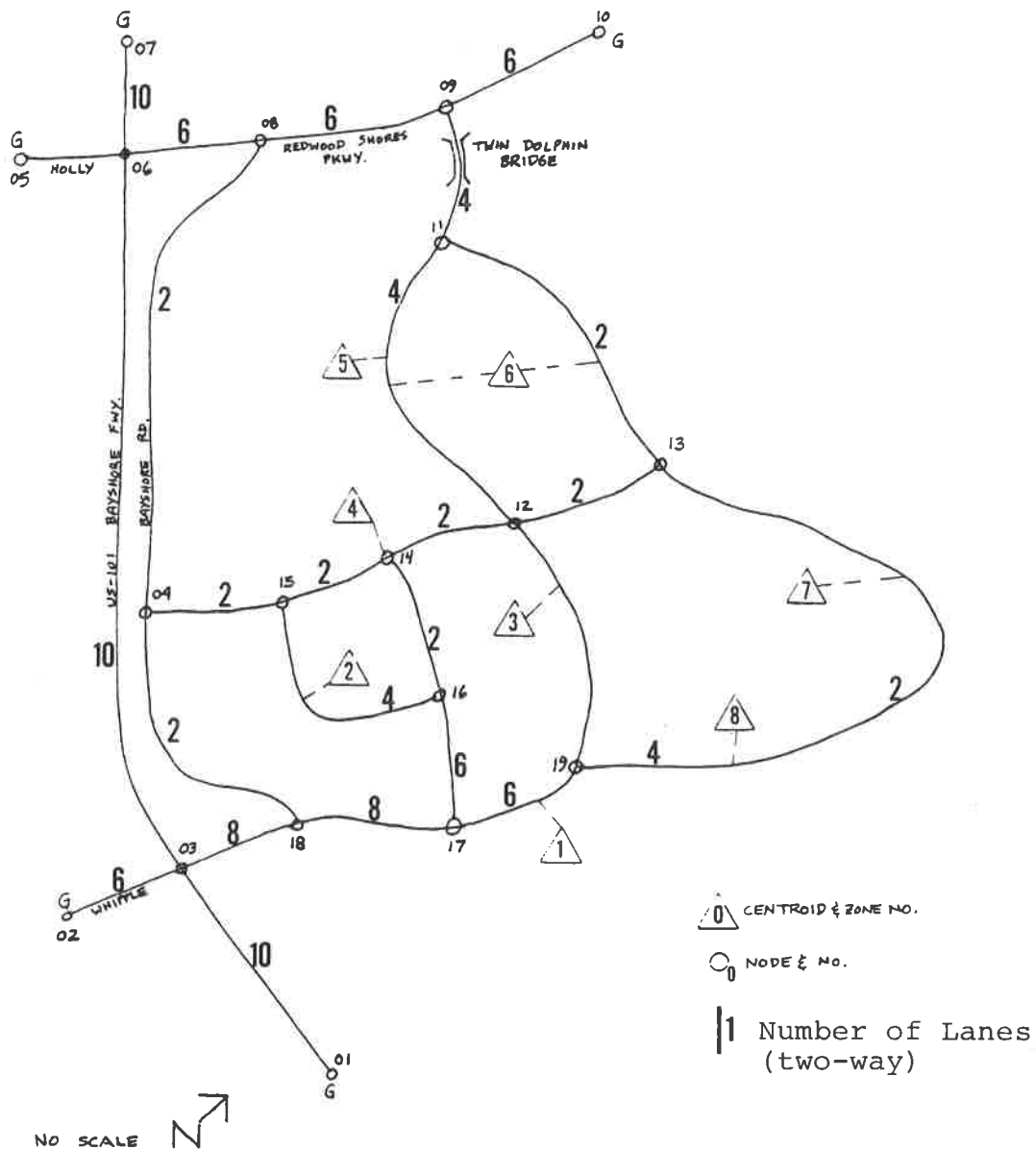


Figure 19
 ASSUMED LANE WIDTHS FOR FULL SOUTH SHORES DEVELOPMENT

Since specific lane widths have not been proposed by the developer, these widths were assumed based upon the traffic loadings in Figure 9 to achieve at least level of service E during peak periods.

TABLE 12
Intersection Level of Service
 Full Development, 4:30-5:30 PM Average Weekday

<u>Intersection</u>	<u>V/C</u> ¹	<u>LOS</u> ²
Intersection #18 (Whipple and Bayshore Rd)	.96	E
Intersection #17 (Whipple and unnamed road)	.90	E
Intersection #16	.67	B
Intersection #19 (Whipple near Shopping Center)	.52	A

¹ Volume to capacity ratio.

² Level of Service (see Table 7 for definitions).

Source: Wilbur Smith and Associates

TABLE 13

South Shores Impact on Existing Highway System at Critical Points
PM Peak Period

Critical Highway and Segment	1995 No-Build		South Shores but no Widening		South Shores and Widening	
	Volume	V/C	Volume	V/C	Volume	V/C
<u>US-101 Mainline</u>						
SB Harbor/114 to Whipple	6,000	1.03	9,000	1.55	9,000	.93
NB Whipple to Holly/RSP	6,800	.87	9,200	1.19	9,200	.95
NB Holly/RSP to Marine World	7,200	.93	9,700	1.25	9,700	1.00
<u>US-101 Ramps</u>						
Whipple SB on-loop	3	-	3,000	1.80	3,000	.85
<u>Whipple Avenue-Westbound</u> 2						
E. of Veterans	800	.96	1,900	2.28	1,900	.76

NOTES: Volumes are in north-bound (heaviest movement) direction for US-101.

- 1 Assumes 10-lane freeway.
 - 2 Assumes signal permits 50% green to Whipple traffic.
 - 3 No count data available to evaluate this movement.
 - 4 Assumes programmed single-lane on-loop is built. "Widening" assumes 2 lane on-loop or fly-over.
- LOS=Level of Service, see Table 1.
V/C=Volume to capacity ratio.

Increased traffic volumes along Whipple and El Camino routes would result in some additional delay to pedestrians crossing these streets, because additional greentime and street widening would be required. In addition, cyclists would generally find both Whipple and El Camino less amenable after construction of the project. A considerable number of alternative parallel routes are available to cyclists, although such routes are somewhat slower than the two impacted routes.

Since the current project area is open space, the only pedestrian impact created would be the elimination of a jogging trail currently parallel to and east of the Bayshore Freeway.

● The bikeway proposed to run along the levee top of Pond A-12 would be displaced by improvement of the levee and development of the area. The project sponsor has tentatively agreed to grant a relocatable easement for this bikeway, allowing it to be relocated at their expense after project construction.¹

g. Cumulative Area Impacts. South Shores is only one of several projects proposed for the Eastside area (between Marsh Road and Foster City limits). Other projects along with their daily generation of trip ends are shown in Table 14 below. Figure 20 shows the location of the various projects.

TABLE 14
Average Weekday Trip-End Generation By Eastside Projects
At "Build-out"

Project Name	Daily Trip-Ends	Percent of Total
South Shores	91,200	31.2%
New Redwood Shores (Mobil)	95,700	32.8
Parkwood 101	16,800	5.7
Marina Park Baylands	25,600	8.8
BFI Transfer Station/Offices	2,400	0.8
Port of Redwood City	56,800	19.4
SamTrans Operating Base	1,500	0.5
Holvick Office Building	2,200	0.8
TOTAL	292,200	100.0%

Source: Various environmental documents on proposed projects; Wilbur Smith and Associates estimates.

¹Eugene Masciarelli, Project Coordinator, South Shores, Inc., personal communication, August 24, 1981.

As shown in Table 14, a considerable increase in traffic would result from possible build-out in the Eastside area, and although the proposed project makes a major contribution to traffic, it represents only a portion of the traffic which would be generated by new projects.

Although detailed analysis is currently proceeding on the impacts of these projects,¹ a number of conclusions can be made at this time.

The traffic assigned to various routes assuming full build-out is shown in Figure 21. This figure, when compared with the existing volumes in Figure 11, shows substantial growth. Substantial diversion of traffic would occur from the Bayshore Freeway to El Camino. Whether I-280 (Serra Freeway) will be able to divert some of the longer Peninsula trips in order to free-up capacity on the Bayshore was not analyzed. Such an analysis is really a regional question. Barring any major shift of employment and housing to the vicinity of I-280, it would appear that such a diversion is unlikely to occur unless Bayshore congestion reaches very severe levels.

The proposed build-out of the Eastside area cannot be accommodated without major capacity increases in both trans-freeway and mainline freeway capacity. Tentative projections place the amount of additional capacity required as equivalent to another 8-lane freeway in the corridor. Current highway funding limitations, along with public concern with the environmental and other negative consequences of highways, make such an option unlikely. It appears safe to say that full build-out is not likely to be feasible in the planning horizon of this study. Therefore, the construction of the proposed project would have the effect of decreasing the feasible size of other proposed projects in the Eastside area.

¹This work is currently being performed for Redwood City by Wilbur Smith and Associates as the Eastside Transportation Network Study.

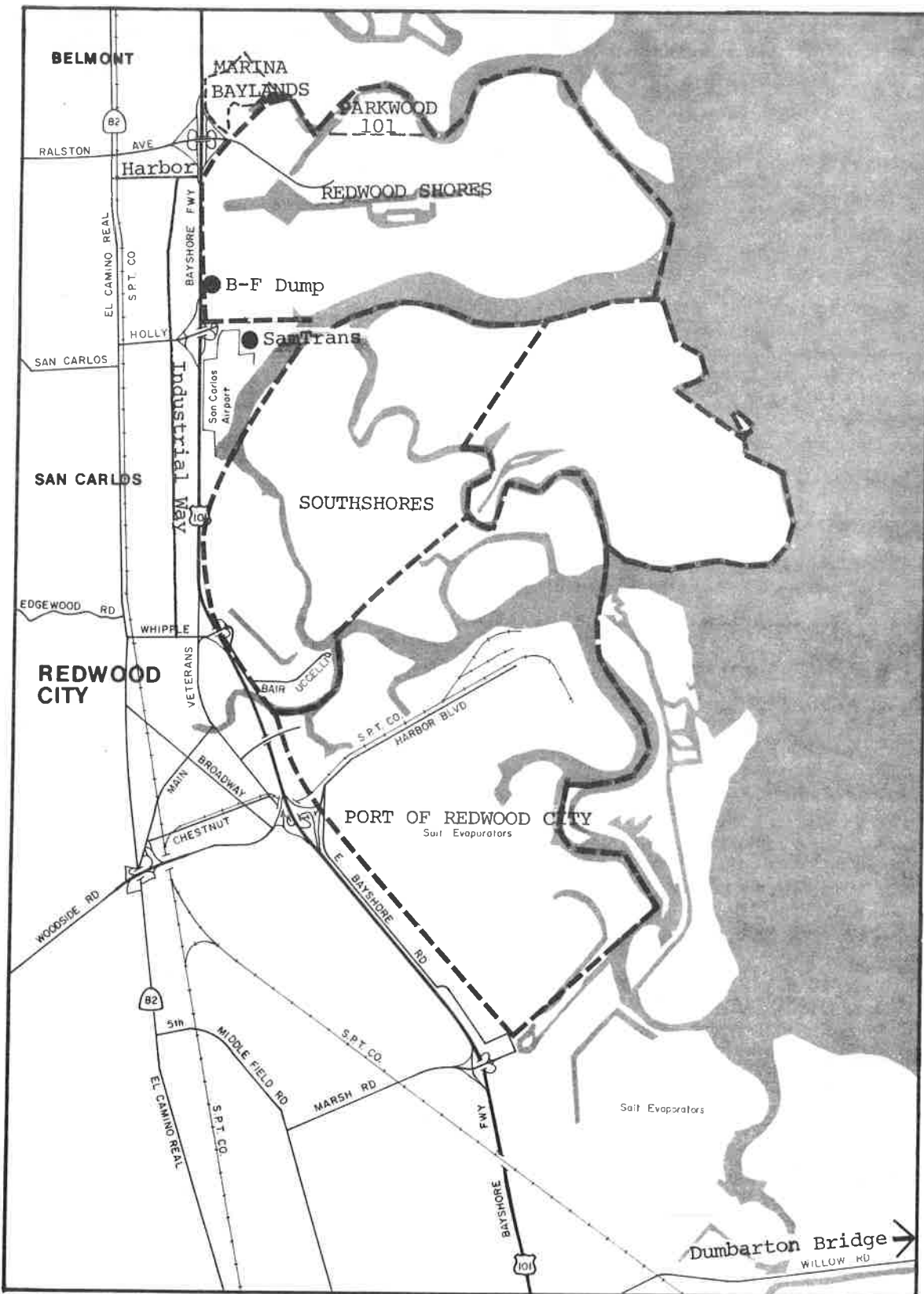
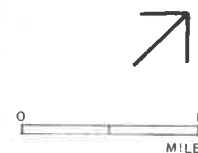


Figure 20

PROJECTS PROPOSED FOR EASTSIDE AREA OF REDWOOD CITY - 1980



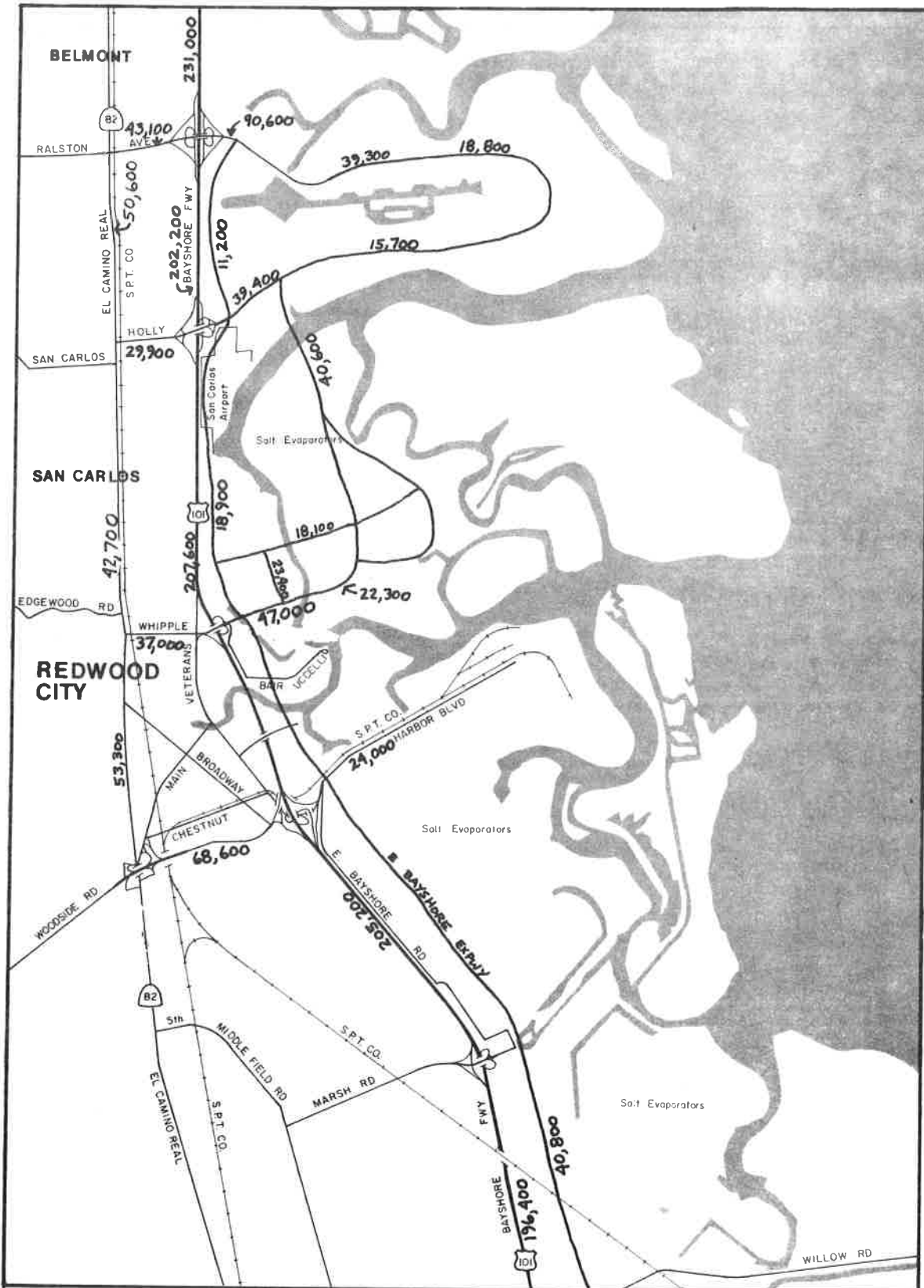


Figure 21

AVERAGE WEEKDAY TRAFFIC VOLUMES ASSUMING FULL BUILD-OUT OF EASTSIDE AREA (1995)



From a traffic point of view, a diversity of development in the Eastside area is desirable, since it permits people to live, work, and shop in the same general area—without travelling on the critical trans-freeway and freeway routes. However, barring any major gasoline price increases or availability problems, workers and residents of the area are likely to continue to make the majority of their trips outside of the project, and indeed the Eastside area.

A number of policy options have been presented to the City of Redwood City as part of the Eastside Transportation Network Study to guide ultimate development of the Eastside area, with an aim toward ensuring compatibility with other City goals.

3. Mitigation

Measures to reduce the adverse impacts of traffic, both within and outside the proposed development, include those which:

- Reduce peaking of traffic, by permitting flexible work hours or changing the types of land uses (various land uses have distinct peaking characteristics).
 - Providing facilities to increase traffic capacity (widening, turn pockets, etc.).
 - Relocation of land uses to avoid over-concentration of trip ends in one area.
 - Provision of transit service.
 - Incentive or priority treatments for carpools, vanpools, and buses.
 - Bicycle and pedestrian facilities to encourage non-motorized transportation.
- a. Developer's Mitigation. The project sponsor has proposed a number of mitigation measures which include:
- Widening Whipple Avenue by 4 lanes in each direction (for 8 lanes total), to serve South Shores and other Eastside development.
 - Inclusion of deed covenants in land sale agreements to require flexible work hours for South Shores employees.
 - Interchange improvements including full cloverleaf interchanges at Whipple Avenue and Holly/Redwood Shores Parkway.
 - Provision of new arterials east of the freeway to provide additional north/south capacity, thereby providing partial relief to the Bayshore Freeway and El Camino.

All these measures have been incorporated into the impacts analysis, except for the first 2; Whipple Avenue has been assumed to be 6 lanes (not 8) because the 8-lane cross-section would require extensive taking of homes and businesses. The deed covenants would appear to have more political viability, but the magnitude of the improvement is likely to be small. For example, if the peak-hour peak-direction (PHD) traffic for general office uses is reduced from 19 to 15%, and R&D from 17 to 14%, the average areawide PHD would drop 14% (from 9.8 to 8.4%). While this drop is significant, it does not obviate the need for increasing capacity on Whipple, El Camino, and the Bayshore Freeway.

While the detailed geometrics of the interchange at Whipple have not been worked out, the interchange proposed by the project sponsor is shown in Figure 22 with some modifications. An alternative Whipple U.S. 101 interchange is discussed below (see Figure 23). Caltrans has programmed reconstruction of the interchange, but such reconstruction is not intended to serve any South Shores development.

b. Other Mitigation Measures. The following mitigation measures have been proposed to alleviate traffic problems and improve service quality to South Shores' motorists.

- Widen Bayshore Freeway 2-4 lanes. The most significant portion related to the proposed project is between Marine World Parkway and Harbor Boulevard. However, continuous widening would have to take place (probably from the San Mateo to the Dumbarton Bridge). Because of the cost of this improvement, some cost-sharing among various Eastside developments and Caltrans would probably have to be made. Caltrans does not plan any widening in its current 5-year plan.
- Provide on and off-ramps to northbound Bayshore Freeway near Intersection #4. This relatively low-cost measure would relieve Whipple Avenue during both the morning and afternoon peak periods.
- Construct an East Bayshore Expressway, from Whipple Avenue south to the Dumbarton Bridge. This project, which would relieve the Bayshore Freeway and also serve proposed Port of Redwood City development, is being evaluated as a part of the Eastside Transportation Network study.
- Provide flyover ramps connecting Whipple Avenue westbound with the Bayshore Freeway southbound (see Figure 2a).
- Provide shuttle bus service to downtown Redwood City and Southern Pacific train station. This bus, at a minimum, should run during the morning and afternoon peak periods, as well as during lunch (for shopping/eating trips to downtown).
- Encourage or require employers to provide subscription bus services to employees.

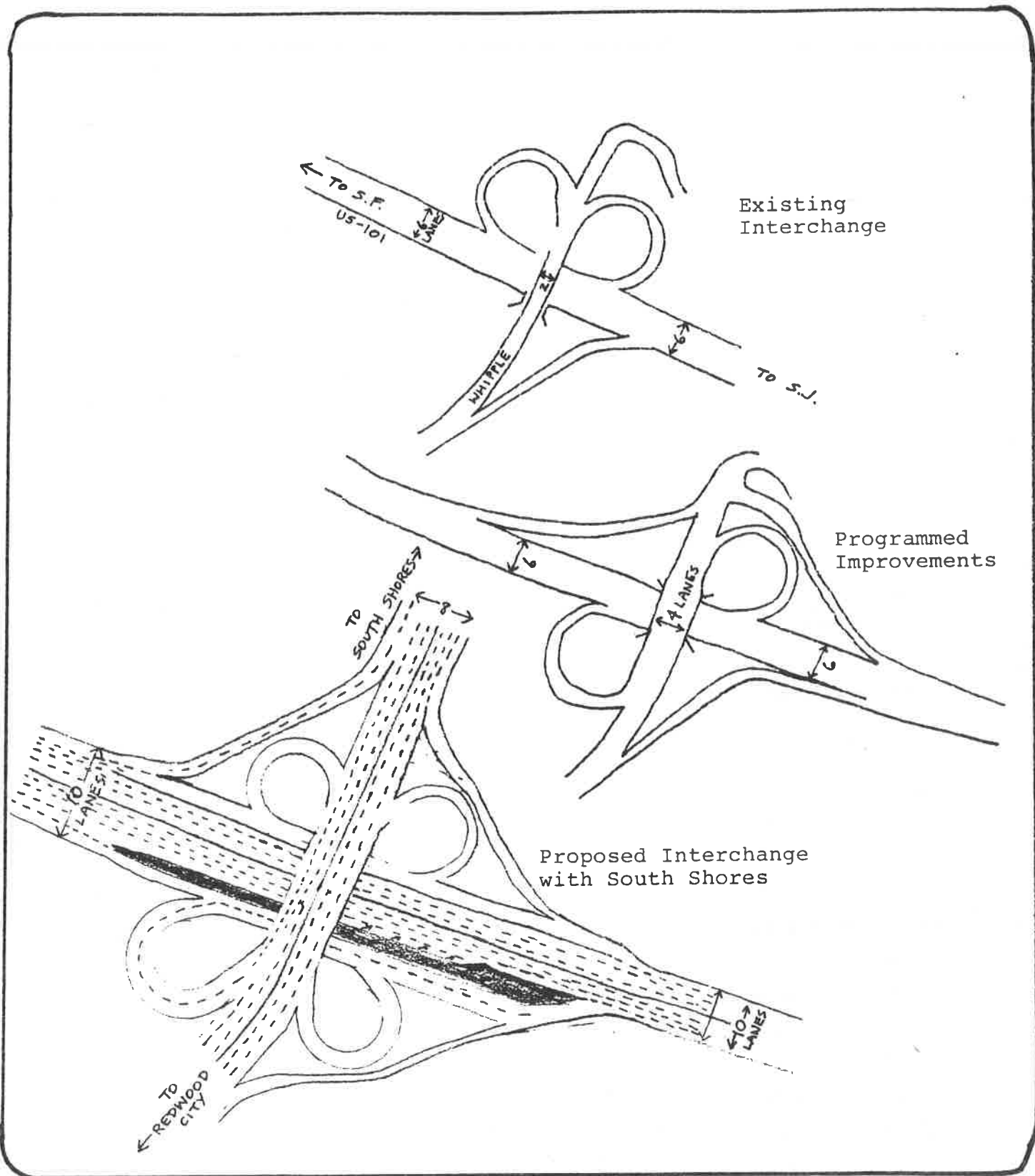


Figure 22

EXISTING WHIPPLE/US-101 INTERCHANGE AND IMPROVEMENTS

↑
NORTH
Not to Scale

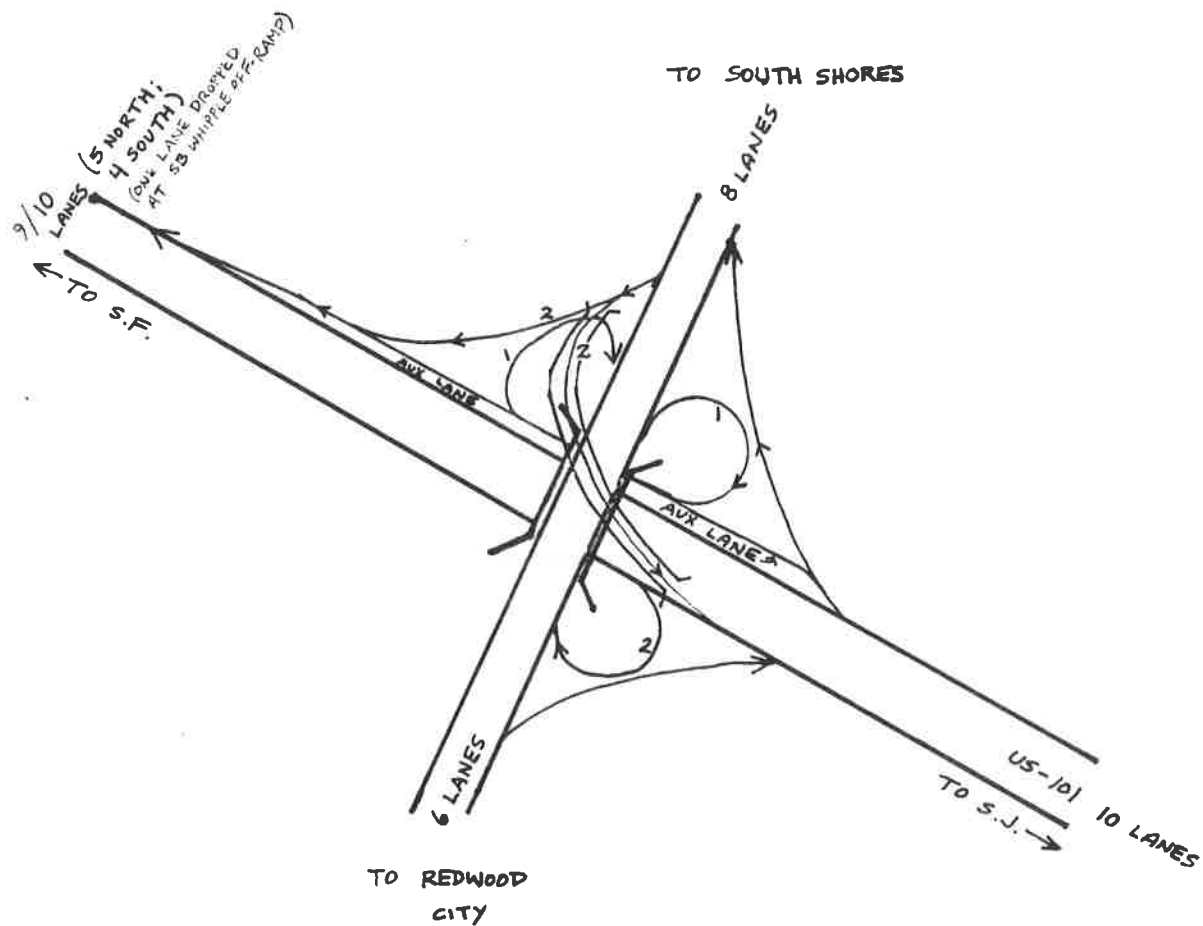


Figure 23

IMPROVED WHIPPLE/US-101 INTERCHANGE WITH RAMP TO 101 SOUTHBOUND

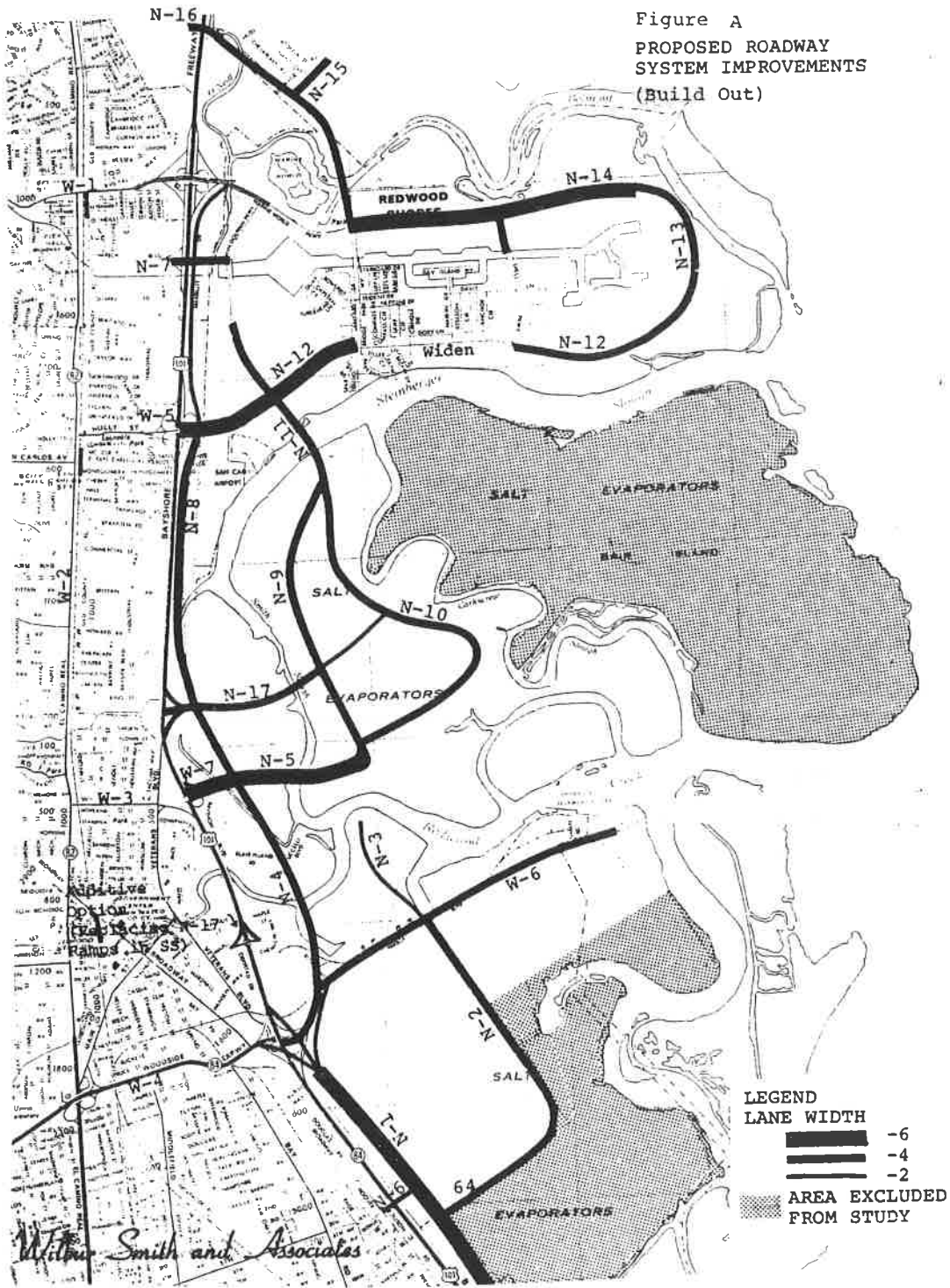


Not to Scale NORTH

- Provide preferential parking for carpools and vanpools in office developments.
- Require employers to charge for employee parking.
- Provide bicycle parking facilities at offices and shopping center.
- Provide bicycle and pedestrian facilities across freeway (on Whipple and Holly overcrossings), along with routes connecting residential areas (north and east side of project) with office and commercial centers.
- - Grant a relocatable easement for the County Bikeway traversing Pond A-12 providing for reconstruction of the bikeway in an alignment agreeable to Redwood City staff.
- - Provide safe access for bicyclists over all automobile bridges.
- - Incorporate park-and-ride lot for residents of South Shores. This lot would be tied to Samtrans regional trunk service on the Bayshore Freeway.
- Construction trucks carrying fill should use the Holly Street/Redwood Shores Parkway interchange, rather than the Whipple interchange. The Holly interchange has auxiliary merge lanes which would mitigate truck impacts on Bayshore Freeway motorists.
- Probably the single most effective mitigation measure to reduce peaking of traffic is to require that flexible/staggered works hours be made a restriction or covenant on the sale of property used for office purposes. Various studies of flex-time indicate that a small reduction of total trips generated would occur, due to increased flexibility to schedule carpools. But the principal impact would be to shift the peak traffic generation of offices to an earlier time (generally the hour beginning between 3:30 and 4:00 PM). This would permit capacity on the Bayshore Freeway to be more evenly utilized during the day; the wider the latitude of starting and quitting times, the more favorable would be the impact on regional highways. Overall, the 4:30-5:30 traffic generation from offices could probably be expected to drop by some 20 percent.
- The lane width requirements of internal project roads serving offices would not be reduced by this mitigation measure. Studies have found that employees with flex time do not usually shift their start/quit times to avoid congestion. The percentage of daily traffic in the peak hour would not be reduced (it could even increase); however, the hour would be moved earlier, which would take advantage of greater capacity available on regional highways at earlier hours.
- The cost of proposed highway improvements as part of the project has been examined in detail in the Eastside Transportation Network Study. Figure 23A shows all projects proposed by the Consultant for the Eastside. The projects most applicable to South Shores would be W-7, N-5, N-17, N-10, N-9, N-11, N-8, and N-4. It should be noted that many of

these projects would serve several developments on the Eastside. The preliminary cost estimate for each project (in 1981 \$) is shown in Table 13A following. The cost of widening the Bayshore Freeway to a 10-lane highway from the Dumbarton to the San Mateo Bridge would be approximately \$41.5 million.

- The Eastside study also addressed some of the cost distribution issues for on-site and nearby highways. The issue of cost burden is primarily a political one, and it is not appropriate for the traffic consultant to intervene in the negotiating process between the City and the developer by selecting one alternative. A number of alternatives have been proposed in which the developer would bear a major portion of off-site costs for highway improvements. It may be noteworthy to point out that some of these costs will be passed on to the future occupants of South Shores in the form of higher property prices.



Proposed Roadway System Improvements

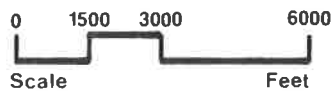


Figure No. 23A

TABLE 13A

Redwood City Eastside Highway Network Improvements (projects evaluated, not necessarily recommended)

ID	Project Name	2 Ult. Lanes	3 Type Fac.	4 Approx. Length Served	5 Developments Served	COST (1981 \$000)	
						Construct	R/W Total
W-1	Ralston Ave. widen (add 2)	6	A	0.5	RS,MW, MPB, P101	630	635
W-2	E1 Camino Real widen (add 1)	6	A	4.1	All	1,386	E
W-3	Whipple Ave. widen (add 2)	6	A	0.5	PRC,SS	631	1,268
W-4	Woodside Expway (add 2)	6	E	0.8	All	3,015	E
W-5	Holly St., Interchange	4	I	0.5	RS,MW,P101,SS	4,175	E*
W-6	Harbor Blvd. widen (add 2)	4	A	1.5	PRC	3,781	E
W-7	Whipple I/c rebuild	6	I	-	SS	3,747	E*
W-8	US 101 widen	10	F	6.0	All	36,675	4,750
N-1	E. Bayshore Expwy.	6	E	4.5	All	16,497	5,940
N-2	Port Loop Road	4	A	1.5	PRC	3,726	2,772
N-3	W. Port Service Road	2	A	0.5	PRC	1,000	E
N-4	Whipple-Woodside Connector	4	A	1.1	SS,PRC	2,732	1,045
N-5	Whipple Extension	6	A	0.6	SS,PRC	2,236	D
N-6	5th Ave. O.C.	2	A	0.3	PRC	664	450*
N-7	Harbor Blvd. (S.C.) O.C.	4	A	0.3	RS,MW,MPB,P101	1,706	200*
N-8	Bayshore Frontage Rd.	4	A	2.7	SS,RS	7,112	D
N-9	Twin Dolphin (South Shores)	4	A	1.5	SS,RS	3,726	D
N-10	South Shores Outer Loop	4	A	1.8	SS	3,395	D
N-11	Twin Dolphin Bridge	4	A	0.3	SS,RS	1,344	D
N-12	Redwood Shores Pkwy Loop	6	A	1.3	SS,RS,P101	1,641	D
N-13	Lagoon Pkwy	4	A	1.7	RS	4,223	D
N-14	MWP Extension	6	A	0.8	RS,P101	U/C	D
N-15	Foster City Connection	4	A	0.4	RS,P101,MW,MPB	870	D
N-16	40 Ave., Diamond Interchange	2	I	-	RS,P101,MW,MPB	1,605	D
N-17	Mid-South Shores Half Inter-Change and Roadway	2	I	1.0	SS	2,869	D

Notes:

- (1) N=New W=Widen
- (2) Ultimate lanes under buildout
- (3) A=Arterial E=Expressway F=Freeway I=Interchange
- (4) RS=Redwood Shore MW=Marine World MPB=Marina Park Baylands P101= Parkwood 101
SS=South Shores PRC=Port of Redwood City
- (5) E=Existing right-of-way *=Provisional, contingent upon detailed engineering study.
U/C=Under construction D=Developer dedication assumed

H. AIR QUALITY

I. Setting

Air quality in Redwood City is partially determined by climate and geography. The area lies generally downwind of the San Bruno gap and therefore is exposed to sea breezes off the Pacific Ocean. In general, these winds carry away emissions to the South Bay. During periods of light wind or calm, however, elevated pollutant levels can occur.

The Clean Air Act of 1967, as amended, established air quality standards for several pollutants. These standards are divided into primary standards, designed to protect the public health, and secondary standards, intended to protect the public welfare from effects such as visibility reduction, soiling, nuisance and other forms of damage. In addition, the State of California has adopted its own standards.

The standards are acceptable durations for specific contaminant levels that are designed to avoid adverse effects with a margin of safety. Table 15 describes these standards.

Air quality is measured at Redwood City by the Bay Area Air Quality Management District. Data for 1979 are shown in Table 16. Table 16 shows that the air quality in Redwood City complies with the air quality standards. Violations of the ozone and total suspended particulates occasionally occur.

Photochemical oxidant (ozone) is a result of a number of complex chemical reactions between hydrocarbons and oxides of nitrogen in the presence of sunshine. Unlike other pollutants, photochemical oxidants are not emitted directly into the atmosphere from any sources. The major source of oxides of nitrogen and hydrocarbons, known as oxidant precursors, are combustion sources such as factories and automobiles, and evaporation of solvent and fuels. As major urban areas lie upwind of Redwood City, local emissions are added to the already polluted air stream reaching Redwood City.

Suspended particulates are solid and liquid particles of dust, soot, aerosols and other matter which are small enough to remain suspended in the air for long periods of time. A portion of the total particulate matter in the air is due to natural sources such as wind-blown dust and pollen. Man-made sources include combustion, automobiles, factories and road dust.

TABLE 15

Federal and California Air Quality Standards

<u>Pollutant</u>	<u>Averaging Time</u>	<u>Federal Standards</u>		<u>California Standards</u>
		<u>Primary</u>	<u>Secondary</u>	
Suspended particulates	Annual geometric mean	75 ug/m ³	60 ug/m ³	60 ug/m ³
	24 hours*	260 ug/m ³	150 ug/m ³	100 ug/m ³
Carbon monoxide	12-hour	--	--	11 mg/m ³
	8-hour*	10 mg/m ³	10 mg/m ³	--
	1-hour*	40 mg/m ³	40 mg/m ³	46 mg/m ³
Ozone**	1-hour*	240 ug/m ³	240 ug/m ³	200 ug/m ³
Nitrogen dioxide	1-hour	--	--	470 ug/m ³
	Annual average	100 ug/m ³	100 ug/m ³	100 ug/m ³
Non-methane hydrocarbons	3-hour* (6-9a.m.)	160 ug/m ³	160 ug/m ³	--
Sulfur dioxide	24-hour*	565 ug/m ³	--	131 ug/m ³
Lead	1 month	--	--	1.5 ug/m ³
	3 month	1.5 ug/m ³	1.5 ug/m ³	--

*Not to be exceeded more than once per year

**In February 1979 the Federal standard for oxidant was changed from 160 ug/m³ (0.08 ppm) for all oxidants to 240 ug/m³ (0.12 ppm) for ozone only.

ug/m³ = micrograms per cubic meter
 mg/m³ = milligrams per cubic meter

TABLE 16

Measured Air Quality in Redwood City,
1979. Data is number of days
exceeding state of federal standards¹

<u>Pollutant</u>	<u>Number of Violations</u>	<u>Annual Maximum</u>
Ozone ² (EAE)	0.7	280 ug/m ³
Carbon Monoxide	0	6.8 mg/m ³
Nitrogen Dioxide	0	320 ug/m ³
Sulfur Dioxide	0	5.2 ug/m ³
Suspended Particulates ³	1	130 ug/m ³

¹Bay Area Air Quality Management District, Air Currents,
Vol. 23, No. 4, March 1980.

²The federal ozone standard is based on a 3-year average, called the Expected Annual Exceedance (EAE). An EAE of 1.0 is considered compliance with the standard.

³Suspended particulates are measured every sixth day. Data shown is the number of days measured levels exceeded the state 24-hour standard.

Because the air quality standards are not met in all areas of the Bay Area, an Air Quality Plan for the Bay Area as part of the Environmental Management Plan (EMP) has been prepared by the Association of Bay Area Governments (ABAG) and other governmental agencies.¹ The 1979 Air Quality Plan contains a strategy for the long-term attainment and maintenance of the air quality standards. The plan includes measures to reduce emissions from stationary sources and automobiles and proposed transportation measures designed to reduce automobile emissions. The air quality problems addressed in the Plan are photochemical oxidants, carbon monoxide, and suspended particulates.

2. Impacts

Construction air quality impacts would be due to dust generated by equipment and vehicles. Fugitive dust is emitted during construction activity (e.g., clearing, earthmoving, grading) as a result of wind erosion over exposed earth surfaces. Earthmoving activities comprise the major source of construction dust emissions, but traffic and general disturbance of the soil also generate significant dust emissions.²

The effects of construction activities would be a temporary increase in dustfall near the site. In the immediate area this would mean that more frequent cleaning and washing of exposed surfaces would be needed. Persons with respiratory problems may find them aggravated by construction dust.

Direct emissions from the project would include combustion of fuel for space heating, fireplaces or barbeques at residences and cooking exhausts and fumes from restaurants. Space heating with natural gas would generate primarily carbon monoxide and oxides of nitrogen while cooking and fireplace emissions would be mainly hydrocarbons and particulate matter.

Indirect emissions generated by auto traffic associated with the project would have a far greater effect. Both local and regional air quality would be affected. On the local scale, carbon monoxide and lead are significant. To assess the project's impact on carbon

¹ Association of Bay Area Governments, 1979 Bay Area Air Quality Plan, January 1979.

² U.S. Environmental Agency Guidelines for development of control strategies in areas with fugitive dust problems, OAQPS 1.2-071, October 1977.

monoxide concentrations, a diffusion model developed by the Bay Area Air Quality Management District has been applied to the intersection most affected by project traffic. The analysis was for a worst-case assumption of traffic and weather conditions. Peak-hour and peak 8-hour traffic volumes were superimposed on adverse weather conditions consisting of a 1 mps wind and highly stable atmosphere for the 1-hour averaging time, and a 2 mps wind and moderately stable atmosphere for the 8-hour averaging time.¹ The results of this analysis represent curbside estimates of carbon monoxide concentrations under adverse conditions. Vehicles were assumed to travel at an average speed of 10 mph for both the peak traffic hour and the peak 8-hour traffic period. Emission factors were supplied by the Bay Area Air Quality Management District.

Table 17 shows the results of the carbon monoxide modeling. A background level of 2 and 1 ppm has been included in the 1-hour and 8-hour average concentrations, respectively. Predicted levels are to be compared to the federal standards of 35 and 9 parts per million for the 1- and 8-hour averaging periods, respectively.

Local carbon monoxide levels would be increased at project intersections, where current levels are background levels. Project traffic increases along existing roads would tend to offset improvements due to planned emission control improvements, although continued improvement would occur. Table 17 shows that carbon monoxide levels at affected intersections would not exceed the federal standards under worst-case conditions. As the predicted concentrations in Table 17 are worst case curbside levels, concentrations under typical weather and traffic conditions would be lower. As carbon monoxide levels drop rapidly with distance from the roadway, concentrations away from major roadways would be lower as well.

Lead is emitted by autos in the form of lead salts in the exhaust. Lead has been used in gasoline as an anti-knock agent for many years. In the past, lead in the atmosphere has exceeded the state and federal standards in the Bay area. The increased use of unleaded gasoline has resulted in dramatic reductions in lead concentrations in recent years. In 1979, no violations of either the state or federal standard for lead occurred on the

¹U.S. Environmental Protection Agency, Guideline for Development of Control Strategies in Areas with Fugitive Dust Problems, OAQPS 1.2-071, October 1977.

● TABLE 17

Estimated Worst-Case Curbside Concentration
Of Carbon Monoxide, in Parts per Million (PPM), 1995

<u>Intersection</u> (see Transportation section for locations)	<u>Concentration (ppm)</u>	
	<u>Peak Hour</u>	<u>Peak 8-Hour</u>
#18: Whipple/Bayshore Road	15.3	7.5
#17: Whipple/Unnamed	18.0	8.4
#16: Unnamed/Unnamed	9.6	5.5
#19: Whipple/Unnamed	14.1	7.1
Federal Standards	35.0	9.0

Peninsula. Because leaded gasoline will be phased out by the time the project is completed, the project would have little impact on continually decreasing lead concentrations.

On the regional scale, project-generated traffic would add to the existing pollutant burden of the region. Autos are significant emitters of hydrocarbons and oxides of nitrogen, the major precursors of photochemical ozone. Autos are not significant emitters of suspended particulates or sulfur dioxide. The new residential growth, employment and shopping opportunities created by the proposed project would generate about 94,000 daily trips. About 31,000 of these trips would be internal to the project. If the average trip lengths are 1 mile for external trips and 8 miles for internal trips, the project would generate a daily Vehicle Miles Travelled (VMT) of 535,000. This represents 0.5% of the projected VMT of 116 million for the 9-County Bay Area in 2000.¹

The regional increase in hydrocarbons and oxide of nitrogen emissions has been estimated assuming a typical Bay Area vehicle mix, 1985 emission factors for autos and an average vehicle speed of 25 mph. These emissions are shown in Table 18 along with projected regional emissions for 1985.

TABLE 18
Project-Generated and Regional Emissions, 2000 in tons/day

	<u>Hydrocarbons</u>	<u>Oxides of Nitrogen</u>
Project Emissions ²	1.2	1.0
Regional Emissions ³	797.0	692.0

The effects of these regional emissions would be a degradation of air quality, particularly in the South Bay. The magnitude of this degradation would not be measurable at South Bay air monitoring sites, however. Nevertheless, the scale of the project and the magnitude of its trip generation make it a major indirect source of emissions.

The 1979 Bay Area Air Quality Plan contains actions and policies designed to result in the attainment and maintenance of the air quality standards. Strategies include new controls

¹Association of Bay Area Governments, 1979 Bay Area Air Quality Plan, January 1979.

²Based on an average vehicle speed of 25 mph.

³Op. Cit.

on stationary and mobile sources, and transportation controls. The plan contains no land use provisions.

A review of the proposed control measures reveals no conflicts between the plan and the project. The project would become more consistent with the plan, however, with inclusion of transit, car pool/van pool and bicycle incentives or programs within the project.

3. Mitigation

Wetting the surfaces of unpaved access roads and disturbed soil surfaces is an effective control for dust emissions provided the surface is maintained wet. In an arid climate such as at Redwood City in summer, an appreciable amount of water is required. Twice-a-day application of 0.5 gallons of water per square yard of earth surface will suppress dust emissions by about 50%.¹

Both the regional and local impacts of the proposed project would be mitigated by reducing project trip generation. This could be accomplished by:

- reducing project size
- improving transit access to site
- a transit incentive program
- carpool/vanpool programs for commuters
- provision of bicycle paths and secure bike parking areas.

¹U.S. Environmental Protection Agency, Guidelines for Development of Control Strategies in Areas with Fugitive Dust Problems, QAQPS No. 1.2-071, October 1977.

I. NOISE

I. Setting

The project site currently has minimal impact from synthetic noise production. Localized activities such as boating occur on the periphery of the area, but make only minor contributions to the area's noise environment.

Two major regional noise sources are located outside the boundaries of the project and directly influence the site's noise environment: the San Carlos Airport to the northwest and the Bayshore Highway (U.S. 101) which passes by the project's western boundary.

- Noise contour projections for 1994 have been prepared for the San Carlos Airport¹ and are shown in Figure 24. These contours assume 340,000 operations per day. The Airport has nearly attained this level of operations already.

Traffic noise stemming from U.S. 101 also affects the project site. Calculated noise contours from this source are plotted in Figure 25, and are based on the freeway volumes contained in the traffic section of this report.²

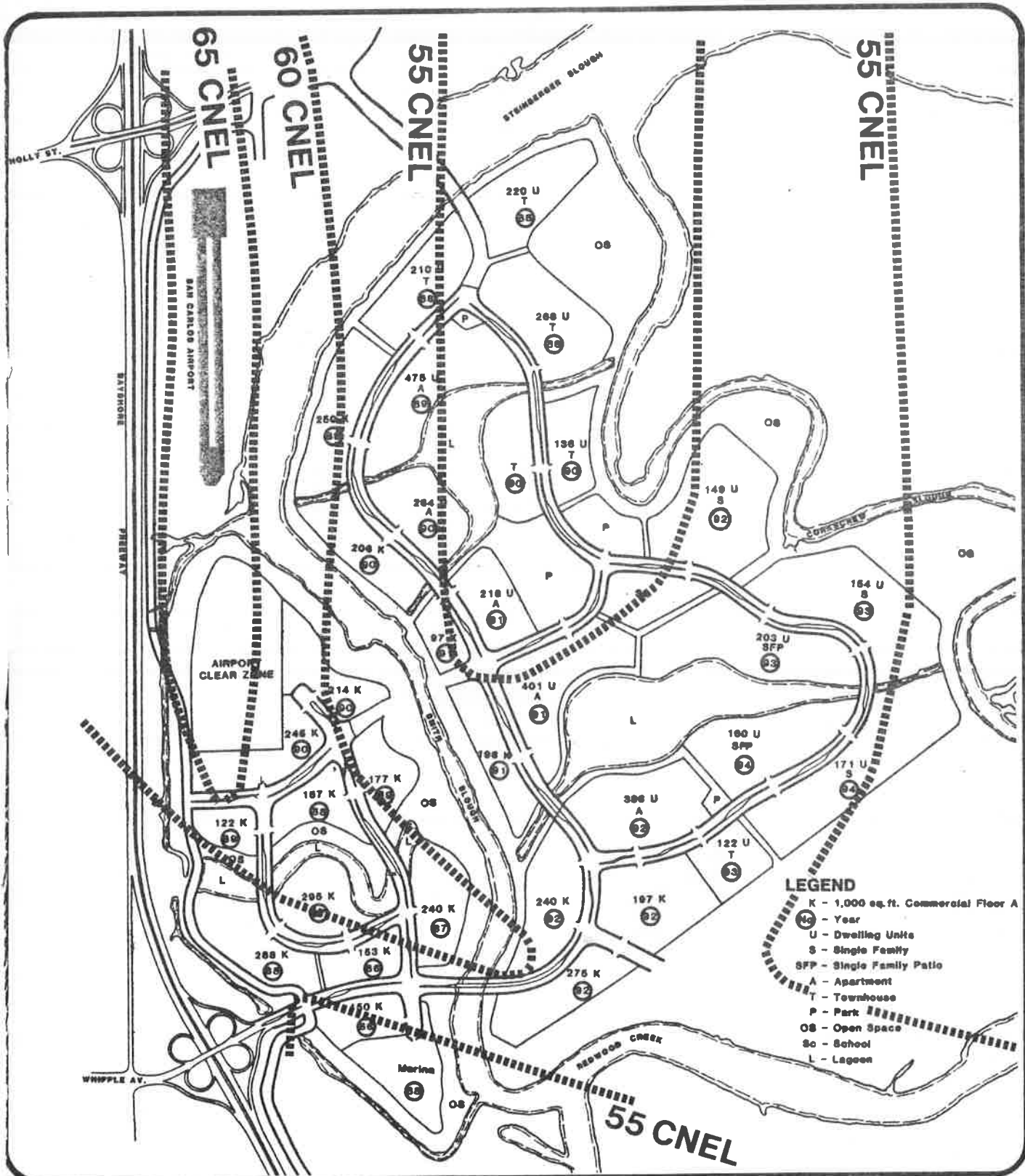
2. Impacts

a. Criteria. The City of Redwood City uses the State Department of Health's land use compatibility guidelines (Figure 26). These guidelines set the division between "normally acceptable" and "conditionally acceptable" environmental noise levels at 70 CNEL³ for commercial/office/professional uses, 60 CNEL for multi-family residential land uses, and 55 CNEL for single-family dwellings, duplexes or mobile homes.

¹August W. Compton & Associates, "Land Use - Airport Vicinity;" Figure 16 in Airport Master Plan Report - San Carlos Airport, San Carlos, July 1975, pages 38-45 and 123.

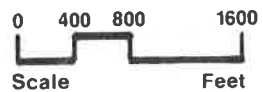
²Federal Highway Administration, FHWA Highway Noise Model (Draft Report), Washington, D.C., December 1977.

³Community Noise Equivalent Level: The average equivalent A-weighted sound level during a 24-hour day, obtained after addition of 5 decibels to sound levels in the evening from 7 P.M. to 10 P.M. and of 10 decibels to sound levels in the night before 7 A.M. and after 10 P.M.

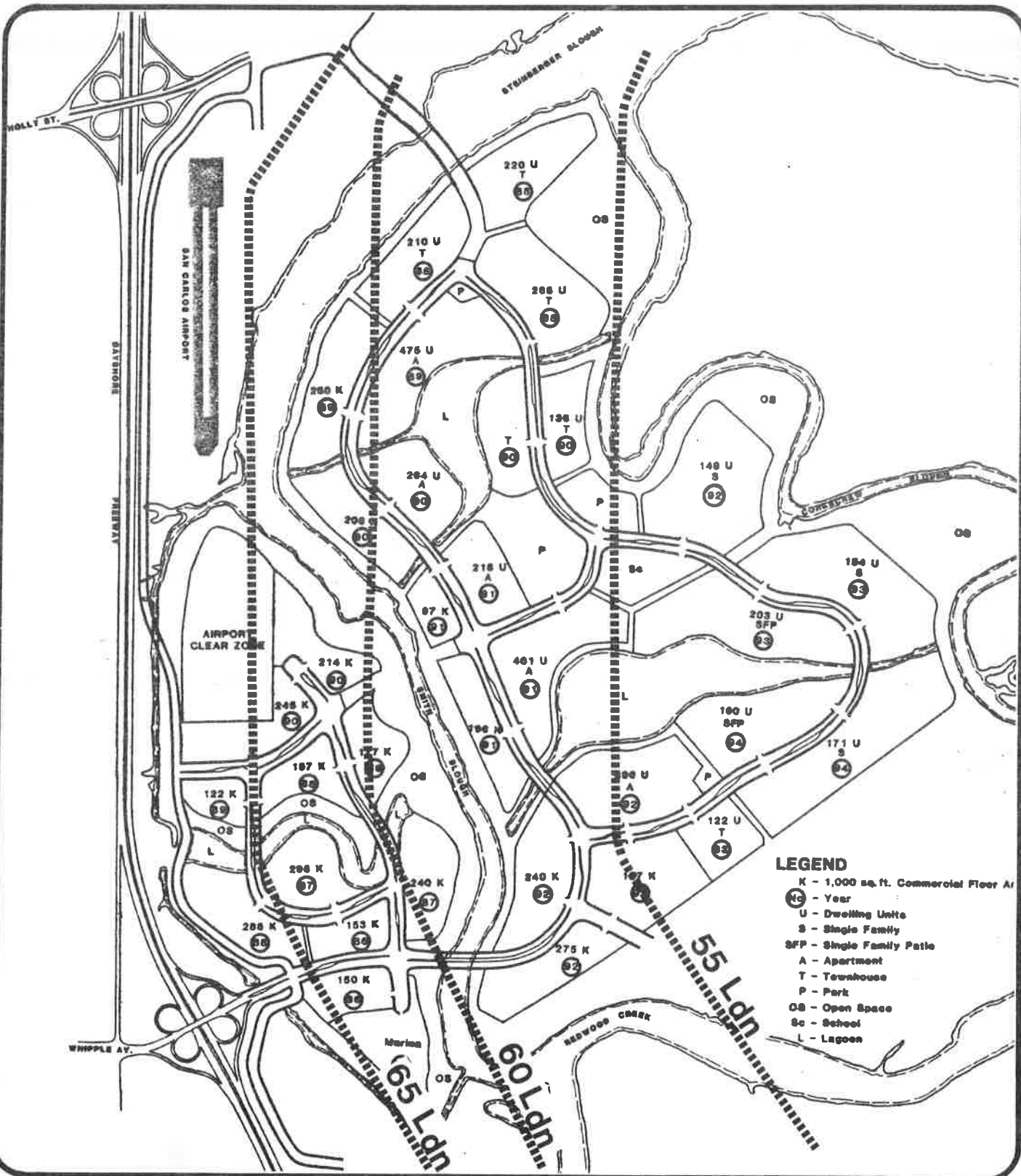


Airport Noise

North



● Figure No. 24



Freeway Noise



● Figure No. 25

LAND USE CATEGORY	COMMUNITY NOISE EXPOSURE L _{dn} OR CNEL, dB					
	55	60	65	70	75	80
RESIDENTIAL – LOW DENSITY SINGLE FAMILY, DUPLEX, MOBILE HOMES	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded
RESIDENTIAL – MULTI. FAMILY	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded
TRANSIENT LODGING – MOTELS, HOTELS	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded
SCHOOLS, LIBRARIES, CHURCHES, HOSPITALS, NURSING HOMES	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded
AUDITORIUMS, CONCERT HALLS, AMPHITHEATRES	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded
SPORTS ARENA, OUTDOOR SPECTATOR SPORTS	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded
PLAYGROUNDS, NEIGHBORHOOD PARKS	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded
GOLF COURSES, RIDING STABLES, WATER RECREATION, CEMETERIES	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded
OFFICE BUILDINGS, BUSINESS COMMERCIAL AND PROFESSIONAL	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded
INDUSTRIAL, MANUFACTURING UTILITIES, AGRICULTURE	Shaded	Shaded	Shaded	Shaded	Shaded	Shaded

INTERPRETATION



NORMALLY ACCEPTABLE

Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.



CONDITIONALLY ACCEPTABLE

New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.



NORMALLY UNACCEPTABLE

New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.



CLEARLY UNACCEPTABLE

New construction or development should generally not be undertaken.

SOURCE: California Department of Health, Office of Noise Control, Guidelines for the Preparation and Content of Noise Elements of the General Plan, Berkeley, 1976.

Land Use Compatibility Guidelines

Figure No. 26

- The San Mateo County Airport Land Use Commission (ALUC) has jurisdiction in an advisory capacity to area governments, over development within the 55 CNEL contour resulting from airport noise. The ALUC has adopted the following land use compatibility guidelines.¹

<u>Land Use</u>	<u>CNEL Range</u>	<u>General Land Use Recommendation</u>
Residential and Educational	Less than 55	Satisfactory, with little noise impact and requiring no specific noise insulation requirements for new construction.
	55 to 60	New construction or development should be undertaken only after an analysis of noise reduction requirements is made and needed noise insulation features included in the design.
	Greater than 60	New construction or development should not be undertaken.
Commercial	Less than 70	Satisfactory, with little noise impact and requiring no special noise insulation requirements for new construction.

- Because of the proximity of the San Carlos Airport, the more stringent ALUC standards are used herein as compatibility criteria.

b. Project Construction. During construction, many trucks would be passing through residential and commercial areas on their way to South Shores. As much as 6.5 million cubic yards of fill material would be required for the proposed project.² Assuming that each diesel truck load accommodates roughly 25 cubic yards of fill material, approximately 260,000 truck trips would occur over the fill period. The duration of this period has not yet been determined but could last from 5 to 10 years.³ Although the ultimate source (or sources of the fill material would be determined by market conditions

¹August W. Compton & Associates, "Land Use - Airport Vicinity;" Figure 16 in Airport Master Plan Report - San Carlos Airport, San Carlos, July 1975, pages 38-45 and 123.

²Keith Thomas, South Shores, Inc., & Redwood Shores, Inc., personal communication, November 10, 1980.

³Ibid.

which could vary considerably over the construction period, it is likely that the bulk of the material would come from 3 sources: the Dumbarton Quarry near the Dumbarton Bridge; the Bruce Wilbert Quarry near the junction of Highways 92 and 35; or the Brisbane-Guadalupe Canyon area near Daly City, to the north of the project site. These trucks would have access to the project site via U.S. 101, regardless of the ultimate fill material source, and could increase the traffic noise produced by U.S. 101 by a significant amount. Unfortunately, the uncertainties surrounding the fill source and the duration of the fill period make this impact unquantifiable. If, for example, the filling takes place over a period of 5 years, the fill season lasts 6 months, and the filling proceeds 5 days a week for 8 hours a day, 1 additional truck would pass a given point along U.S. 101 every minute. This would obviously have an effect on the noise environment adjacent to Highway 101.

An additional construction impact that must be considered is the phasing of construction operations. Construction of one portion of the project prior to the development of other portions would result in the residents of the first area being adversely affected by the noise from construction of the other portions.

c. Project Operation. Two factors must be examined in evaluating the potential acoustic impacts of the proposed project: the effects of the noise environment on the project, and the effects of the project on the noise environment.

Environmental noise effects on the project would stem from 2 sources: the San Carlos Airport and the Bayshore Freeway (U.S. 101). The airport noise contour map (Figure 24) shows that the 60 and 55 CNEL airport noise contours extend into the site. Only office and research/development areas are located within the 60 CNEL contour; since noise levels below 70 CNEL are acceptable for this type of land use, it is not projected that any land use conflict would appear in this area of the site from airport noise.

- Several single and multiple-family residential areas lie between the 55 and 60 CNEL contours created by the airport traffic pattern. Those areas would be subject to noise from aircraft flyovers, which would be perceived as single noise events. These noise events would likely be disruptive to residents in outdoor areas, as well as in indoor areas if those areas are not protected by adequate noise insulation. Noise impacts on outdoor land use from aerial sources are difficult to mitigate because noise barriers cannot be placed between airplanes and the ground.

The freeway noise contour map shows that only a small portion of a 210-unit townhouse site would be within the 60 CNEL contour. Several residential areas would, however, lie within the 55 CNEL contour. While a noise level of 55-60 CNEL from a freeway normally is not considered excessive (as is reflected in the state standards Figure 26), the presence of aircraft noise would make residents more sensitive to noise of all types.

Due to the project's proximity to major regional noise sources, and to its distance from other developments in the area, the completed project would not, by itself, have a direct effect on the area's noise environment.

Project-generated traffic would increase volumes along U.S. 101 and local surface streets. Northbound traffic volumes along U.S. 101 would be increased over current levels by 16%, and southbound traffic levels would be increased by 19%. Neither increase would be sufficient to cause a perceived increase in noise from the highway.¹ This traffic would, however, add to the cumulative increase in traffic noise from U.S. 101 occurring as a result of general growth in the area.

Similarly, project-generated traffic would add 13,430 trips per day to the surface streets leading to/from the project site. If all these trips were to be concentrated along I street, as would be the case in the vicinity of the project site, an audible increase in noise would inevitably result. Current volumes along Whipple Avenue, the proposed access for the site, are approximately 26,000 ADT; the project would add 13,430 trips per day to this, representing a 52% increase. This increase, although significant, is not sufficient to produce a perceived increase in noise.

3. Mitigation

Care should be taken in planning the filling operations, so that the increase in highway noise due to the haul trucks can be kept to a minimum. This would include considering appropriate time of day and overall time phasing.

¹The smallest incremental increase in noise level that the human ear can perceive under environmental conditions is 3 dBA; a doubling of traffic density (the number of cars per unit distance of freeway) is required to produce a 3 dBA increase in noise, i.e., a perceived increase in noise.

- Pursuant to the ALUC guidelines, a noise analysis of the residential portions of the site located between the 55 and 60 CNEL contours should be undertaken before project construction. The study should quantify the impacts of single noise events from aircraft flyovers, and recommend specific noise insulation measures that would reduce aircraft noise intrusion to 45 dBA or less in interior areas. As stated previously, the impact of overhead noise stemming from aircrafts could not be mitigated in outdoor use areas.
- Prospective buyers of residential units between the 55 and 60 CNEL contours should be informed of the potential for noise annoyance from aircraft flyovers, particularly in outdoor areas.
- Project approval by the City should be conditioned on the granting of aviation easements by future property owners to the County. Such easements would grant the airport the right to use the airspace it has historically used for takeoffs, landings and traffic patterns without the threat of litigation over the noise generated by these activities. Even with these easements, future residents can be expected to react adversely to airport generated noise, particularly single noise events from aircraft flyovers.

J. ENERGY

I. Setting

The site is currently vacant and not consuming any energy. Pacific Gas and Electric Company (PG&E) would provide gas and electric service to the project.

2. Impacts

The proposed project would result in increased energy consumption in the region. Energy would be consumed in several forms including gasoline, natural gas and electricity to fill the site, to construct the proposed structures, to maintain and operate the structures, and to fuel project-related vehicles. The impacts of each of these are discussed below.

a. Construction. One method of predicting energy use during construction is to sum the energy costs of materials, equipment and raw materials transport. However, because there are only conceptual plans for the proposed project at this time, estimates must be based on energy consumption during construction of similar types of structures. Using this method, it is estimated that construction of the proposed project would consume 9,813 billion BTU,¹ equivalent to the amount of energy in 1.75 million barrels of crude oil. This energy would be consumed in the form of gasoline, diesel fuel, electricity and lubricants. Of this total energy consumption estimate for construction, about 56% would be used to haul and place the required fill,² about 7% would be used to construct roads and utility mains,³ and 37% would be used to construct the structures.⁴ An analysis of how much energy would be consumed to construct the various types of structures is presented in Table 19.

¹BTU = British Thermal Unit. The quantity of heat required to raise the temperature of one pound of water one degree Fahrenheit.

²California Energy Commission, Conservation Division, Regulations Establishing Energy Conservation Standards for New Residential and New Nonresidential Buildings, as amended July 26, 1978.

³Environmental Impact Planning Corporation, Energy Impact Handbook, San Francisco, 1976, Table C-10C.

⁴Contra Costa County Planning Department, Energy Use and Conservation in Contra Costa County, Table VIII-6.

TABLE 19

Project Energy Consumption

<u>Description</u>	<u>Construction (Billion BTU)</u>	<u>Operation Annual (Billion BTU)</u>	<u>Transportation Annual (Billion BTU)</u>	<u>Lifetime (Billion BTU)</u>
Residential				
a. Single Family	1,090.7	85.5	60.2	8,375
b. Multiple Family	1,907.4	294.3	207.2	26,982
Commercial/Service	39.8	35.1	88.3	6,209
Office	315.8	282.0	422.8	35,555
Research + Development	145.9	129.0	156.5	14,420
Hotel	103.8	43.6	115.7	8,068
Infrastructure				
a. Land Fill	5,500.0	--	--	5,500
b. Streets	415.1	3.3	--	580
c. Utilities	295.0	16.1	--	1,100
TOTAL	9,813.5	888.9	1050.7	106,793

b. Operation. The proposed project would have to comply with Title 24 regulations which impose a minimum standard for energy conservation regarding insulation, glazing, climate control systems, and infiltration. Plans for the project are not at the stage where it can be determined if the project would conform to or exceed Title 24 standards.

For purposes of this report, energy consumption by residential units was determined by using City of San Mateo consumption averages, and energy that would be consumed by nonresidential structures was determined by using maximum Title 24 standards.¹ Total annual energy consumption to operate and maintain the structures would be approximately 890 billion BTU, equivalent to 165,000 barrels of crude oil. This figure represents approximately a 2.1% increase in natural gas and electricity consumption within San Mateo County. A more detailed analysis of energy consumption required for operation purposes is presented in Table 19.

c. Transportation. Estimated annual transportation energy consumption from project-related vehicles is 1.050 billion BTU, equivalent to approximately 8.4 million gallons of gasoline. Transportation-related energy consumption resulting from different types of land uses is presented in Table 19. It is assumed that the average vehicular mileage would be 20 miles per gallon, therefore, any future technological advances could significantly affect gasoline consumption for transportation uses.

d. Lifetime Costs. Assuming a 50-year lifetime for the project including construction, operation and transportation, the lifetime energy cost would be approximately 107,000 billion BTU. This is equivalent to 20 million barrels of crude oil.

3. Mitigation

New construction initiated after July 1, 1978 is required to comply with Title 24, Division 20 of the California Administrative Code, which sets energy conservation standards for new residential and new nonresidential building design to help reduce energy consumption in California. These regulations establish design criteria for buildings and set maximum allowable consumption figures.

¹ Contra Costa County Planning Department, Energy Use and Conservation in Contra Costa County, Table VIII-7, and Tetra Technology, Inc., Energy Use In The Contract Construction Industry, Arlington, Virginia, 1975.

The most effective manner in which to reduce consumption of nonrenewable energy sources (i.e., gas) is to maximize the use of solar energy. In the San Francisco Bay Area, given its relatively mild climate, solar energy systems generally used include passive solar systems for space heating and active solar systems for domestic hot water heating. Many passive solar design principles are included in the following design recommendations. Use of active solar systems for domestic hot water should be considered for those structures that use significant amounts of hot water. These would include residential units, restaurants and other retail facilities.

Since at this time it is not feasible to provide all energy needs from nonrenewable energy sources, the best way to conserve nonrenewable energy resources would be to minimize energy consumption by designing energy-efficient structures and to operate them effectively. Several areas of the design process that should incorporate energy conservation measures include: overall building design; planning building layout; ventilation and infiltration; heating and air conditioning; lighting; domestic hot and cold water; and operation and maintenance. Following are a few recommendations for energy conservation within each of the areas of design:¹

a. Building Design

- Insulate all exterior surface areas beyond minimum standards.
- Construct exterior walls, roof and floors with materials of high thermal mass.
- Finish south and west facing walls and all roofs with light-colored surfaces to minimize heat gain during the summer.
- Provide all external doors with weather stripping.
- Where operable windows are used, provide them with sealing gaskets and cam latches.
- Locate building entrances on downwind side and provide a wind break.
- Provide entrances with vestibules or revolving doors.
- Use minimum ratio of window area to wall area.
- Use double glazing.

¹Environmental Impact Planning Corporation, Energy Impact Handbook, San Francisco, 1976.

- Use minimum percentage of windows on north walls.
- On south and west windows, provide overhangs that block summer sun, while allowing winter sun to pass. The following design formula applies:

$$\text{Overhang length (inches)} = \frac{\text{Latitude} \times \text{Height of Window (inches)}}{50}$$

- Locate windows high in wall to increase reflection from ceiling, but reduce glare effect on occupants.

b. Planning Building Layout

- Use corridors as heat transfer buffer and locate against walls.
- Group service rooms as a buffer.
- Reduce ceiling heights to reduce the exposed surface area and the enclosed volume; this also increases illumination effectiveness.
- Open planning allows more effective use of lighting fixtures.
- Use of reflective surfaces such as sloping white ceilings can enhance the effect of natural lighting and increase energy conservation.
- Orient buildings in a north-south direction to optimize solar energy influx.

c. Ventilation and Infiltration

- In suitable structures (e.g., offices), provide controls to shut down all air systems at night and weekends except when used for economizer cycle cooling.

d. Heating and Air Conditioning

- Use outdoor air for sensible cooling whenever possible.
- In the summer, when the outdoor air temperature at night is lower than indoor temperature, use full outdoor air ventilation to remove excess heat and pre-cool structure.
- Schedule air delivery so that exhaust from primary spaces (offices) can be used to heat or cool secondary spaces (corridors).
- Consider operating chillers to increase efficiency.
- Use modular boilers for heating and select units so that each module operates at optimum efficiency.

e. Lighting

- Use natural illumination in areas when a net energy conservation gain is possible vis-a-vis heating and cooling loads.
- Provide only the amount of illumination required for the task performed in the area.
- Design switch circuits to permit turning off unused and unnecessary light.
- Provide timers to turn off lights in remote or little-used areas.
- Consider the use of light colors for walls and ceilings.
- Wherever possible, use fluorescent lamps instead of incandescent lamps.
- Avoid decorative flood lighting.

f. Domestic Hot and Cold Water

- Install flow restrictors in faucets.
- Insulate water heaters and hot water pipes.
- Lower hot water temperatures whenever possible.

g. Operation and Maintenance

Operational mitigation measures can have a large impact on energy consumption. As an example, the Hillsdale Shopping Center's central plant, without making any major design changes, was able to reduce gas consumption (used for cooling and heating) by 65%. This was achieved by implementing energy conservation measures into their operation procedures. A few examples of operation mitigation measures that this proposal could adopt include:

- Heat buildings to no more than 68°F when occupied and to no more than 60°F when unoccupied.
- Cool buildings to no less than 78°F when occupied and do not cool buildings when unoccupied.
- Turn off lights that are not needed.
- Use economizer cycling.

h. Transportation

To conserve gasoline consumption, the extension or addition of SamTrans bus routes to the proposed project area is recommended as is the encouragement of bicycle use.

K. ECONOMIC FEASIBILITY

I. Setting

This section of the EIR evaluates the marketability of the project sponsor's proposal and the fiscal impact of the project. The analysis which forms the basis of this evaluation is presented in Technical Appendix VI of Volume 2 of this Final EIR.

The residential units of this multi-use project will be marketed in the late 1980s and early 1990s, the marina in the late 1980s, the hotel in the early 1990s, the office space in the mid-1980s to early 1990s and the research and development space in the late 1980s. Because the configuration of the development is tentative and the timing looks rather far into the future, our comments on marketing factors are directed to consideration of major trends which may occur in the Bay Area in the years ahead:

- One trend of major significance for all uses that are proposed is the growing scarcity of major sites for commercial and residential development in established locations in the Bay Area. Few sites of this size are available in close-in locations (with the notable exceptions of several sites east of the Bayshore Freeway).
- For most uses proposed at the site, demand is anticipated to exceed supply in the years ahead. Housing will continue to be much sought after in virtually all product types, with few major sites available for development. Office needs should also be substantial due to the inability of San Francisco to supply space to meet its own needs, the success of the Peninsula in establishing itself as an office center, and the rapid growth of the information, service and financial sectors of the economy nationally and regionally.
- The proximity to Santa Clara County, which has had the most rapidly expanding economy in the Bay Region in recent years, is a strong plus. The site is well located to accommodate the spillover from activities in Silicon Valley anticipated to occur due to the tight labor market, congestion, sewer problems, and limited site availability that will restrict future growth in Santa Clara County.
- Prospects for market acceptance of the marina berths, hotel, and retail uses also appear good for reasons explained in Technical Appendix VI.

In sum, there is a strong probability that the major uses being proposed by the project sponsor can be successfully absorbed, although the exact pace of the eventual buildout cannot now be forecast. Severe disruptions in financial markets or other factors, presently unforeseen, could alter the perspective discussed above.

2. Impacts

The purpose of this portion of the economic evaluation is to identify the costs and revenues which will accrue to Redwood City as a result of the development of South Shores. Generally, the public costs of development include direct, one-time capital costs and the ongoing costs of general government and service provision. Public revenues include property tax and sales tax receipts, transient occupancy tax receipts, other tax receipts, and licensing and development fees.

The method used for quantifying costs for this study was adapted from the Cost-Revenue Impact System (CRIS) developed by the Association of Bay Area Governments. Stated simply, average costs of current service provisions are calculated on a per dwelling unit basis, after converting non-residential, developed acreage into Equivalent Dwelling Units (EDUs) at a rate of 5 dwelling units per acre.¹ These EDUs were then added to existing residential units to produce a base figure for Redwood City. Then, the average current cost per EDU was applied to the EDU figure calculated for the proposed project to produce an estimated annual cost of service provision attributable to the project.

In order to overcome the limitations of predicting future costs using average current costs, EIP and Keyser Marston Associates, Inc. interviewed service division personnel to identify any unique operating or capital costs which might be incurred with the proposed development.

Table 20 summarizes the costs and revenues from the project on an annual basis through the 10th year of the buildout. The evaluation indicates that the project will generate net revenues to the City in the early years, with deficits in middle years followed by a positive revenue picture by year 10 with addition of transient occupancy taxes. On a

¹Rate suggested by ABAG to convert commercial and industrial acreage into Equivalent Dwelling Units.

TABLE 20

South Shores
Cost-Revenue Summary

	<u>Year 0</u>	<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>	<u>Year 4</u>	<u>Year 5</u>
Total Costs	\$ --	\$ --	\$ 54	\$ 148	\$ 608	\$ 967
Total Revenues	<u>61</u>	<u>113</u>	<u>382</u>	<u>385</u>	<u>692</u>	<u>777</u>
Excess/(Deficit) Revenues Over Costs	\$ 61	\$ 113	\$ 328	\$ 237	\$ 84	\$ (190)
	<u>Year 6</u>	<u>Year 7</u>	<u>Year 8</u>	<u>Year 9</u>	<u>Year 10</u>	<u>10 Year Total</u>
Total Costs	\$ 1,454	\$ 1,826	\$ 2,264	\$ 2,529	\$ 2,707	\$ 12,557
Total Revenues	<u>1,278</u>	<u>1,320</u>	<u>1,597</u>	<u>2,043</u>	<u>2,970</u>	<u>11,618</u>
Excess/(Deficit) Revenues Over Costs	\$ (176)	\$ (506)	(667)	(486)	263	(939)
Current Worth of Excess at 10%	\$ 705					
Current Worth of Deficit at 10%	\$ 902					
Net	\$ <u>(+200)</u>					

Source: Keyser Marston Associates, Inc.

discounted cash flow basis, the project creates a deficit of \$200,000 through the 10th year, or an average of \$20,000/year. Since the project shows a surplus at buildout, (year 10) if the analysis were shown for subsequent (stabilized) years, the cost-revenue balance would continue to be favorable.¹

In conclusion, it appears that the project will have little net fiscal impact on the City of Redwood City, i.e., it appears that it will be neither a significant burden nor a source of major new revenues for the City. The reviewer is referred to Appendix G of the Draft EIR for a more detailed discussion of these findings.

The evaluation also considered the financing for the front end capital improvements required to serve new development in South Shores, which could be defrayed by developer payment, issuance of bonds, a facilities charge, or a combination of these techniques. Total costs for roadway improvements, water systems, sanitary sewers, parks, and reclamation for street right-of-way are estimated at \$48.8 million in 1980 dollars. (These costs exclude general reclamation and interior waterway costs, which would be assumed by the developer.) According to a study by the City's financial consultant, these costs could be borne by a facilities charge to builders. Bonding would be required during the buildout to cover short-term shortfalls in cash flow. A risk analysis indicated the following in regard to the bond payments of a typical homeowner in Redwood Shores:

1. Without the project, bond service would decline in constant 1980 dollars by 75% from 1980-1981 due to the anticipated buildout of Redwood Shores.
2. With the proposal by the City's financial consultant, it appears that bond service would decline in the early 1980s, then increase somewhat (though not to its present level) by the mid-1980s and decline to a level somewhat lower than at present by the end of the buildout.
3. With a "worst-case" projection in which the value increase in Redwood Shores and South Shores is half that projected by the developer and bonding requirements are twice those anticipated, bond service would substantially exceed present levels by the mid-1980s and decline to a level somewhat lower than at present by the end of the buildout.

¹Project would also appear more favorable with earlier hotel development, which cannot be forecast accurately at this time.

L. PUBLIC SERVICES AND UTILITIES

I. Wastewater

a. Setting. The South Bayside System Authority (SBSA) Treatment Plant is located directly north of the project site across Steinberger Slough. The SBSA Regional Treatment Plant consolidates sewerage facilities for the subregion of San Mateo County, located along the western shore of San Francisco Bay. The currently sewered portion of the total area served by the SBSA Plant is approximately 45 square miles, encompassing the cities of Belmont, San Carlos, Redwood City, and the Menlo Park Sanitary District.

The SBSA Plant now has a reserve capacity of 1.3 MGD (million gallons per day) for use by the Redwood Shores and South Shores developments.¹ This reserve capacity may be allocated in any percentages by the 2 developments.² The Redwood Shores development will generate an estimated wastewater capacity of 761,175 gallons per day by 1985.³

The incoming 54" Force Main to the SBSA Plant is currently at capacity during Peak Wet Weather Flow.⁴ Therefore, no additional flows may be added to the existing force main.

b. Impacts. The impacts of the South Shores Concept Plan can be categorized into 2 sections (1) impacts from wastewater generation and, (2) impacts from wastewater transportation. Each of these areas must be examined separately.

Wastewater Generation

The estimated wastewater generation of the South Shores Development is 902,371 gallons per day (see Table 21). This estimate is based on the number of units to be built, and the amount of office, commercial, and research and development space allocated.

¹ Jim Bewley, Manager, South Bayside System Authority Treatment Plant, telephone conversation, September 16, 1980.

² Ibid.

³ Correspondence from Eugene Masciarelli, Project Coordinator, Redwood Shores, Inc., South Shores, Inc., to Frank Addiego, Director, Department of Public Works, Redwood City, January 11, 1980.

⁴ Jim Bewley, Manager, South Bayside System Authority Treatment Plant, telephone conversation, September 16, 1980.

TABLE 21

Estimated Wastewater Generation

Designation	Building Size or # of Units	# Employees or Residents	Gal/ Capita/ Day	Estimated Flow in gal/day	Comments
Single Family Dwellings	475 units	1,282.5	75	96,187.5	@ 2.7 people/unit
Single Family Patio Dwellings	363 units	980.1	75	73,507.5	@ 2.7 people/unit
Townhouses	1,130 units	2,825	75	211,875	@ 2.5 people/unit
Garden Apartments	1,755 units	3,685.5	75	131,625	@ 2.1 people/unit
Commercial	136,000 sq. ft.	680	25	17,000	@ 200 sq. ft./ employee
Office	2,000,000 sq. ft.	10,000	25	250,000	@ 200 sq. ft./ employee
Research and Development	915,000 sq. ft.	3,050	25	76,250	@ 300 sq. ft./ employee
Hotel Convention Center	250 units	250 beds 30 employees	60 25	15,000 750	@ 2 persons/bed 200 sq.ft./employee
Restaurant	150 capacity	1800 meals/day	16	28,800	
Banquet Room	150 capacity	86 meals/day	16	1,376	
TOTALS				902,371	

Estimates of the industrial space wastewater generation are based on the number of square feet per employee.¹ This number varies with the specific type of space usage. This calculation does not account for unusable office space such as stairwells, wallspace, closets, storage, etc.

No particular businesses were incorporated into this estimate, with the exception of the proposed hotel/convention center. The hotel would contain 250 units and a restaurant/coffee shop serving 150 people with a banquet room for another 150.²

This amount of wastewater generation, combined with the estimated flows from the Redwood Shores Development, would result in a total of 1.66 MGD of wastewater at the SBSA Plant. This would exceed the 1.3 MGD reserve capacity of the Treatment Plant and may not be acceptable.

Wastewater Transportation

The existing 54" Force Main to the SBSA Treatment Plant is currently flowing at full capacity during Peak Wet Weather Flows.³ Any additional flows from the South Shores Development to this Force Main would overload an already overloaded system.

An area which requires envelop design expertise is the construction of sewers in Bay mud fill. Numerous factors such as ground subsidence, ground movement, and groundwater hydrology must be given close attention.

Examination of the engineering design of the sewer system is beyond the scope of this EIR. Failure to consider these special circumstances, however, could lead to severe

¹Eugene Masciarelli, Redwood Shores, Inc., South Shores, Inc., telephone conversation, September 16, 1980.

²Eugene Masciarelli, Redwood Shores, Inc., South Shores, Inc., telephone conversation, September 16, 18 and 19, 1980.

³Jim Bewley, Manager, South Bayside System Authority Treatment Plant, telephone conversation, September 16, 1980.

secondary impacts such as excessive inflow/infiltration and increased maintenance costs of the sanitary system.

c. Mitigation. In order to adequately handle the estimated wastewater flows from the South Shores Development, some type of mitigation would be required, such as payment by the developer of part or all of the expansion costs of the SBSA treatment plant to accommodate the increased flows.

According to Chapter 6, Division VIII of the San Mateo County Ordinance Code, on-site treatment systems in the project area may not be acceptable.¹ This is due to the geology of the project area (Bay mud), the groundwater levels, the lowlying area susceptible to drainage or flooding, and/or the amount of space available for drain fields.

Building a packaged treatment plant on-site would require a reduction in the usable space now proposed or the use of a portion of the area now designated as Study Area for Future Development. All of the proposed sewerage system would be built with the additional expense of the packaged plant. Flows to the SBSA Treatment Plant would not be lessened unless the packaged plant were upgraded to a full secondary treatment plant with discharge to San Francisco Bay. This would require the project sponsor to apply to the Regional Water Quality Control Board for a National Pollutant Discharge Elimination System Permit. The expense of building, operating, and maintaining a treatment plant may be excessive.

Purchasing additional reserve capacity in the SBSA Treatment Plant is a process the project sponsor has performed before and is familiar with.² The SBSA Plant is currently in an expansion stage with expansion scheduled to be completed in 1985.³ The cost of additional expansion could be financed in 1 of 2 methods:

¹Ordinance Regulations and Policies Governing Individual Sewage Disposal Systems in San Mateo County, Office of Environmental Health, County of San Mateo, November 1978.

²Jim Bewley, Manager, South Bayside System Authority Treatment Plant, telephone conversation, September 16, 1980.

³ibid.

1. Full financing by the project sponsor.
2. Shared financing by the project sponsor and all other commercial and municipal interests desiring increased capacity.

Financing additional reserve capacity would be the most acceptable measure to allow the treatment plant to successfully treat the additional flow from the South Shores Development. This action may be acceptable to both the project sponsor¹ and SBSA.²

Transportation of wastewater to the SBSA Treatment Plant can be remedied by building a Force Main from the South Shores Development directly to the treatment plant. Holding basins which discharged into the existing 54" Force Main at non-peak hours were ruled unacceptable because during wet weather, the holding basins may be required to store sewage for periods ranging up to several months.³

Construction of a Force Main directly to the SBSA Plant would circumvent the problem of wastewater transportation. Because of the close geographical proximity of the South Shores Development to the Treatment Plant, the costs of a Force Main may not be excessive, particularly because the Menlo Park Sanitary District also wishes to build a Force Main into the Plant and construction costs could therefore be shared.⁴ A secondary beneficial impact of a shared Force Main would be a reduction in the capacity flows carried by the existing 54" Force Main during wet weather.

Reserve capacity for this plant should be increased by a minimum of 0.4 MGD to cover the additional wastewater generated by the South Shores Development.

¹Eugene Masciarelli, Project Coordinator, Redwood Shores, Inc., South Shores, Inc., telephone conversation, September 15, 1980.

²Jim Bewley, Manager, South Bayside System Authority Treatment Plant, telephone conversation, September 16, 1980.

³Jim Bewley, Manager, South Bayside System Authority Treatment Plant, telephone conversation, September 16, 1980.

⁴Ibid.

2. Solid Waste Removal

a. Setting. All solid waste in Redwood City is removed by BFI Inc. and taken to Marsh Road Land Fill.

b. Impacts. The solid waste generated by the South Shores Development would be contracted for removal and disposal by BFI Inc. After the closing of the Marsh Road Landfill, the Ox Mountain Dump would be used. BFI Inc. anticipates no difficulty in meeting the demands for solid waste removal created by the proposed development.¹

3. Police

a. Setting. The Redwood City Police Department would provide services to the project area.

b. Impacts. The Redwood City Police Department anticipates that no new service facilities would be constructed as a result of the South Shores Development; an increase in personnel may be required, however, as the development progresses into the later stages.² The Department assumes that standard security measures would be implemented with the project.

4. Fire

a. Setting. The Redwood City Fire Department would provide services to the project site.

b. Impacts. The Department anticipates that an additional fire station and personnel would be required to fully serve the South Shores Development when it is fully built-out. The cost may be about 1 million dollars for the station and equipment in 1980 dollars; the actual amount and financing have yet to be determined.³

¹James Aveggio, Supervisor, BFI Inc., telephone conversation, December 23, 1980.

²George Bold, Chief of Police, City of Redwood City, telephone conversation, August 29, 1980.

³William Davidson, Battalion Chief, Redwood City Fire Department, meeting, August 29, 1980.

5. Water

a. Setting. Redwood City is responsible for providing water to the South Shores Development. "A water line would most likely enter the site at the Whipple Interchange and pass north towards Redwood Shores by one of three routes. The center route passing through the San Carlos Airport is politically the most possible. Alternatively, a line could be taken branching off the existing line to Pete's Harbor."¹

b. Impacts. Actual improvements for the provision of water to the proposed development would probably be constructed by the City, with the project sponsor financing the costs.²

6. Schools

a. Setting. The South Shores area is partially served by the Belmont Elementary School District, the Redwood City Elementary School District for grades K-8, and the Sequoia Union High School District for grades 9-12. All Districts have been experiencing a decline in enrollment and expect this decline to continue.

b. Impacts. The Belmont Elementary School District may serve school-age children at the South Shores project at a proposed school site in Redwood Shores; this cannot, however, be determined at the present time.³ Some children may attend existing schools west of Highway 101.

Elementary school children in the Redwood City Elementary School District could possibly attend Edison or Hoover Elementary Schools, which are currently closed but could be renovated and reopened.⁴

¹Mobil Oil Estates, Ltd., General Plan Report Redwood Shores South Ponds A-12, A-9, 10 and 11, August 1977.

²Frank Addiego, Director, Public Works Department, meeting, August 29, 1980.

³Claude Turner, Superintendent, Belmont Elementary School District, telephone conversation, December 23, 1980.

⁴Chuck Gould, Assistant Superintendent, Redwood City Elementary School District, telephone conversation, December 29, 1980.

High school students from the South Shores Development would attend Sequoia Union High School District Schools.¹

7. Utilities

- a. Setting. PG&E provides gas and electricity to the project area.
- b. Impacts. With proper planning for construction of service facilities, PG&E anticipates no adverse impacts in providing services to the South Shores Development.

8. Maintenance

- a. Setting. The City of Redwood City provides little maintenance to the vacant project site.

- b. Impacts. The City of Redwood City would provide maintenance of public streets, sidewalks, drains, street lights, and perhaps partial landscaping.² The cost for such services would be funded from the General Fund of the City Budget; various service fees and/or other charges, however, may be instituted when the project is fully implemented.

● 9. Recreation and Boating

- a. Setting. A 5-mile per hour speed limit exists along Redwood Creek. The U.S. Coast Guard Auxiliary currently patrols the Redwood Creek area on weekends and holidays. This auxiliary is a volunteer civilian force that is trained to give safety checks and augment the Coast Guard in relations with the boating public. It has no authority to enforce the 5 mph speed limit, however.

- b. Impacts. The addition of 600 berths in the area should not create a problem for the Coastguard Auxiliary.³ While additional patrols may be needed, sufficient boats and manpower are available. No major speed limit compliance problems are anticipated.⁴

¹Dr. Grunman, Director of Research and Data Processing, Sequoia Union High School District, telephone conversation, December 29, 1980.

²Frank Addiego, Director, Public Works Department, meeting August 29, 1980.

³Del Terry, Chief Warrant Officer, U.S. Coastguard, San Francisco, personal communication, August 10, 1981.

⁴ibid.

● M. POPULATION AND HOUSING

I. Setting

The current estimated population of Redwood City is approximately 55,600 persons.¹ The population has been relatively stable since 1970 and in spite of an increase in the total housing supply, may have even declined slightly due to the decrease in the average household size.² By the year 2000, the population, including unincorporated areas, is projected in the General Plan to be 90,000. The waterfront zone, within which the project site is located, is assumed to have approximately 15,000 persons at that time.³

- The existing housing supply is slightly over 23,000 units; about 57% are single-family, 40% are multiple units, and 3% are mobile homes.⁴ Redwood City, as well as the entire San Mateo County, has a growing housing problem. The problems which are not unique to the County, but rather endemic to the Bay Area, entail a number of factors:

- A low vacancy rate. It is less than 1% for rentals and the Association of Bay Area Governments estimates the overall rate to be about 3%.
- The vacancy rate is a reflection of an undersupply of both sales and rental housing.
- An imbalance between housing prices which are affordable and the prices of existing and newly constructed housing stock.
- The rapidly escalating rate of housing prices (e.g. between 1972 and 1978 prices increased annually about 22%).⁵ The Chamber of Commerce estimates that a 3-bedroom, 2-bathroom house costs in the range of \$110,000 to \$125,000.⁶
- A deterioration in older housing units.

¹State of California, Annual Planning Information San Francisco-Oakland SMSA 1980-1981. Redwood City Chamber of Commerce, telephone communication, 17 August 1981.

²City of Redwood City, Comprehensive General Plan, Redwood City, 1975, p. 21.

³Ibid.

⁴Affordable Housing, A Comprehensive Strategy for Meeting San Mateo County's Housing Needs, Division of Housing and Community Development, San Mateo County, June 1979, Table 1.

⁵Ibid, Table 2.

⁶Two real estate firms interviewed thought that the range was more likely to be \$125,000 to \$155,000.

- In addition, the jobs/housing ratio is 1:0.380 (i.e. there is one new job for .380 housing unit being constructed) adding to the demand for residential units, both sales and rentals. The Redwood City General Plan suggests that for every job created, 1 housing unit be developed (i.e. a job/housing ratio of 1:1.)
- The proportion of the population in Redwood City considered to be "low-income" is about 30%, the vast majority of whom (about 65%) live in houses considered by the City to be "inadequate".¹

2. Impacts

- The proposed project area is one of the few locations in the City that has land suitable for residential use. The plans for the project call for approximately 3,725 dwelling units (475 single-family detached, 365 single-family patio, 1,130 townhouses and 1,755 apartments). Based on an average population size of 2.5 persons per household, these units could generate a population increase of approximately 9,300 persons.
- The units would range in price from \$120,000 to \$350,000 in 1981 dollars, and would be constructed over a 7-year period as indicated in Table 5.

Employment created by the project would be approximately 12,900 persons² 71% of the projected 18,000 additional jobs within the City by the year 2000. These jobs would be in the general categories of managerial, professional, technical, support, personal service and specialized skills.

- The proposed South Shores project would increase the total Redwood City housing supply by 17%. The total supply of housing in San Mateo County would be increased by 1.6%. There is no provision for low and moderate income housing in the development, and it is

¹A Housing Strategy for San Mateo County, Division of Housing and Community Development County of San Mateo, pages 9 and 10, June 1979.

²Employment totals for the project were calculated on a rule of thumb basis as follows:

.7 persons per room for the hotel/convention center	371
1 job per 250 sq. ft. for the research and development and office space areas	12,088
10 persons for the marina	10
1 person per 460 sq. ft. of retail space for the commercial area	428
	12,897

highly probable that many of the new employees in the project would not be able to afford housing in the residential portion of South Shores. These people would have to find housing outside the South Shores development and would contribute to the existing demand for affordable housing in the area.

- The actual number of employees, their projected incomes,¹ and the "low and moderate income units" necessary to house them cannot be accurately calculated. Based on the existing levels of affordable homes in Redwood City, the typical salaries for non-executive positions, and the projected salaries and range of residential unit prices in the South Shores development, there would be a sizable portion of new employees who could not afford to live in project housing.
- The number of employees would contribute to the job/housing imbalance existing in Redwood City, and the project would conflict with the General Plan policy of providing one housing unit per new employment position created.
- Over 800,000 square feet of office space is scheduled to be completed prior to the construction of housing units. This phasing would contribute to the demand for housing in the area by new workers at the project who would prefer to relocate near their place of employment.

3. Mitigation

- The job/housing imbalance of the proposed project could be mitigated by shifting some of the proposed office and commercial uses on Ponds A-9, 10 and 11 to a residential land use. Taking noise constraints into account, approximately 848,000 square feet of office and 472,000 square feet of commercial space (including the hotel/convention center) could be shifted to residential uses. This would decrease the number of jobs generated by the project by approximately 4,400 leaving a total project employment of 8,500.
- Assuming conversion of approximately 100 of the 112.7 acres of nonresidential land uses on Ponds A-9, A10 and A-11 at 18 units/acre for apartments, 1,800 additional units could be added to the project. This would produce a total of 5,520 dwelling units in the project with a total population of approximately 13,800.

¹The project sponsor estimates annual salaries to range between \$12,000 and \$100,000.

While this conversion would lessen the job/housing imbalance that would be created by the project as proposed, an imbalance would remain. The new project job/housing ratio would be 1:0.65 (i.e. one new job for .65 housing units constructed).

- The City of Redwood City and San Mateo County could implement a comprehensive plan for the South Shores project that would provide a percentage of residential units for low and moderate income families. The plan could include, but not be limited to, the following concepts:
 - enforcing the General Plan policy for one new job/one new residential unit
 - adoption of inclusionary zoning to allow density bonuses in return for the reservation of a portion of the units for occupancy by low and moderate income households
 - modification of Zoning and Building Codes and design standards to eliminate non-essential costs
 - enactment of legislation or policies providing for priority processing ("fast-track") for projects which include below market rate units
 - support of the use of tax exempt financing for residential construction of low and moderate income households
 - actions that make creative use of federal and state subsidy programs
 - reduction in local fees

The above measures are discussed in detail in Affordable Housing, A Comprehensive Strategy for Meeting San Mateo County's Housing Needs, prepared by the Division of Housing and Community Development and Human Services Coordinating Council of San Mateo County.

- In addition, the Office of Permit Assistance (California Governor's Office of Planning and Research) works with developers, industries, and government agencies in the development of mixed use projects and would provide technical assistance to the proposed project for creation of optimum job/housing ratio.

N. RECREATION

1. Setting

The present recreational uses of the proposed project area pertain to its open space nature. These uses include jogging, duck hunting, observation of wildlife (on the site, only with permission from the owner), and recreational boating, including sailing and fishing in the surrounding waterways. Some unauthorized off-road vehicle use of Pond A-12 levees occurs as well.

2. Impacts

The project as proposed would provide a 600-berth marina, which would add significantly to the recreational boating opportunities in the waterways surrounding the site. The proposed controlled waterways within the development would provide opportunities for boating, swimming, and other water-related recreation. In the neighboring Redwood Shores development, the PAC 10 crew championships have been held on the lagoon for 2 successive years.¹ Although there are no detailed plans showing the types of public recreational facilities to be available, the concept plan shows a park, open space (ecological reserve), and a hotel/convention center which would probably include some recreational facilities. Opportunities for hiking and bicycling are most likely to be available to residents and visitors, as well as observation of wildlife in the vicinity.

Impacts of the proposed recreational activity upon the surrounding marshland and its wildlife residents are discussed in Section IV.D. of this report. The San Francisco Bay National Wildlife Refuge would be especially sensitive to increased recreational use as a result of the proposed project. Increased boat traffic in the areas around the refuge would increase the likelihood of unauthorized entry to the reserve. This is a misdemeanor punishable by up to a \$500 fine or 6 months in jail. The refuge staff patrols the area on an irregular basis; typically, the area is patrolled at least once a week, year-round. The increased human activity around the refuge as a result of the proposed project would probably require additional patrols. With the limited financial resources of the refuge, this could be a burden to their law-enforcement program.

¹Bill Doyle, People Living at Redwood Shores on the Peninsula May Want To Bike, Hike, or Sail to Work, San Francisco Business Journal, September 1, 1980, p. 12-13.

3. Mitigation

The State Lands Commission recommends that urban uses of the South Shores/Bair Island area be harmonious with and take advantage of the close proximity of wildlife habitat.¹ As described in Section IV.D.3., borrow pits along existing dikes could be enlarged to separate urban development from the wildlife habitat, in addition to chain-link fencing and buffer zones along Corkscrew Slough. This would limit recreational opportunities available along the slough.

Corkscrew Slough should be closed to boat traffic, and recreational boating should be restricted in all sensitive wildlife use areas, such as in waters surrounding bird nesting sites on Bair Island. This would also limit recreational boating opportunities.

- To reduce the potential for human intrusion into the National Wildlife Refuge, increased patrols of the area should be instituted during the nesting season (March 1 through September 1). The cost of these additional patrols could be borne partly or in full by the project sponsor.
- In accordance with BCDC policy, provision for public access to the marina area should be instituted. Hunting should be prohibited in the marsh habitat areas preserved and/or restored in the project area.

¹Report of the Public Recreational Use Committee, Bair Island Environmental Study, State Lands Commission, December 1977, page 26.

O. ARCHAEOLOGY

1. Setting

In order to ascertain what archaeological resources may exist on the project site, a survey of archaeological records was conducted for EIP by Cabrillo College in Aptos, California. No archaeological sites have been recorded on the site, and 3 surveys conducted for other projects in the area near the project site have not uncovered any such sites. However, archaeological sites are known to exist in many similar marsh areas around the Bay.

2. Impacts

Since no archaeological sites have been recorded on the site, it is not anticipated that any archaeological impacts would result from project implementation. However, the size of the site combined with the known occurrence of archaeological remains in similar areas around the Bay renders this site archaeologically sensitive.

3. Mitigation

Areas of the site slated for development should be surveyed for possible archaeological remains prior to development, once the plans for development become more finalized.

¹J.M. Cooper, California Archaeological Site Survey, Central Coast Counties, letter of October 27, 1980.

V. IMPACT OVERVIEW

A. GROWTH-INDUCING IMPACTS

The proposed residential/office/marina/commercial/hotel/park land uses at the Redwood Shores site would contribute significantly to the growth of Redwood City. At present, the site is vacant. Section III.B. and Tables 1-4 provide details of the full implementation of the planned land uses. In addition to affecting the intensity of development on the now vacant site, the proposed land uses would be part of several proposed and approved housing/commercial/office/industrial developments in the Peninsula area and would directly contribute to the continuing trend in such land use development.

The proposed development to be implemented during the next decade would have secondary growth-inducing impacts on the environment in terms of land use, increased job opportunities, increased municipal tax revenues, and greater demands on transportation, circulation and public service facilities.

The proposed office, hotel, marina, and research and development land uses would generate new employment positions, many of which would be filled by people moving from outside the Peninsula area. Some new employees could reside in the new housing units planned for Redwood Shores. Others would probably seek housing in the limited Peninsula area. A portion of the employees that would be drawn to work at the commercial/-office/hotel/marina/research and development area of South Shores may not be able to afford the houses planned for construction. The demand for moderate income housing would likely increase as a result of the proposed land uses at South Shores, unless some of the proposed housing were available to moderate-income families.

Provision of construction jobs in the development of the project would have secondary impacts on the economy for additional goods and services. It would be expected that most of the labor force working on the construction of the proposed development would be hired within the San Mateo/Santa Clara counties.

The increased population residing in the housing units in South Shores would require additional goods and services including recreational, education and other community facilities and would contribute to stimulating retail sales in Redwood City and the Peninsula area.

In sum, the proposed South Shores development would directly cause increased economic and employment activity. It would contribute to the existing economic and population growth pressures in San Mateo County.

- Bridging of Smith and Steinberger Sloughs and the development of the South Shores project would increase development pressures on adjacent lands. Potentially developable parcels are owned by several landowners including Bair Island Investments Inc., Henshaw Investment Company, City of Redwood City, San Mateo County Title Company, E. Genochio et al., and Ross Estate Company. All of this land is within the historic marsh boundary, and much is still subject to tidal action. Of particular concern is the effect development of these parcels would have upon the wildlife resources of the area. Pond B-3, located on Bair Island north of Corkscrew Slough is a particularly sensitive parcel for development. This parcel is owned by Bair Island Investments Inc., another subsidiary of Mobil Land Development Corporation, and on the South Shores Concept Plan is identified as a Study Area for Future Development.

B. SIGNIFICANT UNAVOIDABLE ADVERSE IMPACTS

Unavoidable adverse impacts are those effects that are unable to be significantly alleviated by mitigation measures. They include impacts that may occur from the natural events such as earthquakes, and those which can be eliminated by imposing an alternative design or by moving the project to another location.

The project as proposed would have the following significant unavoidable adverse impacts.

- Moderate to severe groundshaking throughout the region in the event of an earthquake on the San Andreas Fault.

- Groundshaking would subject the site to horizontal and vertical accelerations to be experienced by embankments, dikes, fills, underwater excavations, bridges and foundations, above-ground structures and utilities. Local slides may occur in dike and channel areas.
- Flooding of project site during high tide in the event that existing dikes were breached.
- Permanent loss of Ponds A-9, 10, 11 and 12 as wildlife habitat, including potential breeding habitat for the endangered California least tern.
- Irreversible preclusion of restoration of the salt ponds to tidal marsh.
- Loss of marsh habitat on improved levees.
- Visual impact of extending urban development pattern west of U.S. 101 and northeast of project site closer to the Bay on what is currently open space land.
- 90-100 additional daily truck trips on U.S. 101 during fill phase of construction.
- 91,200 average weekday trips on U.S. 101 at full buildout added from the project.
- Possible short-term increase in suspended particulate matter during construction.
- Local increase in carbon monoxide levels in the air due to traffic generation; increase in regional air pollution levels.
- Office and research/development land uses designated within the 70 CNEL noise contour of U.S. 101, and garden apartments and townhouses designated within the 60 CNEL contour; both uses are "conditionally acceptable" in the noise environment described.
- Increased consumption of nonrenewable energy resources during construction and operation of proposed project.
- Wastewater generation of 902,371 gallons/day, combined with the estimated flows from Redwood Shores, would exceed the 1.3 MGD reserve capacity of the SBSA Treatment Plant.

C. SHORT-TERM USE VS. LONG-TERM PRODUCTIVITY

Development of the site for the proposed project preclude options for other land use activities on the 1095.9-acre site. The construction phase of the project would take place in the short term, compared to the long-term period over which the project would exist.

The project would have long-term effects in that it would cumulatively contribute to the consumption of fossil fuels, both as energy impacts and by generation of additional automobile trips.

The economic productivity of the proposed South Shores development would be determined by its financial return to the City, generated by property tax assessment, sales tax receipts, transient occupancy tax receipts, other tax receipts, business licenses and development fees, and from the employment created as a result of the project. On a discounted cash flow basis, the project creates a \$200,000 deficit through the 10th year. The project would have in the long-term, however, little net fiscal impact on the City of Redwood City.

D. IRREVERSIBLE ENVIRONMENTAL CHANGES OCCURRING AS A RESULT OF PROJECT IMPLEMENTATION

Irreversible environmental changes resulting from implementation of the proposed project would include the commitment of existing open space areas, including existing and historic marshland, to urban development and associated modification to the topography and visual appearance of the site.

- The project would irreversibly preclude restoration of the site to tidal marsh.

Irretrievable commitments of finite resources would include non-renewable energy, fossil fuels and minerals used during construction and throughout the lifetime of the project.

E. CUMULATIVE IMPACTS

The project must be viewed in the context of other large projects proposed or underway in Redwood City and on the Peninsula as a whole.

- The Eastside Transportation Network Study conducted concurrently with this report examined all development proposals for the Eastside area of Redwood City. These land uses and size of the proposed developments are summarized in Table 21.A. Total buildout of the area east of the Bayshore Freeway would add 294,500 trip-ends per day, an addition of about 13 percent of the current trip-ends produced in San Mateo County on an average weekday. Since the proposed build-out of the Eastside area cannot be accommodated without capacity increases in regional transportation facilities, and such increases do not appear likely in the near future, construction of these projects would have a highly significant cumulative impact on the regional traffic situation. The construction of the South Shores project as proposed would likely have the effect of decreasing the feasible size of other proposed projects in the Eastside area.

● TABLE 21A

Land Use and Size of Developments Proposed in Eastshore Area

<u>Name of Development</u>	<u>Uses</u>	<u>Size Descriptors</u>
1. Parkwood 101 ⁽⁴⁾	Commercial Office Park	{ 55 acres 1.2M SF(1) 4800 employees
2. Marina Park Baylands	Retail/Commercial Residential Public Park	45 acres
3. Browning-Ferris SWTS/ Offices	Solid-Waste Transfer, Office	18 acres .124M SF Office
4. South Shores	Office/R&D Commercial Hotel Marina Residential Parks/School	2.9M SF ⁽¹⁾ 0.2M SF ⁽¹⁾ 530 rooms 600 berths ⁽²⁾ 3,723 DU's ⁽²⁾ 34.6 acres
5. Port of Redwood City ⁽³⁾	Port General Industry Light Industry/ Office/Commercial Marina Park Airport	380 acres 345 acres 200 acres 50 acres 40 acres 300 acres
6. SamTrans South Bus Operating Base	Vehicle Storage/ Maintenance Yard	230 employees
7. Redwood Shores	Residential Commercial Office Hotel School Restaurant	4,440 DU's ⁽²⁾ .240M SF ⁽¹⁾ 2.948M SF ⁽¹⁾ 250 Rooms 50 Employees .011M SF ⁽¹⁾
8. Carl Holvick Office Building	General Office	.160M SF ⁽¹⁾

NOTES:

Some figures are rounded off.

- (1) Millions of gross square feet.
- (2) Dwelling Units.
- (3) Five alternative developments have been proposed by the Port. This scenario (#2) represents conformity with the Redwood City General Plan, adopted 1976.
- (4) The size of the Parkwood 101 development is that used in the 1975 EIR.

- Major projects proposed or underway in other Peninsula cities include the following:

San Mateo - Hillside Shopping Center Expansion (275,000 sq. ft. commercial); Mariners Island (commercial, 380,000 sq. ft. office); Pan American (90,000 sq. ft. office); Atrium (226,000 sq. ft. office); Crossroads (332,000 sq. ft. office); residential east of 101 (2,400 dwelling units.)

San Carlos - Planned annexation of land east of the airport near Holly Street to be SamTrans facility and office complex.

Menlo Park - Bohannon Park project (130,000 sq. ft. office).

Burlingame - Holiday Inn (572 rooms); Seabreeze Plaza (160,000 sq. ft. office); Intertelephon (130,000 sq. ft., office); Days End Motel (214 rooms); Marriot (750 room hotel, 200,000 sq. ft. office).

Foster City - Town Center East (250,000 sq. ft. commercial, 1.5 million sq. ft. office), 500 units residential).

Cumulative impacts produced by the project in concert with other developments throughout the region include:

- Intensification of land uses of the shores of San Francisco Bay, representing an addition to the 75-80% of historic intertidal marshlands already reclaimed and converted to harbor, industrial, commercial, residential and other uses.
- Contribution to the overall loss of wetland wildlife habitat, including breeding, overwintering, and stopover habitat for migratory shorebirds.
- Visually, an increase of urban development pattern, decrease of Bayland open space.
- Increase in degradation of air quality due to hydrocarbon and oxide of nitrogen emissions from increased traffic generation.
- Increase in consumption of nonrenewable energy resources.
- Increased degradation of regional transportation facilities.
- Increase in regionwide job/housing imbalance.

VI. ALTERNATIVES TO THE PROPOSED PROJECT¹

A. NO PROJECT ALTERNATIVE

If the project were not carried out, the status quo would be preserved for the present time; that is, the land would remain as "urban reserve," zoned as TP Tidal Plain District. Options for its future use would remain open. Possible choices for future use as permitted by the present zoning would include agriculture, extraction of chemicals from sea water by natural evaporation, public parks and public recreation areas and facilities; conditional uses (allowed subject to permit), listed in detail in the Redwood City Zoning Ordinance.² In the San Francisco Bay Plan³ the area of Pond A-12 is designated as waterfront park and/or beach. The no-project alternative does not preclude public acquisition for such a use, nor does it preclude future application for redesignation of land use and subsequent rezoning.

The adverse effects of the proposed project would be avoided, and the beneficial aspects would be foregone. The economic impact of the no-project alternative, as described in Appendix G, would be that the Bond Service would decline in constant 1980 dollars by 75% from 1980-81 to 1990-91 due to the anticipated buildout of Redwood Shores.

B. DEVELOPMENT OF POND A-12 ONLY

In the A-12 only alternative, proposed development west of Smith Slough would be retained as described in the original concept plan (Figure 4). The residential, office and commercial uses east of the slough would be left out, and the areas including Ponds A-9,

¹ Alternatives to the project as proposed were developed jointly by Redwood City staff, the Project Sponsor, and the Consultant. Alternative project sites were not evaluated due to an apparent lack of similarly sized sites capable of supporting this type of mixed use development. An additional alternative not addressed here would be a shift of commercial land uses on Ponds A-9, A-10, and A-11 to higher density residential to improve the job/housing ratio of the project (see Section IV.M. Population and Housing mitigations).

² Redwood City Zoning Ordinance 1130, Article 20, TP Tidal Plain District, as amended through June 30, 1979.

³ San Francisco Bay Conservation and Development Commission, San Francisco Bay Plan, January 1969, amended July 1979, Map 8.

10, and 11 would remain designated as "urban reserve" with options for its future use similar to those described for Alternative A.

For Alternative B, the overall geologic, hydrologic and water quality impacts on the environment would be reduced because of the smaller land area involved. Impacts on A-9, 10 and 11 would be the same as for Alternative A.

Marina dredging operations would probably be on the same scale as for the proposed project. Excess dredge material would be dewatered, compacted and used in levee construction; however, significantly less levee repair would be necessary for Alternative B, and unused dredge materials may have to be disposed of elsewhere. This may create additional impacts related to dredge spoil disposal. There would be less fill to import for use on Pond A-12. Bridges to Ponds A-9, 10 and 11 would not be needed, nor would lagoons be excavated on these ponds.

Vegetation and wildlife impacts would be dramatically decreased, particularly if Smith Slough were not bridged. Human intrusion into remaining marsh areas along Corkscrew Slough, as well as access to other sensitive avian nesting areas and other wildlife areas on the outer island would be minimized at least for the present. A buffer zone would still be needed around marsh areas for their protection.

There would be a difference of approximately 688 acres of salt ponds left undeveloped for the present if this alternative were carried out instead of the project as proposed. Viewed from U.S. 101, the visual impact of development of A-12 would be similar to that of the project. There would, however be a much greater view of open space from other vantage points to the north and south of the project site. With no residential structure in view, the project area would appear to be commercial or industrial to the passer-by, in contrast to the neighboring Redwood Shores multiple-use development with many residences.

Project land uses and associated trip generation are shown in Table 22 and associated trip generation are shown in Table 22 for the "reduced development" alternative. Trip-ends produced by this alternative are slightly less than a third of the full-development option. Vehicle trips would be closer to a third of those under full development since the greater homogeneity of land use under partial development would equate to more external (vehicle) trips.

TABLE 22

Average Weekday Trip-Ends Generated (Alternative B)

<u>Land Use</u>	<u>No. of Units</u>	<u>Unit¹</u>	<u>Rate/Unit</u>	<u>ADT</u>
General Office	1,066	KSF	14.0	14,920
R&D Park	915	KSF	10.0	9,150
Service Commercial ²	-	KSF	85.8	-
Convention-Hotel	-	Rooms	10.0	-
Marina	600	Berths	4.8	2,880
Apartments	-	DU	6.5	-
Town Houses	-	DU	8.0	-
Patio Home	-	DU	9.3	-
S.F. Detached	-	DU	9.3	-
Park	-	Acres	20.0	-
Convention Facilities ³	-	KSF	6.6	-
TOTAL				26,950

¹KSF = Thousands of gross square feet.

²"Service Commercial" refers to an unspecified mix of service-oriented businesses, such as banks, travel agencies, repair shops, and so forth.

³Includes 25,000 square feet of banquet/meeting facilities.

SOURCE: Trip generation rates were developed in concurrence with the City of Redwood City, and are based upon rates estimated by CALTRANS (District 4) and the Institute of Transportation Engineers.

The air quality impacts are directly proportional to trip generation. Since the trip generation for Alternative B is projected to be 26,950 average daily trips, or approximately 30% of the number generated by the original project, the regional air quality impacts would be reduced accordingly to 30% of what was predicted for the project as proposed. The local air quality impacts would not be reduced to 30%; however, they would be reduced by the same order of magnitude.

Noise associated both with construction (site preparation) and operation of the project would be less for this alternative than for the project as proposed.

- Because no housing would be included in the project the impact of regional noise sources on the development would be lessened. This in turn would reduce the potential for land use conflicts with the San Carlos Airport. Ponds A-9, 10 and 11 would remain in open space and be available for emergency landings. Alternative B would still conflict with the airport's plans to expand their clear zone south on the site.

Buildout for the alternative would probably be accomplished over a much shorter period than the proposed project due to the reduction in the amount of uses that would be developed. In financial analysis of the alternative, annual costs and revenues that would accrue to the City from stabilized operations were examined. The alternative would generate about \$400,000 in annual costs and \$300,000 in annual revenues, for a deficit of \$100,000. The alternative would, however, generate one-time user fees (building permits and plan checks) of about \$700,000. The stabilized deficit of about \$100,000 a year contrasts with a stabilized surplus of about \$250,000 a year for the project. The difference is largely attributable to the absence of high income producing uses -- the hotel and commercial -- from the alternative. If the alternative were reconfigured to include a hotel, it would show a surplus of about \$800,000 a year.

The impact of the alternative on G.I.D. I-64 is difficult to quantify since cost estimates for the alternative are not available. Obviously, costs associated with roadways, water systems, sanitary sewers, parks and reclamation would be much less. Assuming a facilities charge as a means of financing, it may also be anticipated that the need for bonding to cover short term cash flow deficits would be less for the alternative than for the project. It should be noted, however, that even with the project, bond service as a percent of cash value is projected to decline substantially below present level.

Alternative B would generate an estimated 202,173 gallons a day of wastewater (Table 23). Added to the estimated 761,175 gallons per day generated by the Redwood Shores Development, this results in a total of 963,348 gallons a day of wastewater treated at the SBSA Treatment Plant. This figure is well below the 1.3 MGD reserve capacity allocated for the 2 developments. Operating at this 74% capacity would allow some growth of the development while expansion of the SBSA Treatment Plant could take place.

Since the existing "54" Force Main is operating at capacity in wet weather, the developers would still need to construct a new force main directly to the treatment plant. This sewer system would require 3 western pump stations and their associated gravity and force main sewers. The same precautions noted in the impacts section on wastewater for the project (Section IV.L) concerning the design and construction of sewers would hold true under this alternative.

Alternative B would consume smaller amounts of energy during all phases than would the project as proposed (Table 24). Table 24 summarizes the amount of energy consumed for different uses and compares the estimates to those for the project as proposed. Need of services and utilities would be significantly less.

● In terms of population and housing, Alternative B would delete all the residential units proposed in the project. Employment would be increased, though less extensively than in the project; marina, office, and research and development facilities would provide new employment opportunities. The alternative would create approximately 8,305 jobs. Since no housing units would be included in the project the alternative would aggravate the job/housing imbalance in Redwood City and would be in conflict with Redwood City General Plan housing goals.

The marina included in Alternative B would provide a recreational facility, though, without the residences associated with the South Shores development, users of the marina may or may not be Redwood City residents. Other park and public recreational opportunities would be less in terms of planned facilities; however, the lack of development of Ponds A-9, 10, and 11 would leave many more acres of open space for observation and enjoyment.

TABLE 23

Estimated Wastewater Generation
South Shores Limited Development Alternative

Designation	Building Size	# of Employees	Gal/Cap/Day	Estimated Flow gal/day	Comments
Commercial	55,380	276.9	25	6,922.5	@ 200 sq. ft./ employee
Office	952,000	4,760	25	119,000	@ 200 sq. ft./ employee
Research and Development	915,000	3,050	25	76,250	@ 300 sq. ft./ employee
TOTAL				202,173 gal/day	

TABLE 24

Energy Consumption for Alternative B

Land Use	Energy Consumption Alternative B (BTU)	Percentage of Energy Required for Project
Landfill	896 billion	16%
Site Preparation	115 billion	16%
Construction	286 billion	13%
Annual Operation and Maintenance	258 billion	29%
Transportation	382 billion	36%
Annual Energy Consumption	640 billion	33%
<hr/>		
Lifetime Energy Consumption	33,297 billion	31%

Archaeological impacts would be similar to those described for the project.

Growth inducement of the Alternative B plan would be less than that of the project. Options for future use of the undeveloped land would not preclude future development.

C. DEVELOPMENT OF POND A-12 WITH LOW DENSITY URBAN USE OF PONDS A-9, 10, AND 11 (UNSPECIFIED USE).

In this alternative, Pond A-12 would be developed as described for Alternative B, and the areas of Ponds A-9, 10 and 11 would be developed with some unspecified (at this time) low density urban use, such as a golf course or other public facility, or some other permitted use under the present zoning. Site preparation would be similar to that for the proposed project: repair and upgrading of levees around Ponds A-9, 10 and 11, filling of parts of the 3 ponds, construction of roads and bridges, provision of utilities as needed.

The geologic, hydrologic and water quality impacts and mitigation would be similar to those of the project, but with lower intensity of use of Ponds A-9, 10 and 11, there would be less chance of human intrusion into sensitive ecological areas and less potential damage from domestic and human-associated animals than for the project. Mitigation measures suggested for vegetation and wildlife impacts would be similar to those suggested for the project as proposed. Land use, aesthetics, financial and utilities impacts would resemble those described for Alternative B, as would population, housing, and archaeology. Recreational opportunities may be increased, depending upon the nature of the low density urban use specified for the site. Energy requirements for the importation of required fill for Ponds A-9, 10 and 11 would be approximately 4,600 BTU, representing 3 times the amount needed for all phases of construction in Alternative B.

D. MARSH RESTORATION (PUBLIC ACQUISITION)

This alternative would involve restoration of the historic marshland of the project site. Such a restoration project would most likely be preceded by public acquisition of the site. Marsh restoration would be beneficial in terms of geology, hydrology, air and water quality, vegetation and wildlife, traffic, energy conservation, noise, and aesthetic impacts. It would not contribute to housing supply, or employment opportunities in the long term, nor would it draw extensively on public services. Recreational opportunities would be provided by the special natural area created by the restoration project.

Restoration of the project area to its former natural character, salt marsh tidelands, could serve as a study ground for investigating the processes and mechanisms by which the dynamic wetland ecosystem evolves. If levees were opened and the ponds flooded, planted and allowed to restabilize, a complex set of geologic, hydrologic and biological factors would interact to evolve a natural marsh tideland. The area would continue to be affected by both the upland watershed hydrologic system and the tides.

Marsh restoration would have the long term and cumulative effect of alleviating the irreversible destruction of these wetlands. In general, the natural values of coastal/bay wetlands are as follows: shoreline buffers to reduce impacts of storm tides and waves, natural filters to absorb pollutants, areas to absorb floodwater, a source of nutrients for the coastal ecosystem and important wildlife habitats, especially for migratory birds.¹ The current total acreage of coastal and estuarine area in California is 125,000, compared to 381,000 acres in 1900. It follows that "for California, management is not a matter of wise husbanding of a large and exploitable resource. . . rather, it is matter of preserving or restoring and maintaining a very meager and severely threatened resource."²

The financial feasibility of marsh restoration has not been studied for this project site. However, the physical and biological capacity for restoration of at least some of the ponds as they presently exist could probably be accomplished successfully.

To accurately determine the potential for successful salt marsh restoration, detailed elevation surveys and chemical analysis of the pond bottoms would have to be performed. Generally, the lower the salinity and more neutral the pH of an area, the more easily it would revert to salt marsh once exposed to tidal action. The land surface elevations with respect to the tide elevations are significant as this determines the degree of inundation under tidal influence. Marsh plants generally can grow from tidal elevations between

¹R. Pestrong, "San Francisco Bay Tidelands", California Geology, February, 1972; California Coastal Wetlands, California Sea Grant College Program No. 69, Report Series No. 2.

²C.P. Onuf, et al., An Analysis of the Values of Central and Southern Coastal Wetlands. Paper presented at the American Water Resources Association National Symposium on Wetlands, Lake Buena Vista, Florida, November, 1978.

about 3+ feet above mean high water (MHW) down to 2+ feet above mean lower low water (MLLW).¹

The precise land surface elevation of the salt ponds would determine the amount of regrading or substrate modification needed to produce an area of optimal height with respect to the specific requirements of the marsh plants desired. For example, a cordgrass-dominated marsh requires lower surface elevations and longer submergence periods than does a pickleweed-dominated marsh.

The amount of substrate treatment required greatly influences the cost per acre of restoration. Some subsidence may have taken place during the years of solar evaporation pond operation. The historic network of sloughs are still evident, however, which indicates that if land surface elevations are acceptable for plant growth, adequate drainage would still exist.

Because of the different levels of salinity in the ponds, the outer island ponds have greatest potential for restoration, and the innermost pond, A-12, has least potential. In an earlier study, bottom substrate was tested in the ponds on Bair Island.² Salinity was high, over 5%, indicating that the area is presently marginal for the establishment of pickleweed, which can tolerate up to 6% salinity. The study concluded, however, that the introduction of bay water would flush the substrate sufficiently to reduce salinity in a short time.

Although there are no comparable data on Ponds A-9, 10, and 11, salinity levels can be expected to be higher than those of Ponds B-2 and 3 on Bair Island because of the higher salinity of water contained in them during operation.³ Flushing could probably reduce the salinity of these ponds to a level acceptable to plant growth. Quantitative data are needed, however, before this could be stated with certainty.

¹H.T. Harvey, M.J. Kutilele and K. Diuittoria, Determination of Transition Zone Limits in Coastal California Wetlands, U.S. Environmental Protection Agency, 1978.

²California State Lands Commission, Bair Island Environmental Study, December, 1977.

³According to the Leslie Salt Company, the ponds of outer Bair Island received bay water which evaporated to produce water of up to 20% saturation with salts. This water was then transported to the ponds on inner Bair Island, Ponds A-9, 10 and 11, where the salinity increased to 40 to 60% saturation. This water was then transferred to Pond A-12 where salinity reached 70% saturation. The brine was transferred across Redwood Creek to be processed further at the Leslie Salt facility. Guy Wilkens, Chief Engineer of Leslie Salt Company, personal communication, December 2, 1980.

VII. EIR AUTHORS AND PERSONS CONSULTED

A. ENVIRONMENTAL IMPACT PLANNING CORPORATION PROJECT STAFF

Project Manager, Dr. Susan Gordon
Deputy Project Manager, Bruce Stein

Project Team

Rob Fruchtman, Editor
Marilyn Brown, Senior Planner
Susan Gordon, Ph.D., Senior Biologist
Bruce Stein, Biologist
David Lusby, Environmental Analyst
Stu During, Planner
Art Sullivan, Planner
Ted Adams, Landscape Architect
Don Ballanti, Air Quality Meteorologist
Judith Wait, Geologist
Mary Jo Doyle, Graphics
Chris Wafer, Graphics
Michael Dunham, Production
Oralean Genochio, Word Processing
Annette Franks, Word Processing

B. SUBCONSULTANTS

Wilbur Smith & Associates, Traffic Consultants

Bill Hurrell
Steven Coleman
Gerard C. Drake

Parsons Brinckerhoff Quade and Douglas, Inc., Engineering

Douglas Slakey

Richard Meighan

Thomas Mesetz

K.K. See-Tho

Waste and Water International

Akhtar Hamid

Keyser Marston Associates, Inc., Land Use Economics

Robert Wetmore

C. PERSONS CONSULTED

Frank Addiego, Director, Department of Public Works, City of Redwood City

James Aveggio, Supervisor, BFI, Inc.

Jim Bewley, Manager, South Bayside System Authority Treatment Plant

George Bold, Chief of Police, City of Redwood City

Ted Chandik, Chief Interpretive Ranger, Palo Alto Baylands Reserve

Rod Chisholm, Chief, Management and Services Section, Army Corps of Engineers

J.M. Cooper, California Archaeological Site Survey, Central Coast Counties

William Davidson, Battalion Chief, Fire Department, City of Redwood City

Kent Dedrich, State Lands Commission

Jack FERENCE, Director of Finance, City of Redwood City

Chuck Gould, Assistant Superintendent, Redwood City Elementary School District

Dr. Grunman, Director of Research and Data Processing, Sequoia Union High School District

Thomas E. Harvey, Biologist

Bob Hinkman, BCDC

Eugene Masciarelli, Project Coordinator, Redwood Shores, Inc., South Shores, Inc.

Jan Nachlinger, Botany Research Associate, California Natural
Diversity Data Base

Joel Patterson, Planner, City of Redwood City

Michael Rigney, Research Associate, South Bay Institute for
Avian Studies

Howard Shellhammer, Professor, San Jose State University

Walton Smith, Department of Fish and Game

Rod Stewart, Senior Accountant, City of Redwood City

Carl Thelander, Biosystems Analysts Inc.

Keith Thomas, South Shores Inc. and Redwood Shores Inc.

Claude Turner, Superintendent, Belmont Elementary School
District

Brian Walton, University of California, Santa Cruz

Guy Wilkens, Chief Engineer, Leslie Salt Company

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APPENDIX A

Initial Study

REDWOOD CITY INITIAL STUDY

EIR NO. 80-05

ENVIRONMENTAL IMPACTS

	Yes	No	Source
1. EARTH. Will the proposal result in:			
a. Unstable earth conditions or in changes in geologic substructure?	<u>X</u>	<u> </u>	<u>A, M</u>
b. Disruptions, displacements, compaction or overcovering of the soil?	<u>X</u>	<u> </u>	<u>H</u>
c. Change in topography or ground surface relief features?	<u>X</u>	<u> </u>	<u>H</u>
d. The destruction, covering or modification of any unique geologic or physical features?	<u>X</u>	<u> </u>	<u>A</u>
e. Any increase in wind or water erosion of soils, either on or off the site?	<u>X</u>	<u> </u>	<u>A, H</u>
f. 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?	<u>X</u>	<u> </u>	<u>H</u>
g. Exposure of people or property to geologic hazards such as earthquakes, landslides, mudslides, ground failure, or similar hazards?	<u>X</u>	<u> </u>	<u>A, M</u>
2. AIR. Will the proposal result in:			
a. Substantial air emissions or deterioration of ambient air quality?	<u>X</u>	<u> </u>	<u>H</u>
b. The creation of objectionable odors?	<u> </u>	<u>X</u>	<u>H, M</u>
c. Alteration of air movement, moisture or temperature, or any change in climate, either locally or regionally?	<u>X</u>	<u> </u>	<u>H, M</u>
3. WATER. Will the proposal result in:			
a. Changes in currents, or the course or direction of water movements, in either marine or fresh water?	<u>X</u>	<u> </u>	<u>H</u>
b. Changes in absorption rates, drainage patterns or the rate and amount of surface water runoff?	<u>X</u>	<u> </u>	<u>H</u>
c. Alterations to the course or flow of flood waters?	<u>X</u>	<u> </u>	<u>A, H</u>
d. Change in the amount of surface water in any water body?	<u>X</u>	<u> </u>	<u>H</u>

	Yes	No	Source
e. Discharge into surface waters, or in any alteration of surface water quality, including but not limited to temperature, dissolved oxygen or turbidity?	<u>X</u>	<u> </u>	<u>H</u>
f. Alteration of the direction or rate of flow of ground waters?	<u>X</u>	<u> </u>	<u>H</u>
g. Change in the quantity of ground waters, either through direct additions or withdrawals, or through interception of an aquifer by cuts or excavations?	<u>X</u>	<u> </u>	<u>H</u>
h. Substantial reduction in the amount of water otherwise available for public water supplies?	<u>X</u>	<u> </u>	<u>H, M</u>
i. Exposure of people or property to water related hazards such as flooding or tidal waves?	<u>X</u>	<u> </u>	<u>J</u>
4. PLANT LIFE. Will the proposal result in:			
a. Change in the diversity of species, or number of any species of plants (including trees, shrubs, grass, crops, microflora and aquatic plants)?	<u>X</u>	<u> </u>	<u>A, M</u>
b. Reduction of the numbers of any unique, rare or endangered species of plants?	<u>X</u>	<u> </u>	<u>A, M</u>
c. Introduction of new species of plants into an area, or in a barrier to the normal replenishment of existing species?	<u>X</u>	<u> </u>	<u>H</u>
d. Reduction in acreage of any agricultural crop?	<u> </u>	<u>X</u>	<u>A</u>
5. ANIMAL LIFE. Will the proposal result in:			
a. Change in the diversity of species, or numbers of any species of animals (birds, land animals including reptiles, fish and shellfish, benthic organisms, insects or microfauna)?	<u>X</u>	<u> </u>	<u>A, M</u>
b. Reduction of the numbers of any unique, or rare or endangered species of animals?	<u>X</u>	<u> </u>	<u>A, M</u>
c. Introduction of new species of animals into an area, or result in a barrier to the migration or movement of animals?	<u>X</u>	<u> </u>	<u>H</u>
d. Deterioration to existing fish or wildlife habitat?	<u>X</u>	<u> </u>	<u>H</u>
6. NOISE. Will the proposal result in:			
a. Increases in existing noise levels?	<u>X</u>	<u> </u>	<u>M</u>
b. Exposure of people to severe noise levels?	<u> </u>	<u>X</u>	<u>A, H</u>

	Yes	No	Source
7. LIGHT AND GLARE. Will the proposal produce new light or glare?	<u> </u>	<u> X </u>	<u> H </u>
8. LAND USE. Will the proposal result in a substantial alteration of the present or planned land use of an area?	<u> X </u>	<u> </u>	<u> H, B </u>
9. NATURAL RESOURCES. Will the proposal result in:			
a. Increase in the rate of use of any natural resources?	<u> X </u>	<u> </u>	<u> H </u>
b. Substantial depletion of any non-renewable natural resource?	<u> X </u>	<u> </u>	<u> H </u>
10. RISK OF UPSET. Does the proposal involve 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?	<u> </u>	<u> X </u>	<u> H </u>
11. POPULATION. Will the proposal alter the location, distribution, density, or growth rate of the human population of an area?	<u> X </u>	<u> </u>	<u> H </u>
12. HOUSING. Will the proposal affect existing housing, or create a demand for additional housing?	<u> X </u>	<u> </u>	<u> H </u>
13. TRANSPORTATION/CIRCULATION. Will the proposal result in:			
a. Generation of substantial additional vehicular movement?	<u> X </u>	<u> </u>	<u> A, H </u>
b. Effects on existing parking facilities, or demand for new parking?	<u> X </u>	<u> </u>	<u> H </u>
c. Substantial impact upon existing transportation systems?	<u> X </u>	<u> </u>	<u> A, H </u>
d. Alterations to present patterns of circulation or movement of people and/or goods?	<u> X </u>	<u> </u>	<u> A, H </u>
e. Alterations to waterborne, rail or <u>air traffic</u> ?	<u> </u>	<u> X </u>	<u> H </u>
f. Increase in traffic hazards to motor vehicles, bicyclists or pedestrians?	<u> X </u>	<u> </u>	<u> A, M </u>
14. 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:			
a. Fire Protection?	<u> X </u>	<u> </u>	<u> M </u>
b. Police Protection?	<u> X </u>	<u> </u>	<u> M </u>
c. Schools?	<u> X </u>	<u> </u>	<u> M </u>
d. Parks or other recreational facilities?	<u> X </u>	<u> </u>	<u> M </u>

	Yes	No	Source
e. Maintenance of public facilities, including roads?	<u>X</u>	<u> </u>	<u>H, M</u>
f. Other governmental services? <u>GID 1-64</u>	<u>X</u>	<u> </u>	<u>M</u>
15. ENERGY. Will the proposal result in:			
a. Use of substantial amounts of fuel or energy?	<u>X</u>	<u> </u>	<u>H, M</u>
b. Substantial increase in demand upon existing sources of energy, or require the development of new sources of energy?	<u>X</u>	<u> </u>	<u>H, M</u>
16. UTILITIES. Will the proposal result in a need for new systems, or substantial alterations to the following utilities:			
a. Power or natural gas?	<u>X</u>	<u> </u>	<u>H</u>
b. Communications systems?	<u>X</u>	<u> </u>	<u>H</u>
c. Water?	<u>X</u>	<u> </u>	<u>H</u>
d. Sewer or septic tanks?	<u>X</u>	<u> </u>	<u>H</u>
e. Storm water drainage?	<u>X</u>	<u> </u>	<u>H</u>
f. Solid waste and disposal?	<u>X</u>	<u> </u>	<u>H</u>
17. HUMAN HEALTH. Will the proposal result in:			
a. Creation of any health hazard or potential health hazard (excluding mental health)?	<u> </u>	<u>X</u>	<u>M</u>
b. Exposure of people to potential health hazards?	<u> </u>	<u>X</u>	<u>M</u>
18. AESTHETICS. Will the proposal result in 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?	<u>X</u>	<u> </u>	<u>H</u>
19. RECREATION. Will the proposal result in an impact upon the quality or quantity of existing recreational opportunities?	<u>X</u>	<u> </u>	<u>H</u>
20. ARCHAEOLOGICAL/HISTORICAL. Will the proposal result in an alteration of a significant archaeological or historical site, structure, object or building?	<u> </u>	<u>X</u>	<u>A</u>

MANDATORY FINDINGS OF SIGNIFICANCE

- Does the project have the potential to degrade the the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a

Yes No

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?

X _____

2. Does the project have the potential to achieve short-term, to the disadvantage of long-term environmental goals? (A short-term impact on the environment is one which occurs in a relatively brief, definitive period of time while long-term impacts will endure well into the future.)

X _____

3. Does the project have impacts which are individually limited, but cumulatively considerable? (A project may impact on two or more separate resources where the impact on each resource is relatively small, but where the effect of the total of those impacts on the environment is significant.)

X _____

4. Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?

X _____

5. Does the project have the potential to be controversial?

X _____

DISCUSSION OF ENVIRONMENTAL EVALUATION

All items which are checked "Yes" may be an impact on the area or Redwood City. If there is a possibility that an item may cause an impact, it has been checked so that it can be investigated further in the EIR to determine if there is an impact and what its effects will be.

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 March 4, 1980

W. Blannett
Signature
Blannett
Title

SOURCES

- A. Field Inspection
- B. City General Plan and Zoning
- C. USGS Basic Data Contribution #43 - Landslide susceptibility
- D. USGS Basic Data Contribution #44 - Active Faults
- E. USGS Basic Data Contribution #50 - High Water Table
- F. USGS Quadrangle Maps - San Mateo County 1970 Series
- G. San Mateo County Rare and Endangered Species Maps
- H. Project Plans
- I. Environmental Standards
 - Federal -
 - Water Quality Standards 40 CFR 120
 - Low-Noise Emission Standards 40 CFR 203
 - General Effluent Guidelines & Standards 40 CFR 401
 - National Primary & Secondary Ambient Air Quality Standards 40 CFR 50
 - State -
 - Ambient Air Quality Standards
 - Noise Levels for Construction Equipment
- J. Composite Flood Hazard Areas - HUD National Flood Insurance Program
- K. City Fire Department
- L. Airport Land Use Committee Plans
- M. Experience with other projects of this size and nature
- N. Aerial Photography - Real Estate Data, Inc. 5-75
- O. Williamson Act Maps
- P. Soils Report
- Q. Bay Area Air Pollution Control District Air Pollution Isopleth Maps
- R. California Natural Areas Coordinating Council Maps

APPENDIX B

Responses to Comments Received on the Draft EIR

INDEX TO COMMENTS AND RESPONSES

Letters Received	Comments
Redwood Mechanical 1590 Tacoma Way Redwood City, CA 94063 (F.C. Purcell, Jr.)	1, 2
Fireside Thrift 401 Warren Street Redwood City, CA 94063 (R.S. Waligore)	3
Building Industry Association 6379 Clark Avenue Dublin, CA 94566 (Gary W. Hambly)	4
Redwood Shores, Inc. 350 Marine World Parkway Redwood City, CA 94065 (Eugene Masciarelli)	5 - 37
Barton-Aschman Associates, Inc. Suite 320, 4320 Stevens Creek Boulevard San Jose, CA 95129	38, 39
Santa Clara Valley Audubon Society, Inc. H-29 Koshland Way Santa Cruz, CA 95064 (Carol Anderson)	40
Recht Hausrath and Associates 155 Bovet Road San Mateo, CA 94402 (J. Richard Recht)	41 - 44
Peninsula Conservation Center 2253 Park Boulevard Menlo Park, CA 94025	45, 46
San Francisco Bay Conservation and Development Commission 30 Van Ness Avenue San Francisco, CA 94102 (Robert B. Hickman)	47 - 61

Letters Received	Comments
Bay Area Council, Inc. 248 World Trade Center San Francisco, CA 94111 (Thomas O. Merle)	62
Redwood Shores, Inc. 350 Marine World Parkway Redwood City, CA 94065 (Don Warren)	63
Industrial Realty Company 650 Bair Island Road, Suite 205 Redwood City, CA 94063 (W.C. Ersted)	64
Sierra Club, Peninsula Regional Group 399 Menlo Oaks Menlo Park, CA 94025 (Isabell Sewell)	65 - 68
Building Industry Association 2121 S. El Camino Real #307 San Mateo, CA 94403 (Joe Stevenson)	69
San Mateo County Development Association, Inc. 4 West Fourth Avenue San Mateo, CA 94402 (Henry Bostwick, Jr.)	70
State of California Department of Transportation P.O. Box 3366, Rincon Annex San Francisco, CA 94119 (R.W. Sieker)	71
County of San Mateo Department of Environmental Management County Government Center Redwood City, CA 94063 (William Rozar)	72 - 94
County of San Mateo Department of Environmental Management County Government Center Redwood City, CA 94063 (Mark Nelson)	95, 96
Peninsula Conservation Center 2253 Park Boulevard Palo Alto, CA 94306 (Malika Kopell)	97 - 102

Letters Received	Comments
Larry Seeman Associates, Inc. 2927 Newbury Street, Suite C Berkeley, CA 94703 (Malcolm J. Sproul)	103 - 122
Santa Clara Valley Audobon Society, Inc. H-29 Koshland Way UCSC, Santa Cruz, CA 95064 (Carol Anderson)	123 - 127
Predatory Bird Research Group 231 Clark Kerr Hall Santa Cruz, CA 95064 (Brian James Walton)	128
County of San Mateo Inter-Departmental Correspondence (S.H. Cantwell to David Hale)	129 - 132
Legal Aid Society of San Mateo County 2221 Broadway Redwood City, CA 94063 (Don Bryant)	133 - 136
Department of the Army Corps of Engineers 211 Main Street San Francisco, CA 94105 (Barry Opton)	137 - 140
ABAG Hotel Claremont Berkeley, CA 94705 (Michael Visconti)	141 - 143
PROBE Community Development Center 2615 Fair Oaks Avenue Redwood City, CA 94063 (Clifford M. Boxley)	144
ABAG Regional Airport Planning Committee Hotel Claremont Berkeley, CA 94705 (Chris Brittle, Gordon Jacoby)	145 - 149
O'Brien and Hicks, Inc. 2483 E. Bayshore Road, Suite 102 Palo Alto, CA 94303 (Dennis O'Brien)	150, 151

Letters Received	Comments
Redwood Shores Homeowners Association P.O. Box 1107 Belmont, CA 94002 (Gregg Doran)	152 - 154
Department of Transportation P.O. Box 3366, Rincon Annex San Francisco, CA 94119 (R. W. Sieker)	155 - 163
State of California Office of Planning Research 1400 Tenth Street Sacramento, CA 95814 (Anna Polvos, Stephen Williamson)	164 - 171
Growth Policy Council of San Mateo 2121 S. El Camino Real, Suite 603 San Mateo, CA 94403 (Thomas J. Nolan)	172 - 174
Hughes Plastics Co., Inc. 2501 Spring Street Redwood City, CA 94063 (P.I. Hughes)	175
Department of Transportation P.O. Box 92007, Worldway Postal Center Los Angeles, CA 90009 (Yvonne Gibson)	176 - 178
Petition from Citizens of Redwood City	179, 180
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City of Belmont 1365 Fifth Avenue Belmont, CA 94002 (Adel Nepomuceno)	182
League of Women Voters of South San Mateo County The Gatehouse 555 Ravenswood Avenue Menlo Park, CA 94025 (E. Kitamura, K. Mahany, M. Clark)	183 - 187
Committee for Green Foothills Peninsula Conservation Center 2253 Park Blvd. Palo Alto, CA 94306 (H. Wilshire)	188 - 206

Letters Received	Comments
<p>Midpeninsula Regional Open Space District 375 Distel Circle, Suite D-1 Los Altos, CA 94022 (H. Grench)</p>	207, 208
<p>Redwood Shores, Inc. 350 Marine World Parkway Redwood City, CA 94065 (Eugene F. Masciarelli)</p>	209
<p>U.S. Fish and Wildlife Service Division of Ecological Services 280 Cottage Way, Room E-2727 Sacramento, CA 95825 (James J. McKeivitt)</p>	210 - 215
<p>City of San Carlos Planning Commission 666 Elm Street San Carlos, CA 94070 (Neal J. Martin)</p>	216 - 219
<p>Bay Area Air Quality Management District 939 Ellis Street San Francisco, CA 94109 (Milton Feldstein)</p>	220
<p>SamTrans 400 S. El Camino Real San Mateo, CA 94402 (Lawrence W. Stueck)</p>	221
<p>Housing and Human Concerns Committee Office of the City Manager Redwood City, CA 94064 (James M. Smith)</p>	222, 223
<p>County of San Mateo Aviation Committee, Inc. P.O. Box 661 Redwood City, CA 94064 (Jay C. White)</p>	224 - 228



(415) 365-5095

GENERAL & MECHANICAL CONTRACTORS

California License No. 53431 — 8-1; C 4, 20, 36, 42, 43, 44

1590 TACOMA WAY—P.O. BOX 5128

REDWOOD CITY, CALIFORNIA 94063

May 15, 1981

Planning Commission
c/o Planning Department
City Hall
1017 Middlefield Road
Redwood City, CA 94063

Dear Planning Commissioners:

The Environmental Impact Report on the South Shores Concept Plan is a lengthy document that evaluates some issues in considerable detail. In the project description under "Relationship to Local and Regional Plans" most plans are discussed extensively if the issues are preservation of the site for wildlife. The discussions of residential and employment development goals of the Redwood City General Plan are both reduced to two sentences. We believe this is very inadequate for issues of such importance to the community and impact on the overall environment.

1 Recent legislation has amended the Government Code and State Environmental Quality Act to include the goal of a decent home and environment for every Californian. Therefore, we believe the discussion of the impact of the South Shores Project on the housing supply and achieving the City's employment goals should be more comprehensively discussed. A decent home and environment for all residents of Redwood City will not be enhanced by the project alternatives suggested in this E.I.R. Enhancing the site for wildlife habitat as repeatedly advocated in this E.I.R. will divert resources that would otherwise be invested in housing or employment development.

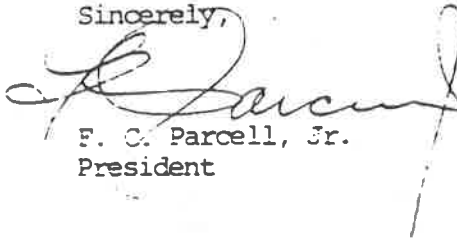
2 Redwood City has had recent experience with declining industries. The need to encourage new employment opportunities to take up the excess capacity and employees of declining industries was apparently not considered important by the preparer of this report. The notion that the decline of a major employer can be quickly offset by encouraging growth of alternative industries should be set in an historical perspective (i.e. the 40 years that were required for the electronics industry to reach the present level of concentration). A healthy economic base is necessary for a healthy program of environmental management and preservation. This project has already transferred to the State for wildlife refuge use, over 44% of the original land area. Another

Planning Commission
May 15, 1981
Page Two

portion of the site of over 600 acres is not included in this proposed project. Therefore, only 39% or 1,095 of the original 2,752 acres is proposed for development. We believe these figures put this project into proper perspective for the reader and should be included in the final E.I.R. document.

Thank you for this opportunity for the Business Community to comment on this document.

Sincerely,

A handwritten signature in cursive script, appearing to read "F. C. Parcell, Jr.", written in dark ink. The signature is fluid and somewhat stylized, with a long, sweeping tail on the final letter.

F. C. Parcell, Jr.
President

FCP:rb

FIRESIDE Thrift

EXECUTIVE OFFICES • 401 WARREN STREET • REDWOOD CITY, CALIFORNIA 94063 • (415) 365-1050

May 18, 1981

ROBERT S. WALIGORE
Senior Vice President

Planning Commissioner
c/o Planning Department
City Hall - 1017 Middlefield Rd.
Redwood City, CA 94063

Dear Planning Commissioner:

3 As a businessman interested in balanced growth for our community, I have reviewed the E.I.R. on the South Shores Concept Plan. It appears to me that consideration of employment opportunity has been largely overlooked.

I believe that a healthy economic base and decent housing, as well as a balanced environment, are important to all residents of Redwood City. We certainly need to encourage new employment opportunities to offset the declines of recent years. This reduction cannot be offset quickly by growth of the remaining industries, so we must encourage alternatives to take up the excess capacity.

Please consider expanded comments of the impact on employment which appear to be necessary and important to this Plan.

Sincerely,

Robert S. Waligore
R. S. WALIGORE
Senior Vice President

RECEIVED

RSW:CHR

MAY 19 1981



HEADQUARTERS
BUILDING INDUSTRY ASSOCIATION

6379 CLARK AVENUE, DUBLIN, CA 94566
(415) 828-9230

May 14, 1981

Redwood City Planning Commission
City of Redwood City
1017 Middlefield Road
Redwood City, California 94065

RE: Draft EIR South Shores Concept Plan

Dear Planning Commissioners:

In the context of severe housing supply and cost problems which threaten the quality of life and economic vitality of the Bay Area, there exists an obvious need for innovative development patterns.

New projects need to meet the major objectives of both city's and regional plans to provide for both economic and housing opportunities. In an area such as San Mateo County where few remaining parcels of land suitable for development are available, a "mixed use" project allows for sensible "in-fill" growth which is being vigorously advocated for by both environmental proponents and development interests.

We must work toward bringing a closer balance between job creation and the provision of housing. If the issue of affordability is to be seriously considered, efforts should be made to provide more dwelling units as opposed to limiting the number of jobs created.

4 If the housing/jobs question is not resolved, the Bay Area cannot expect to maintain its current economic and social well being. Already there is a large segment of the population being priced out of the housing market. This will result in a dwindling labor market as low and middle-income families leave the region.

If housing supply is not allowed to keep up with demand, cities may feel compelled to conclude that restrictions on job expansion must be imposed. Yet, without these new jobs, current residents

REGIONAL OFFICES:	WEST BAY (415) 574-5705 San Mateo	SOUTHERN (408) 243-5889 Santa Clara	EASTERN (415) 444-8711 • (415) 932-8884 Walnut Creek	NORTHERN (707) 664-8150 Rohnert Park
-------------------	---	---	--	--

AFFILIATED WITH NATIONAL ASSOCIATION OF HOME BUILDERS AND CALIFORNIA BUILDING INDUSTRY ASSOCIATION

of the Bay Area will not be able to find work, current businesses will not be allowed to expand and new firms will not locate in the area - the net result - economic and social decline.

This process can be averted by intelligent and innovative land use planning - planning that is the result of cooperative efforts between local governments and builder/developers.

It is clear that the well conceived development project of the future will have to address both sides of the development equation if economic and social vitality is to be retained. The region must continue to create job opportunities for all segments of our quickly maturing population. As people begin to reach the home seeking age of 25 to 34 in ever-increasing numbers, efforts must be made to provide affordable housing opportunities. This goal can be achieved in "mixed-use" developments. Cities could assist in the effort to provide affordable housing by:

- 1) Providing more land for residential development.
- 2) Increasing densities.
- 3) Allowing selective bonuses for the provision of moderately priced units.
- 4) Addressing service constraints that limit home construction..
- 5) Weighing the benefits of mitigation measures with the impact those measures may have on the ability of the home builder to eventually provide an affordable product.

Innovative "mixed use" developments have the potential to enhance the lives of people at a very minimal expense to the environment.

Sincerely,



Gary W. Hamblly
Governmental Affairs Director

GWH:dm

Redwood Shores, Inc.

REDWOOD CITY CALIFORNIA 94063
TELEPHONE 415 322-4170

May 19, 1981

City Planning Commission
City Planning Department
1017 Middlefield Road
Redwood City, CA 94063

RE: SOUTH SHORES E.I.R.

Honorable Planning Commission and Staff:

For some time the goals of certain interests have been emphasized over those of others in the Environmental Quality Act. Chapter 1 section 21,000 (g) (amended chapter 947, Statutes of 1979) "to give major consideration to preventing environmental damage, while providing a decent home and satisfying living environment for every Californian."

Section 21,000d (amended chap. 947) "to ensue the long-term protection of the environment, consistent with the provision of a decent home and suitable living environment for every Californian, shall be the guiding criterion in public decisions."

Section 21,002 (amended: Chapter 676 Statutes of 1980) "The Legislature further finds and declares that in the event specific economic, social, or other conditions make infeasible such project alternatives or such mitigation, individual projects may be approved in spite of one or more significant effects thereof."

Section 21,002.1 c (Amended Chap. 1200 Statutes of 1977). In the event that economic, social or other conditions make it infeasible to mitigate one or more significant effects of a project on the environment, such project may nonetheless be approved or carried out at the discretion of a public agency provided the project is otherwise permissible under applicable laws and regulations.

The competition for urban land has increased as more land in cities is set aside for non urban uses. The distribution of real wealth in the form of housing or land becomes more unequal as the less influential persons are displaced ...until the balance is restored by

revolution, war or more legislation. This is a re-occurring cycle as old as human history.

The overall emphasis in this E.I.R. reflects this competition for land more than concern for the impacts of the proposed project on the environment. Some specific comments on this E.I.R. include:

- 5** 1) Page 7 - clarify that statement at top of page refers to diked dry salt ponds.
- 6** 2) Under "land use" on page 8 point out that this site is unique for development because alternative sites of comparable size in cities willing to accept more development do not exist in the west bay area.
- 7** 3) Page 11 - Interstate 4?
- 8** 4) Page 23 - the footnote describes the city has determined the name Bair Island applies to a geographical area of a certain size. Was this a policy decision, please explain.
- 9** 5) Figure 5 following page 28 - this figure is difficult to read. The project sponsor has provided a more readable map. Could it be included to improve clarity.
- 10** 6) Page 33 - is there any reason the Waterfront Plan was not used as a source document.
- 11** 7) Page 34 - is there any reason why the 1978 ABAG Regional Plan was referenced instead of the more current 1980 ABAG Regional Plan.
- 12** 8) Page 40 - the residential and employment development elements of the Redwood City general plan are dismissed with only a sentence. The open space, conservation elements each require almost a page each. Are the City's goals for residential and employment development so comparatively unimportant?
- 13** 9) Page 42 - second line from bottom, there is no auto park in our plan.
- 14** 10) Page 55 - does the fourth paragraph allude to an existing pollution problem? unclear
- 15** 11) Page 56 - next to last paragraph - add "that some factors could be concluded by examining the existing lagoon discharge as we suggested to the consultant at the beginning of the study."

- 16** 12) Page 58 - last paragraph - add acre figures to the six habitat types to bring the relative amounts into perspective.
- 17** 13) Figure 6 following page 62 - note that designation of Bair Island is only on the area north of Corkscrew Slough.
- 18** 14) Page 66 - after second paragraph add "If the levees were breached they would erode away this important habitat."
- 19** 15) Page 67 - after paragraph 2 add "If the levees disappeared through erosion this species would become even more endangered."
- 20** 16) Page 70 - after paragraph 2 - add "the State has returned the area to tidal action which must have displaced nesting least terns."
- 21** 17) Page 74 - how relevant is last paragraph
- 22** 18) Page 75 - first paragraph - unsupported eliminate
- 23** 19) Page 76 - second paragraph add the marina would add salt marsh habitat.
- 24** 20) Page 78 - after paragraph 2, add this sedimentation will take place without the project.
- 25** 21) Page 79 - After 2nd sentence add - "as would breaching the levees" After first sentence in third paragraph add - "Only a 400 foot channel from the Marina to Redwood Creek is proposed."
- 26** 22) Page 80 - third paragraph is irrelevant. Why discuss impacts of developments that are not proposed...it only adds to the length of the document.
Fourth paragraph - add "this has not occurred in the existing Redwood Shores Lagoon in 12 years. "
- 27** 23) Page 82 - add to end of first paragraph - "two of the endangered species using the site would be displaced."
- 28** 24) Page 83 - first line of paragraph 2 - has this been a problem on Bird Island which is just as close to urbanized Redwood Peninsula ?
- 29** 25) Page 84 - first paragraph - LBID comm #24 above.
last paragraph - Coyotes here?

- 30** 26) Page 86 - Second paragraph, eliminate second sentence, not part of this proposal.
- 31** 27) Page 87 - fourth paragraph - clarify that the 940 acres of restorable marsh land is presently dry salt pond.
- 32** 28) Page 88 - paragraph 2 indicates no least tern nesting sites would be inundated. Does this mean that least terns only nest on those portions of the site proposed for development.
- 33** 29) Page 90 - first paragraph we repeat no dredging of Corkscrew Slough is proposed.

third paragraph last line, if that is the case, please comment here on the implementation plan of a systematic approach that puts our project site into the perspective of its importance (ranking) in the entire bay ecosystem proposed for preservation. This would be of considerable help to the reader in making an informed judgement.

- 34** 30) Page 94 - second paragraph, in our comments on the preliminary draft we suggested that acre figures for all the land transferred to the State for wildlife habitat be enumerated. The response in the final draft was to eliminate all acre figures. Is it not useful information for the reader to know that the project sponsor has already transferred to the State 1210 acres or 44% of the original 2752 acres. Does this not put any new demands for mitigation into perspective?

- 35** 31) Page 96 - the mitigation section on land use mentions the need to balance demand for developable land against environmental protection. Throughout this report the importance of the site for wildlife habitat is evaluated in considerable detail. The importance of this particular site for urban development is not even mentioned. Alternative sites for the proposed project are not discussed because there are no similarly sized sites in San Mateo County located in cities that would accept or approve such a large development. The urban services are not as readily available at other locations. There are however over 40,000 acres of Salt Ponds around San Francisco Bay that provide wildlife habitat in either their present or restored state.

There are not 40,000 other acres from which to select a site for development proposed in the South Shores Concept Plan. These

practical aspects of the importance of this site for development should be added as information to this E.I.R.

We conclude that the Vegetation and Wildlife section overall is unbalanced and will have further comments.

36 32) Page 102-141 - Traffic & Transportation - most comments on this section will be provided by our consulting traffic engineer. As a general comment we believe the impact of our proposed mixed use development and mitigation measures in reducing the growth of traffic have been underestimated.

37 33) Pages 187 - 200 - "Alternatives to the proposed project " section should discuss the availability of other sites for the land uses displaced in each of the recommended alternative plans.

34) Appendices - comments on these technical reports will be made subsequently by others

In conclusion some points to consider about the South Shores Development include:

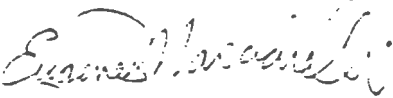
- A) It will not displace existing homes or business as would a redevelopment project.
- B) It is an infill project that would make maximum use of existing urban services and require fewer new facilities than a site on the urban fringe.
- C) It does include a mix of homes, employment and community services which can reduce vehicle trips because it will encourage service by mass transit.
- D) The project is consistent with the policy objective to increase the housing supply in the 1980 ABAG Regional Plan.
- E) A large project which can increase the city's existing housing supply by 17% will help to reduce the upward pressure on housing prices. Remember that most employment developments proposed today include no housing.

City Planning Commission
May 19, 1981
Page 6

We believe the above comments are important and should be addressed.
If there is a better location for them than the precise location
suggested I hope we can discuss it.

Thank you for this opportunity to comment on the South Shores E.I.R.

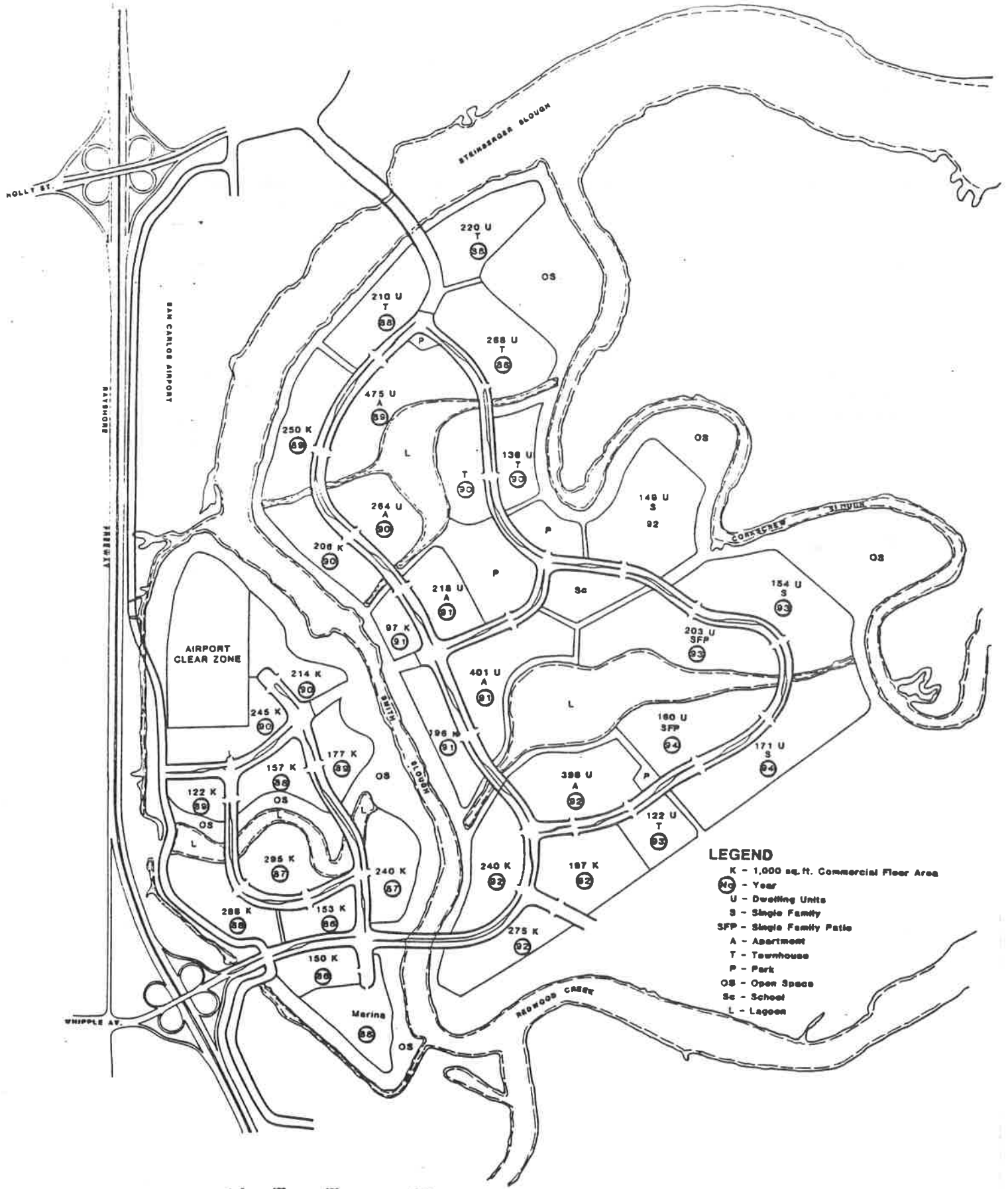
Sincerely,



Eugene F. Masciarelli
Project Coordinator

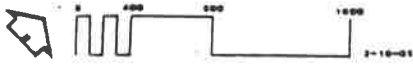
cc: South Shores Task Force
File 100.010

GM:lf



LEGEND

- K - 1,000 sq. ft. Commercial Floor Area
- (N) - Year
- U - Dwelling Units
- S - Single Family
- SFP - Single Family Patio
- A - Apartment
- T - Townhouse
- P - Park
- OS - Open Space
- Sc - School
- L - Lagoon



Redwood Shores, Inc.
 280 Marine World Parkway, Redwood City, California 94065



BARTON-ASCHMAN ASSOCIATES, INC.

Suite 220, 4320 Stevens Creek Boulevard, San Jose, California 95129 (408) 249-5300

May 19, 1981

Planning Commission
City Hall
1017 Middlefield Road
Redwood City, CA 94063

Dear Commission Members:

Barton-Aschman Associates has been involved in the traffic planning for Redwood Shores and South Shores for approximately eight years. Because of our continuing involvement in the planning process we were requested to review the draft Environmental Impact Report for the South Shores Concept Plan by Redwood Shores, Inc. The purpose of this letter therefore, is to state, for the record, that we are in basic agreement with the methods and techniques employed in the traffic analysis prepared for the EIR. However, there are three points which we would like to address regarding the findings of the document.

TRIP GENERATION RATES

38 As we have stated in our previous memorandum, the EIR utilizes a higher trip generation rate for general office development (14.0 trips per 1,000 square feet rather than 12.0). It is our opinion that the Caltrans reports, which were used to establish the 14.0 rate, is biased due to mixed land-uses, i.e. the general office rates include sites which had retail, entertainment and restaurant facilities in addition to the general office space. We feel the Institute of Transportation Engineers (ITE) rate of 12.0 is less biased because of the larger sample size (which include the Caltrans studies). The City of Redwood City and the EIR traffic consultant felt the Caltrans reports better reflected regional characteristics.

Barton-Aschman Associates recently conducted peak-period traffic counts at the Fluor Corporation building located in Redwood Shores. During the PM peak-hour, 330 (inbound/outbound) trips were generated by the office site which is equivalent to 1.75 trips per 1,000 square feet¹ (peak-hour).

Using the 14.0 trips per 1,000 square feet rate and a 20 percent peak-hour factor, the 189,000 square feet of occupied space would generate 530 trips or 2.8 trips per 1,000 square feet (peak-hour). Therefore, the rates used in the EIR are approximately 1.5 times that of the existing office space in Redwood Shores. If the 330 trips counted are assumed to represent 20 percent of the total ADT, then the total daily traffic generated is equal to 1,650 trips which is approximately 1,000 daily trips less than the 14.0 rate would project. It should be noted that this data is based on a single site, but it demonstrates the range of trip generation rates.

¹ Fluor currently occupies two-thirds of their building space or 189,000 square feet.

In addition to the general office rate, Barton-Aschman conducted a study of three residential areas which consisted of single family and single family patio units. Table 1 summarizes the results of these 24-hour automatic counts. In general, this data supports the use of 6.5 trips/unit for the single family patio homes. Area I is the most conclusive because an area of 150 single family patio homes generated 6.6 trips/unit over the 24-hour count period. This data we feel supports the notion that a lower rate could be used on single family patio homes and possibly on town homes.

Based on the use of lower rates for general office and single family patio units, the ADT for the South Shores development could be reduced by 6,000 - 7,000 trips. This in effect could reduce the peak-hour trips by 750 - 850 trips. The impact of this reduction will be discussed later.

LEVEL OF SERVICE CALCULATIONS

Throughout the traffic section, there seems to be a consistent conservative application of Volume/Capacity (V/C) ratios. Table 7 (page 105) establishes the following criteria for V/C ratios in relationship to Level of Service:

<u>Level of Service</u>	<u>V/C Range</u>
A	0 - .59
B	.60 - .69
C	.70 - .79
D	.80 - .89
E	.90 - 1.00
F	> 1.00

39 On the preceding page (104) of the report existing Levels of Service are shown with their V/C ratios. Six of these Levels of Service have V/C ratios which would fall into a Level of Service better than is listed. This seems to be inconsistent with Table 7, particularly since the trip generation rates are conservative.

COMBINED EFFECTS

Throughout the analysis the tendency is to be conservative in regard to trip generation rates and the interpretation of Level of Service (i.e. Intersection #17, Table 12, page 121). This has a combined effect of portraying several borderline intersections as operating at an unacceptable Level of Service. It would seem appropriate to review the South Shores trip generation rates and/or the method for assigning a Level of Service based on V/C ratio.

SUMMARY

The analysis generally conforms to standard traffic engineering practice; however, in the areas of trip generation and capacity analysis it may be overly conservative. In addition, much of the pertinent traffic data regarding the alternative analysis is not included in the EIR, but is referenced from the Eastside Traffic Study. The inclusion of this data would clarify the mitigation measures described in the final section of this document.

Sincerely,

BARTON-ASCHMAN ASSOCIATES, INC.

Robert H. Eckols
Associate

RHE/pr

Table 1

RESIDENTIAL 24 HOUR COUNT SUMMARY¹

Area	Count Location	Number/Type ² of Units	Trips			Peak-Hour %		Trip Generation Rate
			AM Peak	PM Peak	ADT	AM	PM	
I	Rivera south of Redwood Shores Parkway	150/SFP	107	113	988	10.8%	11.4%	6.6
II	Bowsprit west of Bridgeway	85/SF 40/SFP	55	74	635	8.7%	11.6%	5.1
III	Marlin north of Redwood Shores Parkway	35/SF 97/TH	102	110	1,067	9.5%	10.3%	8.0
TOTAL		190/SFP 97/TH 120/SF	264	297	2,690	9.8%	11.0%	6.6

¹ Counts conducted Thursday, May 14, 1981 by Traffic Data Services, San Jose, California.

² SFP - Single Family Patio, SF - Single Family, TH - Town Home.

**BARTON-ASCHMAN ASSOCIATES, INC.**

Suite 220, 4320 Stevens Creek Boulevard, San Jose, California 95129 (408) 249-5300

MEMORANDUM TO: Mr. Eugene Masciarelli

FROM: Robert H. Eckols
Richard E. Ivy

DATE: April 27, 1981

SUBJECT: Trip Generation Rate For General Office Developments

The trip generation rate for general office development has been an ongoing issue of the Redwood Peninsula and South Shores planning process. This issue has been magnified by the recent environmental impact report prepared for the South Shores development. The traffic engineering consultant for the South Shores EIR used a general office trip generation rate of 14.0 trips per 1,000 square feet. This rate was established by the Redwood City Traffic Engineering Department based on data presented in technical memorandums submitted by the traffic consultant. The basis of the 14.0 trip generation rate was the 10th Annual Progress Report on: Trip Ends, Generation and Research Counts, prepared by the California Department of Transportation. The consultant also presented the findings of trip generation studies conducted by the Institute of Transportation Engineers (ITE), which was an average trip generation rate of 12.3 trips per 1,000 square feet for general office developments. This rate was used in the Barton-Aschman Redwood Peninsula and South Shores planning process. The City's Traffic Engineering Department contends that the Caltran's report more accurately reflects regional characteristics than the ITE Report. However, it is important to note the differences in sample size and study design between the reports.

The most critical difference between the two reports is sample size. The Caltran's Progress Report has eight individual site studies, while the ITE Report summarizes 35 case studies. The larger sample size of the ITE Report, which includes studies in the Bay Area, reduces the impact of an abnormally "high" or "low" case study. In planning the transportation facilities of a major development, the use of average trip generation rates are necessary before land-use plans are refined.

In the case of Redwood Peninsula and South Shores, the following steps were taken to estimate the number of trips generated by the proposed land-uses:

1. Detailed land-use planning identified location and intensity of general office, R & D office, restaurants, commercial-retail, commercial-service, medical, and residential - single family, townhouse, apartment.
2. Trip generation rates were developed for each land-use category based on single use sites.
3. The trips generated by each site were assigned to the roadway network using a minimum path assignment model.

Because the land-use for each specific site was known, weighted averages or rates were not necessary, so a single trip generation rate was applied. This reduced the complexity of the trip generation process and provides an accurate estimate of the number of trips generated by each site. Therefore, when researching the trip generation rate for office it was important to use an average rate for general office rather than mixed uses. The ITE manual offered the greatest sample size and the least bias for site studied with mixed uses.

A close examination of the Caltrans studies reveals that the highest generation rates for general office included restaurants, shopping and theaters on-site or within walking distance of the site. While there is no means to estimate the effect of adjacent land-uses, it is easy to see the bias introduced by on-site retail, restaurant and theater space. Attached to this memorandum are the sheets for eight of the Caltrans cases. The two highest rates are for the site which have additional on-site land-uses or special uses within walking distance. If the highest rate is thrown out because of the "mixed-use" bias the rate drops from 14.9 to 12.5 trips per 1,000 square feet. If the highest and lowest rates are dropped then the rate drops from 14.9 to 12.9 trips per 1,000 square feet.

Because of the bias introduced by a single study in the Caltran's Report and the single land-use sites developed in planning process, it was determined that the ITE rates, with a greater sample size, would be more valid for this application. The rate calculated by ITE for general office space was 12.3 trips per 1,000 square feet and



includes the data collected by Caltrans. This rate was developed from data collected by 9 studies throughout the United States, including two studies in California.

Another factor to consider is that both Caltrans and ITE are presenting average rates based on current trends. No account is made for increased fuel costs, auto occupancy and transit ridership. Appendix A of a recent Environmental Impact Report² prepared for the City of San Jose Department of Public Works estimated an overall reduction of trips by 11 percent between 1975 and 1990. This report, prepared by Stanford Research Institute, has been reviewed and accepted by the City of San Jose. Reports such as this supports the notion that the number of trips generated by a specific use will decrease over the next ten years.

In summary, three factors tend to support the use of a general office trip generation rate of 12.0 trips per 1,000 square feet. These factors are:

1. The ITE Trip Generation Manual's rate is based on a larger sample size which reduces the possibility of bias caused by a single site.
2. The Caltran's studies include mixed use sites in the general office category which inflate the trip generation rate.
3. Rising fuel costs, increased auto occupancy, and increased transit ridership will tend to reduce the future trip generation rates.

² Environmental Impact Report on the Proposed Yerba Buena Road/Hellger Avenue Extension, San Jose, California Appendix - A; Stanford Research Institute International; May 9, 1980; Page A-15.



May 10, 1991

Carol C. Anderson
H-29 Koshland Way
Santa Cruz, Ca. 95064

re: Redwood Shores proposal

Dear Planning Commissioners:

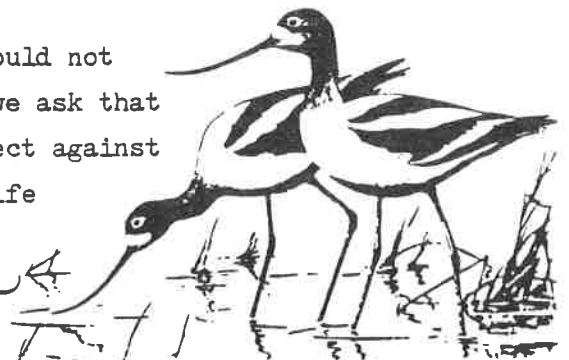
The Santa Clara Valley Audubon Society requested a copy of the draft EIR on this proposal over six months ago and have not received one to date. This is not the normal procedure and has forced us to respond to a proposal without having adequate knowledge of the details. Therefore we will address the broader issues concerning Bair Island and hope to fill in the gaps at a later public hearing.

40 The Santa Clara Valley Audubon Society and the South Bay Institute for Avian Studies, primarily under the coordination of ornithologist Micheal Rigney, have been conducting census surveys, banding projects and gathering research data on Bair Island for nearly 10 years. Bair Island is a unique and isolated salt water marsh ecosystem that provides breeding grounds for approximately 33 avian species, including the federally endangered California Least Tern, Clapper Rail and also the salt marsh harvest mouse. In addition, two species are presently being considered for endangered status: Salt Marsh Yellowthroat and the Salt Marsh Song Sparrow. There are also three species on Audubon's blue list (a preliminary to the endangered status): Great Blue Heron, Burrowing Owl and the White-tailed Kite. Other species known to utilize Bair Island are: Pintail, Mallard, Green-winged Teal, Cinnamon Teal, American Wigeon, Northern Shoveler, Gadwall, Ruddy Duck, Canvasback, Lesser Scaup, Marsh Hawk, Short-eared Owl, Foresters Tern, Caspian Tern, Snowy Egret, Common Egret, Black-crowned Night Heron, Savannah Sparrow, Long-billed marsh wren, American Bittern, Virginia Rail, Red-winged Blackbird, Brewers Blackbird, Loggerhead Shrike, American Avocet, Killdeer, Black-necked Stilt, Marbled Godwit, Dunlins and long-billed Curlews.

Aside from the abundant wildlife supported on Bair Island, tidal marsh is extremely important to the primary productivity on the San Francisco Bay and to many fish and invertebrate species which begin their life cycles in the marsh.

Many of these above mentioned species would not survive the impacts of human inundation and we ask that you weigh heavily the necessity for the project against the significant loss of marshlands and wildlife habitat.

Respectfully, *Carol C. Anderson*
Chairperson, Land Stewardship Committee



RECHT
HAUSRATH
& ASSOCIATES

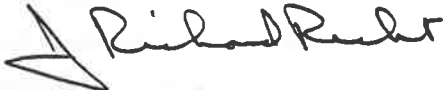
May 19, 1981

Planning Commission
c/o Planning Director
City of Redwood City
City Hall
1017 Middlefield Road
Redwood City, California 94063

Dear Commissioners:

Because of our experience in housing and fiscal matters and our knowledge of the local area, South Shores, Inc. has requested that we review the Concept Plan EIR. Our observations and suggestions are enclosed.

Sincerely,



J. Richard Recht

JRR:jh

Attachment

COMMENTS ON POPULATION AND HOUSING

The EIR document devotes two pages (out of over 200 total pages) to Population and Housing. Since housing is a critical in metropolitan areas, we feel that additional attention should be devoted to this subject.

The primary regional market concern is that additional homes be available to reduce the housing shortage arising from strong job growth on the Peninsula. The South Shores development will result in a substantial number of additional jobs. The major reason for the large number of jobs is the proximity of the San Carlos Airport, as government regulations prohibit housing on most of Pond A-12 and require noise mitigation in much of the remaining area.

It would appear that the EIR should consider the possibility of mitigating the employment impact on the housing market by shifting some of the proposed office and commercial uses on Ponds A-9, 10 and 11 to a residential land use. The non-residential area (not including public and open space areas) in these ponds totals 112.7 acres. If, for example, 100 of these acres were converted to residential use at 18 units per acre, the activity patterns would be changed by the addition of 1,800 units and a reduction of about 4,400 jobs.

41

	CONCEPT PLAN	INCREASED RESIDENTIAL PLAN
Housing Units	3,700	5,500
Jobs	4,700	300

The Concept Plan would only slightly mitigate the housing need generated by the office and R&D development nearer the airport. But, the net balance of 5,300 housing units would make a major contribution to keeping the housing situation from continuing to worsen. A relatively larger supply of housing would keep prices from escalating as much as would otherwise be the case. This would hold true for older and less expensive units, as well as new units, and for both owner-occupied and rental units.

This brief critique cannot prepare an adequate analysis of any such proposal. It can, however, illustrate the importance of such considerations in the EIR.

COMMENTS ON ECONOMIC FEASIBILITY (FISCAL)

The approach used in the Environmental Impact Report (EIR) was to estimate costs based on the current average costs of providing services. Revenues were calculated based on current (post Proposition 13) tax laws. The analysis concluded that "the project will have little net fiscal impact . . . neither a significant burden nor a source of major new revenues"

Our analysis of fiscal impacts in other communities, as well as our knowledge of the situation in Redwood City, leads us to question some of the assumptions inherent in this approach. This in turn leads us to expect that subsequent examination would show a somewhat different conclusion.

REVENUES

42 One important issue is whether essentially all of the revenues that would be generated by South Shores are included in the projections. It is difficult to fully assess the effect of development on all revenue sources because many revenues are not directly related to individual properties. The categories for which revenues are calculated in the EIR constitute only 75 percent of the city's revenues. Studies have shown that revenues in categories such as federal and state grants (which, exclusive of revenue sharing, represent 10 percent of total revenues) are related to population. Thus, these federal and state grants are likely to be larger if the South Shores population is included in the city than if it is not.

Redwood City taxpayers will benefit in another way from the new development. When added to the tax rates, the new development pays a share of the city's debt service on existing bonds (10 percent of the budget) without adding to that expense. This payment lowers the contribution required of present taxpayers.

COSTS

43 On the cost side, the use of average costs is a questionable assumption. Our experience suggests that new development meeting up-to-date standards for both buildings and related infrastructure (streets, water and sewer facilities, etc.) results in fewer demands on the city's financial resources than development in older areas. This is because many older structures and facilities were built under less stringent codes and, in some cases, exist in a deteriorated condition.

Several major services could likely be provided to South Shores at less than average cost. Public works (which represents 35 percent of the city's expenditures) would be faced with fewer repair and reconstruction demands. The fire department (11 percent of the city's expenditures) would probably receive fewer fire calls. The police department (13 percent of expenditures) would receive fewer calls for service and less demand for parking and traffic control services.

44 As a third major area of concern, a difficulty inherent in a post-Proposition 13 world needs to be addressed. The present average cost of services is obviously dependent on the present level of revenues. The EIR assumed that the Proposition 13 two percent limitation would constrain the growth of South Shores' revenues, but did not consider the effect of this constraint on revenues from existing development. Unless the laws are changed, this limit will be causing a continual reduction over the next

decade in the real value of revenues to the city. The result will be lowered expenditures (and level of quality) for city services. Thus, the average cost of services in the city is likely to decline. If so, the cost assumptions applied to South Shores would appear to be overstated.

Alternatively, the level of services could be maintained if new revenue sources were adopted. In that event, the city's average cost of service would not be overstated. Instead, the revenues from South Shores would be higher than presently estimated.

CONCLUSION

Though some other problems could be noted, the three concerns described above are the ones that substantially affect the projections. It appears that an adequate consideration of these factors would result in a conclusion that the South Shores development would be of substantial fiscal benefit to Redwood City and other taxing jurisdictions.

This conclusion follows from the following logic. The new development will probably have higher than average market values. For a significant time, the assessed values will be even more above average because it will be assessed at full market value while much of the property in the city will have assessments constrained by the 2 percent limitation in Proposition 13. Secondly, the new development will probably require below average public service costs for the reasons described above. Given above average revenues and below average service costs, it appears that the new development will be fiscally advantageous to Redwood City.



Peninsula
Conservation
Center

2253 Park Boulevard
Palo Alto, California 94306
Telephone (415) 328-5313

May 19, 1981

TO: Planning Commission of the City of Redwood City
FROM: Peninsula Conservation Center
RE: Draft Environmental Impact Report, South Shores Concept Plan

Our comments today will focus on the Vegetation and Wildlife section of the Draft Environmental Impact Report. First of all, we wish to commend the authors of that section on their very thorough and careful analysis of what they term "... one of the most valuable remaining wildlife areas in the South San Francisco Bay Region." Bair Island is breeding habitat for at least three rare and endangered species.

45 The forthcoming Recovery Plan for the Salt Marsh Harvest Mouse and the California Clapper Rail, commissioned by the Fish and Wildlife Service, will propose the outer and middle sections of Bair Island as essential habitat for these two endangered species. The California least tern, also endangered, nests on the outer island, as does the great blue heron, snowy egret, and Caspian tern.

According to the Draft EIR, the proposed development would affect the entire Bair Island area. Rebuilding of the levees as outlined in the concept plan would result in outright destruction of California clapper rail and salt marsh harvest mouse breeding ground. The nesting area on the outer island and the marsh areas along Corkscrew Slough would be severely threatened by predatory dogs and cats, Norway rats, which thrive in urban areas, and curious humans.

All in all, the Vegetation and Wildlife section points out very well the hazards and dangers to wildlife associated with the South Shores development. However, we find serious fault with the proposed mitigations, which include a 100-foot buffer zone, enlarged borrow trenches, and a 6-foot high fence to protect the sensitive areas along Corkscrew Slough. Fences won't keep out dogs, cats and rats, or, for that matter, adventurous humans. Enlarged ditches, like fences, will act as a temporary deterrent at best.

46 The threat to the outer island and to the nesting areas there are also impossible to mitigate. Corkscrew Slough, especially at low tide, is very easy for pets, rats, and humans to cross. If the nesting birds are disturbed enough, they will leave permanently. And there aren't many places in the Bay Area left for them to go.

Finally, the Draft EIR discusses restoration to marsh of Pond B-3 on the outer island as possible mitigation. The South Shores project would destroy 940 acres of potentially restorable marshland, while restoration of B-3 would add 418 acres. We find it extremely difficult to accept that kind of a trade-off, especially considering the entire area was once historic marshland.

The richness of wildlife that abounds on Bair Island exists due to the isolation of the area. This is pointed out again and again in the EIR. Because this isolation simply cannot be mitigated, the Peninsula Conservation Center wishes to register its firm opposition to the proposed South Shores development.

SAN FRANCISCO BAY CONSERVATION AND DEVELOPMENT COMMISSION

30 VAN NESS AVENUE
SAN FRANCISCO, CALIFORNIA 94102
PHONE: 557-3686



May 20, 1981

Planning Department
City of Redwood City
1017 Middlefield Road
Redwood City, California 94063

ATTENTION: Ken Schroeter
Planning Director

SUBJECT: Draft Environmental Impact Report: South Shores Concept Plan
(BCDC Inquiry File Nos. SM.RC.7023.1 and SM.BI.7303.1)

Gentlemen:

Thank you for the opportunity to comment on the Draft Environmental Impact Report (DEIR) on the South Shores Concept Plan discussing the development of portions of Bair Island between Steinberger Slough and Redwood Creek. The Commission has not had an opportunity to review the project, but the staff has examined it in light of the policies of the Bay Plan, the McAteer-Petris Act, and the Advisory Committee's Final Report for the Redwood City Port Special Area Plan Study, and we have the following comments:

1. BCDC Jurisdiction

47 The DEIR correctly notes that portions of the project will be within BCDC's jurisdiction and permits from the Commission will be required for development. However, the DEIR incorrectly defines that jurisdiction. Section 66610(a) of the McAteer-Petris Act extends BCDC's "bay" jurisdiction to "all areas subject to tidal action." The Commission's Regulations defines that to be the highest elevation the tide has reached since 1965, when the Commission was founded. The reference to "mean high tide," page 35, is incorrect. The 100-foot shoreline band extends inland from the line of highest tidal action. Sloughs and tidal marshes are included as part of San Francisco Bay. The DEIR should devote more explanation to the extent of BCDC's jurisdiction over the project site. For example, Steinberger Slough extends south between Highway 101 and Pond A-12 to south of Whipple Avenue and beyond.

When a project is proposed in BCDC's jurisdiction, a permit is required from the Commission before construction can commence. If a project is proposed in or over the Bay, the Commission must find the project includes only the minimum amount of fill necessary and that the fill is for a water-related use in order to grant approval. If the project, or a portion of a project, is proposed in the shoreline band, the Commission must find the

49 project provides "maximum feasible public access consistent with the project." The DEIR should set out the uses proposed for tidal areas and for shoreline areas which will likely require a permit from BCDC and how those uses conform to BCDC criteria.

50 In considering whether to issue a permit, the Commission must evaluate whether an alternative upland location for a use involving fill can be found. For this reason, the Commission will likely consider the entire proposed Bair Island development at one time rather than to consider small aspects of the overall project over many years. The DEIR indicates that the complete development of this project will take many years. The document should also indicate the extent to which the total development can be planned and specific uses established. A project developed in a piecemeal fashion could result in more than the minimum Bay fill.

2. Project Consistency

51 The DEIR states that the project is not consistent with several regional goals. It is also not consistent with the San Francisco Bay Plan. Pond A-12 is designated in the Bay Plan as a park priority site and portions of outer Bair Island are expected to be wildlife areas. Additionally, BCDC is currently studying diked wetlands, such as the remaining former salt ponds of Bair Island, with the intention of making recommendations for appropriate uses of these areas. As the DEIR points out, such areas represent some of the last remaining opportunities to return former tidelands to San Francisco Bay. The DEIR should stress, to a greater extent, the conflicts raised by the project with the mission of each permitting agency.

3. Geotechnical

52 The DEIR states that the project site is subsiding and may be presently below the level of the historic marsh prior to its conversion to a salt pond. Development of the site would require huge amounts of fill. Erosion and sedimentation would occur during construction. The proposed fill could cause mud waves in areas presently subject to tidal action. Mud waves and sedimentation are forms of Bay fill. The DEIR should comment on the possible extent of such fill, its environmental impacts, and how the impacts could be avoided. As such impacts are avoidable, the Commission is not likely to approve a project where such secondary effects may occur.

4. Hydrology and Water Quality

53 The DEIR establishes that there will be adverse impacts from upland runoff and that there is insufficient sewage treatment capacity to handle the proposed development. The document calls for a monitoring and design study to determine the flow and effects of pollutants released by the development. This is not sufficient control or mitigation. The DEIR should contain more detailed plans to control wastewater and runoff so that no adverse impacts will result to tidal areas.

5. Vegetation and Wildlife

54 We agree with the DEIR's assessment that the project would have a serious adverse effect on the very valuable wildlife areas on Bair Island as well as destroying the potential for expansion of wildlife areas. Endangered species and their habitat would be threatened, not only by conversion of the habitat to other uses, but also by increasing the proximity of dense human populations to remaining wildlife areas. The DEIR recommends that certain areas beyond the project boundary be developed in salt marsh habitat to offset these impacts. The DEIR should include information as to whether this is indeed part of the project or only wishful thinking. Recommendations are not mitigation unless there is a commitment to carry them out. Additionally, we believe that, even if the recommended mitigation was carried out, it would not offset the very serious damage caused by development of this massive project. The DEIR should devote more attention to discussion of mitigation measures, their practicality given the extensive development, and how the project might be limited to not have such serious effects. The DEIR correctly notes that development of only Pond A-12 would significantly reduce the adverse impacts of this project.

6. Traffic

55 The DEIR states that project traffic would overload the existing main roadways in the area. No meaningful mitigation is suggested or incorporated in the project. The project sponsors appear to believe it is the responsibility of others to solve regional transportation problems created by the development. However, for example, it is not likely that Highway 101 will be widened by anyone other than the project sponsor. And even if the sponsor sought to widen the road, it is unlikely that a BCDC permit could be issued to fill Steinberger Slough to permit such a widening. If mitigation will not solve the problem, that fact should be made clear in the DEIR.

7. Public Services

56 The DEIR states that the local sewage treatment plant would require expansion. It is not clear whether the expansion or the additional sewer lines would be within BCDC's jurisdictional areas. If it is likely that wastewater facilities would be constructed in BCDC's jurisdiction, an analysis of all environmental impacts, including construction, should be included.

8. Recreation

57 The Bay Plan designates Pond A-12 as a waterfront park priority area. It also shows existing and potential marina sites in the vicinity of Bair Island. The project proposes a 600 berth marina. However, it is not clear whether the marina, and any other recreation facilities will be located in areas not now subject to tidal action or whether they will be located in tidal sloughs. The DEIR should examine the proposed location of boating facilities in greater detail. Also, the mitigation measures for boating

impacts should be expanded. It should examine whether it is feasible to employ these measures, how effective they will be, and to what extent wildlife will likely be damaged in spite of the mitigation.

9. Project Alternatives

58 Alternative development schemes, such as the restriction of development to Pond A-12 have far less serious environmental impacts than the very extensive development proposed. A reduced project apparently can produce a positive cash flow to Redwood City, with an alteration of the use mixture, and regional facilities such as transportation and sewage treatment would not be overburdened. To compare the attractiveness of a less development alternative, the DEIR should include more information about the cost of additional support facilities outside of the project area if the whole site is developed. For example, costs of widening Highway 101 and Whipple Avenue and sewage plant expansion should be included.

10. Bridges

59 The project proposes several bridges crossing areas of BCDC's jurisdiction. The DEIR recognizes both the serious impact of construction in environmentally sensitive areas and also that use of these bridges, bringing people closer to sensitive areas, will be a serious impact. The DEIR makes it clear that it is very questionable whether the proposed mitigation will offset the very serious impacts that will result from bridging the sloughs. We believe the project sponsor should develop a far more extensive mitigation plan for the preservation of sensitive areas and should be prepared to implement the plan in conjunction with any construction. The DEIR should evaluate whether such a plan can effectively minimize environmental damage.

11. Adjacent Areas

60 The development of Bair Island north of Smith Slough will have growth inducing impacts on properties adjacent to the site. The DEIR should be significantly expanded to evaluate the development potential and environmental impacts of development for those portions of Bair Island to the east of the project site. Providing land access north of Smith Slough by bridging will open properties owned by the Port of Redwood City and Bay Investments Incorporated to development. Portions of these areas are presently subject to tidal action. However, with the construction of access, development pressures are likely to increase. The DEIR should evaluate the impact of the development on these adjacent areas. There will be very significant adverse environmental effects and adjacent development will have an adverse impact on the project proposed for the sponsor's portion of Bair Island. Should such development occur, it is not clear whether Corkscrew Slough could be protected as an ecological preserve. Much more information should be included in the DEIR on this aspect of development of Bair Island.

Planning Department
City of Redwood City
May 20, 1981
Page Five

12. Procedure


61 The DEIR should set out the procedures to be followed by the project sponsor in obtaining approval for this project from all involved agencies. In this regard, not only will a permit from BCDC be required, but a change in the Bay Plan will be required as well. It would be helpful for those wishing to monitor the project to be aware of the sequence of review through the various agencies.

13. Summary

We believe this project will have a very serious impact on the environment. While the DEIR does a reasonable job of evaluating impacts of the concept, it is clear that impacts of specific project elements have not been evaluated at this time. Also, the DEIR fails to provide sufficient environmental evaluation of the regional effects of the project. These additional impacts, such as overloading Highway 101, are so serious as to suggest a substantial reduction in the scope of the project.

We appreciate the opportunity to review this concept plan. We would appreciate being informed of the local review schedule for the project. Should you have any questions about BCDC's position about various aspects of this project, please call.

Very truly yours,


ROBERT B. HICKMAN
Permit Analyst

RBH/mm

cc: U. S. Fish and Wildlife Service, Attn: Peggy Kohl
State Department of Fish and Game, Attn: Ted Wooster
U. S. Army Corps of Engineers, Attn: Cal Fong
Mobil Land Company, Attn: Gene Maserielli

May 27, 1981

Redwood City Planning Commission
City Hall
1017 Middlefield Road
Redwood City, CA 94063

Dear Commissioners:

62

I am writing to comment on the adequacy of the DEIR for the proposed South Shores project. Specifically, we believe the document should devote far more discussion to the housing impacts of the project. The impacts of adding 3,723 dwelling units to the total supply of housing in the South Bayside area is barely mentioned on 2 of the report's 300 pages. Moreover, the project proponent maintains that with sufficient community support it may be possible to increase the ratio of housing units to employment uses within the project.

The Bay Area Council has conducted extensive research into the critical housing shortage in the Bay Area. Numerous other groups at the state, regional and local levels have also analyzed the scope, nature and causes of the problem. The Redwood City decision makers deserve to weigh this information along with the information on the other significant effects of the South Shores development. San Mateo County is falling further and further behind in providing housing to meet projected demand. Our analysis shows that over the next decade San Mateo County should be building 5,000 housing units per year to accommodate the growth of new households (approximately 80% of this growth is generated from those young people already living in the Bay Area). The annual average number of permits authorized in the County over the last five years, however, is only 3,500. Last year, because of high interest rates, the figure dipped to 2,350 (all these figures include mobile homes). But the underlying problem

The Bay Area Council, established in 1945, is a private, non-profit organization involved in policy analysis and advocacy concerning Bay Area quality-of-life issues, including economic growth, environmental quality, land use, growth management, housing and transportation.

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STAFF ASSOCIATE
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is not financial--the shortage would exist even if mortgages dropped back down to 11½%. The basic problem is community resistance. If local officials are going to fulfill their responsibility to all their constituents, and not just existing homeowners, they need proper and complete technical information.

We hope that the final EIR will include a more balanced treatment of the entire spectrum of environmental impacts as called for in the CEQA guidelines.

Sincerely,



Thomas O. Merle
Vice President

AOM:eb

RECEIVED

MAY 26 1981

CITY OF REDWOOD CITY
PLANNING DEPARTMENT

Schroeter

Redwood Shores, Inc.

100 MARINE WORLD PARKWAY
REDWOOD CITY, CALIFORNIA 94065
TELEPHONE (415) 592-4170

May 28, 1981

HAND DELIVERED

City Council of
City of Redwood City
c/o City Clerk
1017 Middlefield Road
Redwood City, CA 94063

District Board of Directors
General Improvement District I-64
City of Redwood City
c/o City Clerk
1017 Middlefield Road
Redwood City, CA 94063

RE: DESIGNATION OF THE BOUNDARY OF BAIR ISLAND

Honorable City Council and District Board

In a letter dated March 5, 1981 to the City Planning Staff, we commented upon the preliminary draft Environmental Impact Report (EIR) for the proposed South Shores project. We requested in that letter that references to our South Shores Project as being a part of Bair Island be eliminated as inaccurate. The Planning Director agreed that although we were technically and historically correct, there had been a tendency in recent years to refer to all that land area east of the Whipple Interchange on Bayshore Freeway as Bair Island rather than limiting such designation to areas northeast of Corkscrew Slough. The Planning Director informed us that only the City Council through the City Manager, could direct the City staff to cease referring to our South Shores property as being part of Bair Island and to remove all such references from the draft EIR.

On March 19, 1981, we sent to the City Council and District Directors of GID I-64 a letter (copy attached) which was distributed with the agenda package for the City Council meeting of March 23, 1981. In that letter we requested your consideration in restoring and maintaining the historical accuracy to the naming of the land areas in question. To our knowledge, this important item was not addressed by the Council as requested.

Redwood Shores, Inc.

City Council/District
South Shores E.I.R.
May 28, 1981
Page 2

The South Shores Final Draft EIR dated April 13, 1981 states on page 23, "the City has determined that the name Bair Island, refers to the lands between Steinberger Slough, Redwood Creek, Bayshore Freeway and the Bay." According to the Planning Director, this is how the City's position will be printed in the final EIR document unless policy direction to the contrary is received immediately from the City Council.

63 Because the name Bair Island is associated with the South Bay Wildlife Refuge, any proposals to make use of the property other than as wildlife refuge generates heated emotional opposition. Since our South Shores property and the 132 acres of City land across from the Port of Redwood City are not in reality a part of Bair Island, we see no value in generating widespread concerns over a case of mistaken identity perpetuated or advocated by no other public or private entity other than the City. The final date for comment on the EIR is June 2, 1981 unless the Planning Commission for other reasons elects to extend the comment period. We are, therefore, asking for your consideration of our request as contained in our letter of March 19, 1981 as part of your agenda for the June 1, 1981, meeting of the City Council. Myself and members of my staff will be present to provide input as required for your decision.

This is a most important item which requires your immediate consideration and direction to your staff. Should the present inaccurate reference to the geographic area of Bair Island not be corrected in the EIR, the ability of Redwood City to develop any of the lands east of Whipple could be very adversely affected.

Yours sincerely,

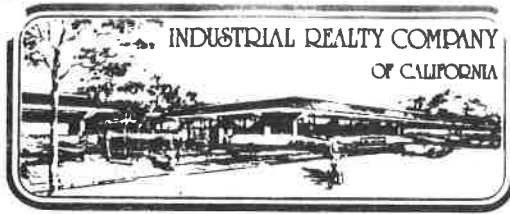

D. G. Warren
President

Attachment

DGW:GM:yh

cc: James M. Fales, City Manager

R. J. Costello, Esq.
N. D. Peel, Esq.
W. B. Thiersch
E. F. Masciarelli



650 BAIR ISLAND ROAD • SUITE 205 • REDWOOD CITY, CA 94063

June 1, 1981

Honorable Planning Commission
City of Redwood City
City Hall
Redwood City, CA., 94063

Gentlemen:

The draft EIR for the proposed development on Bair Island does not recognize the impact that such a project would have upon San Carlos Airport. The report states that its noise level contours are estimates. It then attempts to justify development because specific land uses are proposed in those areas where its assumed noise levels would be acceptable.

64

Those of us who have lived with San Carlos Airport are familiar with the frequent complaints from residences of Redwood Shores to aviation activity. Some of these complaints arise from home owners who reside in areas where the CNEL is as low as 40. Since the proposed development, because of its proximity, would be impacted by aviation movements to a far greater degree than existing development, we believe it is imperative that Redwood City insure that the Airport's status is protected.

Yours very truly,

A handwritten signature in cursive script, appearing to read "W. C. Ersted", is written over a horizontal line.

WCE:U

W. C. Ersted



SIERRA CLUB

PENINSULA REGIONAL GROUP

OF THE LOMA PRIETA CHAPTER

SAN MATEO COUNTY, CALIFORNIA

Reply To: Isabel Sewell
399 Menlo Oaks
Menlo Park, Calif. 94025

May 28, 1981

To: Planning Department, Redwood City
Re: Comments on South Shores Draft EIR

As a conservationist organization we are opposed to the further invasion of wetlands and marsh habitat; 75% of this type of land form has already been filled in Calif within the last 50 years. We feel the flood plain is essential to prevent pile up of drainage in the heavily populated areas west of Highway 101, and we feel the marsh edge along the Bay is a value to our weather and wildlife, and dissipates pollution entering the Bay. All this has been stated in letters from various agencies, such as BCDC, Fish and Game etc. and I will not dwell on repeating these statements, but only wish to add the formal position of the Sierra Club's sub-chapter----we seek to preserve marsh land and prevent degradation of our natural resources.

we recognize that land is needed for other purposes, and that Mobil seeks to provide homes and jobs as well as a return on its investment. For this reason, we are amazed to read that the financial effect to the city of Redwood City would be a negative deficit for 10 years. It seems inconceivable to us that the citizens of Redwood City would willingly obligate themselves to provide police, fire, gov't services, as well as to allow their sewage treatment plant and roads to be impacted to an over-capacity situation. And to stand by and see this happen with a negative cash flow to the city coffers ! Why should a private corporation like Mobil ride on the shoulders of the city treasury and the general taxpayer? Why does not Mobil offer to provide the financial structure to widen the roads, provide adequate wastewater treatment and storage?

shore Freeway would have to be widened to 10 lanes, and even then would be heavily impacted at peak flow (page 120). Who pays for the widening of Bayshore? All the taxpayers, I suspect, and yet the benefit is only for the new tenants of South Shores. Certainly the taxpayer from a non-Redwood City address will suffer driving along 101, and will not be

101 and within 1 mile of 101 be benefitted by the noise and congestion, plus loss of land due to Whipple and Holly interchange? No traffic studies have considered the effect of this traffic increase on El Camino. When Bayshore is slow, commuters will seek out parallel routes to avoid slow-downs. When one drives north on 101 it is very plain what the traffic from San Mateo bridge does to the highway north of Kehoe in San Mateo. We are contemplating adding another 80,000 trips per day; we will have impact from the 82 acres across Steinberger Slough which is scheduled to be built out in the near future. We will have Dumbarton bridge traffic adding to the already over-capacity conditions of 101. What right does one town have to throw such a burden on our highways? I would suggest the cumulative effect of the traffic impacts be addressed by a county planning group and by LAFCO. **65**

The EIR states that Air Quality will not be affected seriously. And yet in the port Plan of 1978 there were 19 days in 1978 that Redwood City air was in excess of the State guidelines. EPA has determined that this air basin can hold a finite number of people, and the sizing of the new sewage treatment plant on Redwood Peninsula has been scaled to that size. It is not at all assured that EPA will agree to increase that plant or allow more sewage treatment plants on this peninsula. We all know that this plant is near capacity now. **66**

Recreational gains are said to be opportunities to walk and bike and boat. And yet the bridges over the sloughs are 2 lane with no bike lanes provided. It is not safe for a biker to come to a 2 lane bridge from a wider road, and compete with cars for the lane. Calif law now provides for development to provide for alternate methods of transport to avoid dependence on the car, and yet South shores has no bus stops, will have no bike lanes, and the boating of course will be a marina with access for boat owners but very limited areas for the public. This is not stated in the EIR. We make this assumption from seeing what other marinas on the peninsula are like. They **67**

arge; they lock out the non-boat owner from the walkways and board walks, and no pathways are signed or developed until citizens complain. For example--Piombo's marina built on Redwood Creek has no public path other than a heaped up pile of road scraping, and yet two commercial buildings are allowed, and locked board walks along the boat slips. What real provision is that for the Redwood City resident who doesn't live in South Shores?

The EIR must look at the cumulative effects of 82 acres north of Steinberger slough feeding traffic out onto 101, the Hahn shopping center in San Mateo, the Dumbarton Bridge traffic soon to be added to 101, and I think this calls for a regional approach, with the county involved; certainly the quality of life for San Mateo County residents will be affected by what one city decides.

68

... would rather see the development of pond A-12 (p 188) only, with no housing or roads approaching Corkscrew Slough. One has only to see what Mobil has done to Belmont Creek as it debouches into the Bay (north of Piombo construction headquarters north of San Carlos airport) to realize what intensive development means to stream beds and wildlife protection. To protect Bair island, it is preferable to keep houses off lands east of Smith Slough.

written by Isabel Sewell

for PRG Loma Prieta Chapter Sierra Club.



WEST BAY
BUILDING INDUSTRY ASSOCIATION

2121 SO. EL CAMINO REAL #307 • SAN MATEO, CA 94403
(415) 574-5705

May 28, 1981

City Planning Commission
City Planning Department
1017 Middlefield Road
Redwood City, CA 94063

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JUN 1 1981

CITY OF REDWOOD CITY
PLANNING DEPARTMENT

Honorable Planning Commission and Staff:

The West Bay Division of the Building Industry Association of Northern California feels that all subdivisions in all sections of the Environmental Quality Act should be adequately addressed. The sections we are concerned with are: Chapter 1 section 21,000 (g) (amended chapter 947, Statutes of 1979) "to give major consideration to preventing environmental damage, while providing a decent home and satisfying living environment for every Californian."

Section 21,000d (amended chap. 947) "to ensue the long-term protection of the environment, consistent with the provision of a decent home and suitable living environment for every Californian, shall be the guiding criterion in public decisions."

Section 21,002 (amended: Chapter 676 Statutes of 1980) "The Legislature further finds and declares that in the event specific economic, social, or other conditions make infeasible such project alternatives or such mitigation, individual projects may be approved in spite of one or more significant effects thereof."

Section 21,002.1 c (Amended Chap. 1200 Statutes of 1977). In the event that economic, social or other conditions make it infeasible to mitigate one or more significant effects of a project on the environment, such project may nonetheless be approved or carried out at the discretion of a public agency provided the project is otherwise permissible under applicable laws and regulations.

69 Can you reassure us that these sections of the Environmental Quality Act are addressed in all subdivisions such as South Shores E.I.R., and other subdivisions in Redwood City? We would appreciate your comments.

Sincerely,

Joe Stevenson
President

REGIONAL OFFICES:	HEADQUARTERS (415) 828-9230 Dublin	SOUTHERN (408) 243-5889 Santa Clara	EASTERN (415) 444-8711 283-8251 Lafayette	NORTHERN (707) 684-8150 Rohnert Park
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SAN MATEO COUNTY DEVELOPMENT ASSOCIATION, INC.

4 WEST FOURTH AVENUE • SAN MATEO, CALIFORNIA 94402 • TEL: (415) 342-7278

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EXECUTIVE VICE PRESIDENT,

GENERAL MANAGER
Henry Bostwick, Jr.

May 29, 1981

Redwood City Planning Commission
c/o City Clerk
1017 Middlefield Road
Redwood City, CA 94063

Gentlemen:

This office has reviewed the Draft Environmental Impact Report covering the South Shores Concept Plan of Redwood Shores, Inc. as prepared by the Environmental Impact Planning Corporation.

Now in its 26th year as a private non-profit industrial/economic development organization, the Association continues to be concerned with the balance between the environmental needs of County as a whole, and the requirements of the community with respect to housing and employment.

Too often, in reviewing Environmental Impact Reports such as the one before your body, we find that the total environmental needs are not considered. Not sufficient emphasis is placed on the human environmental needs of a community, particularly when it comes to providing employment opportunities and/or suitable flexible housing elements providing a mix necessary for the success of any given project. Indeed, the physical environment is important but the human environmental requirements in today's world must be given priority when judging the merits of a given project.

We distinctly concur with the statements on Appendix G, "South Shores Economic Feasibility," Page #1 wherein the statement was made that "one trend of major significance for all the uses that are being proposed is the growing scarcity of major sites for commercial and residential development in established locations in the Bay Area in general and, more specifically, in San Mateo County."

With this in mind, we sincerely trust every effort will be made to approve the plan of the developer which adequately takes into consideration the need for housing and employment opportunities in this project. At the same time, the developer has provided the necessary protection of the physical environment which is indeed unique in the entire Redwood City area. The end result will bring a new concept in community development to your community which will generate public revenues required by the City of Redwood City in providing services for the community at large.

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JUN 1 1981

CITY OF REDWOOD CITY
PLANNING DEPARTMENT

This proposed project will bring to Redwood City as well as San Mateo County another development of the highest quality of which the entire community can be justly proud.

Yours very truly,



Henry Bostwick, Jr.
General Manager

HBjr/fs

DEPARTMENT OF TRANSPORTATION

P. O. BOX 3366, RINCON ANNEX
SAN FRANCISCO 94119
(415) 557-1840



May 28, 1981

04-SM-101 PM 6.6/8:4
SCH #80072909

Mr. Ken Schroeter
Planning Director,
City of Redwood City
1017 Middlefield Road
Redwood City, CA 94063

Dear Mr. Schroeter:

Subject: DEIR for South Shores Concept Plan and General
Plan Amendment

71 This is to advise you that our comments on the subject DEIR will be late. Our partial review indicates that Route 101 will not be able to provide reasonable levels of service during peak traffic hours and that mitigation measures to increase capacity on Route 101 and its facilities may be unrealistic to a degree of no mitigation. Detailed and constructive comments will follow when our review process is complete. We regret any inconvenience we may cause in this matter.

Sincerely yours,

John West
District Director

By *R. W. Sieker*
R. W. SIEKER
District CEQA Coordinator

cc: State Clearinghouse



COUNTY OF SAN MATEO

COUNTY GOVERNMENT CENTER • REDWOOD CITY • CALIFORNIA 94063

BOARD OF SUPERVISORS
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DAVID C. HALE
PLANNING DIRECTOR

(415) 364-5600, EXT. 4161

June 2, 1981

Mr. Ken Schroeter
Planning Director
City of Redwood City
Middlefield Road and Jefferson Avenue
Redwood City, CA 94064

Dear Mr. Schroeter:

As an interested agency, San Mateo County is pleased to have the opportunity to comment on the Draft Environmental Impact Report for the proposed South Shores development in Redwood City.

Project Description

72 The description of the site location and setting on pages 23-25 includes a description of the area as it exists today from a local perspective but does not examine the area from a regional perspective. Such a description is necessary for an accurate assessment of environmental impacts. The California Appellate Court case, Whitman vs. Board of Supervisors, 88 Ca. App. 3d 397 (January 1979) elaborates on this point.

Geotechnical Assessment

73 In the mitigation section on pages 51 and 52, a soil erosion control plan to minimize erosion, and earthquake design criteria are mentioned. These should be developed before a project decision is made to ensure that the mitigation measures for erosion and earthquake hazards will be adequate.

Hydrology

74 The mitigation section on page 54 includes proposals for detailed studies examining the impact of storm runoff on flood control capacity and the alteration of the tidal current pattern due to increased runoff. A study of the impacts on channel dredging is also proposed. These studies should also be made before a project decision so the study results can be utilized in making the decision on the development.

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JUN 2 1981

CITY OF REDWOOD CITY
PLANNING DEPARTMENT

Water Quality

75 The impacts section on page 56 mentions that the impact of stormwater discharge into the slough originating from the proposed development would depend upon the quantity of flow, frequency, mixing and flushing action of the slough and the residual pollutant concentrations of the effluent but that these factors had not been determined. The report also says that it is not possible to determine whether the rate of mixing in the sloughs would be sufficient to assimilate storm water discharged from the area. It may not be possible to give exact values for the variables involved but careful estimations should be made in an effort to quantify or give an accurate picture of the effect the project will have on water quality. It is important that the magnitude of the impact on water quality be determined.

76 In the mitigation section on page 57, the report says that treatment of the waste water before discharge into natural waters can be handled by expanding the South Bayside System Authority treatment plant facilities. The feasibility of this expansion should be investigated to determine if the mitigation measure would be implementable.

Vegetation and Wildlife

In the Setting section on pages 59 and 60 where the report details the role and importance of marshes, it should be emphasized that these marshes have a greater than local or regional significance. The value of the marshes can be assessed in terms of their ecological function, but their full value to generations today and in the future is intangible and cannot be measured quantitatively.

77 On pages 69 and 70, the report says that the value of drained solar evaporation ponds (salt flats) to wildlife is relatively low, but in the same sentence the report says that several species utilize the area. The report mentions the burrowing owl, American avocet, black-necked stilt, killdeer, fifteen other bird and four mammal species as animals which use the area. The report also says the California least tern, which is listed as an endangered subspecies, and up to 10,000 willets, godwits and dowitches use the evaporation ponds. However, the report says the value of the salt flats to wildlife is relatively low. The report should explain what standard is being used in measuring the value of the area to the wildlife; in other words, the report says the area's value to wildlife is relatively low, but it should be explained, relative to what standard.

78 On page 71, the importance of the proposed project site to least terns is explained. The importance of the area to the terns due to decreased nesting areas in Southern California as a result of human impact on the beaches should be emphasized more in the report. The terns have been using the San Francisco Bay Area as a breeding and nesting habitat and would lose another important colonization area if the project was undertaken. What impact will the proposed project have on the least tern? How much of its habitat will be lost locally, regionally, or statewide?

In the impacts section on page 81, the report says it is unlikely that quantities of either petroleum products or organic material would be sufficient to cause catastrophic events but the possible cumulative effects of the urban surface runoff pollutants should be determined prior to project approval.

On page 86, the impact of bridges on vegetation and wildlife in the Smith and Steinberger slough area is mentioned. Besides the continuing noise impacts, there would also be impacts on air quality. These factors should be elaborated upon in the discussion of cumulative impacts.

In the mitigation section on pages 87-91, a marsh management and restoration program is proposed. Further studies, possibly utilizing the combined expertise of a qualified zoologist and botanist, should be done before the final project decision is made to make sure that the restoration proposed is adequate.

Visual Quality

- 79 In the impacts section on page 100, the loss of open space (undeveloped baylands) and restriction of views is mentioned, but the effect this loss would have on the area's residents is not examined. Photographs of the proposed project superimposed upon the existing viewshed would assist the evaluation of visual impacts.

Traffic and Transportation

- 80 In the impacts section (cumulative area impacts) on page 125, the report states "it appears safe to say that full build-out is not likely to be feasible in the planning horizon of this study." The report does not substantiate this statement with reasons why full build-out will not occur. Also, the report does not explain why construction of the proposed project would have the effect of decreasing the feasible size of other proposed projects in the area.

- 81 In the mitigation section six mitigation measures are proposed on page 126. Feasibility studies on the mitigation proposals should be done before any decision is made on the development. How much will these mitigation measures cost and what contribution will the developer be required to pay?

Without measures to deal with the increased traffic generated by the project, the impacts on traffic would be great.

Noise

- 82 p. 48 "San Mateo County" - The text should be corrected to indicate that the San Mateo County Airport Land Use Commission (ALUC) has "regulatory rights over development within the 55 CNEL Noise Contour," etc. The ALUC is not a County agency, but a Commission set up by State legislation (State Aeronautics Act, Section 21670 et seq.). The ALUC legislation requires the County to provide staff assistance for the Commission and the County is represented on the Commission along with ten cities.

- 83 p. 142 The Noise Contours shown in the plan are not the current ALUC noise contours which were adopted by the ALUC in 1976. The current noise contours are depicted in the ALUC Land Use Plan and on figure 16 (facing p. 123) of the County Airport Master Plan. These contours assume a planned annual operation level of 340,000, a level which the airport is presently close to attaining.

The DEIR should provide a map showing the proposed development with the noise contours superimposed so that the noise impacts are clearly shown. If any residential uses fall within the 60 or greater CNEL from aircraft operations, the ALUC should hold a hearing to determine compatibility with the ALUC Plan.

84 p. 143 The ALUC Plan noise compatibility standards are not identical to the California Department of Health guidelines as shown in figure 20 of the DEIR (incorrectly noted as "figure 12" on page 143, line 7). The ALUC standards are more stringent for residential uses, and recommend no new residential uses in areas greater than 60 CNEL and a required noise analysis in 55 to 60 CNEL areas.

While the proposed project generally does not conflict with noise compatibility standards, it should be stressed that the proposed residences will be exposed to relatively high single noise events from aircraft. Experience has shown that residential uses impacted by CNELs less than 60, such as Redwood Shores, are still sources of noise complaints. Because of the low ambient noise levels in the residential areas, the aircraft operations could have a significant effect on the project, particularly on outdoor activities for which there is no practicable mitigation.

85 The San Carlos Airport is a long-established use which could be adversely affected by potential noise liability from future residents of the project. The airport should be protected by requiring the granting of aviation easements by all property owners in the airport impacted area, and a required disclosure of potential airport impact to all property buyers.

86 Pilots landing at the airport at night could encounter difficulty in locating the airport and further could have the night view disturbed by outside lighting connected with the project. This possibility should be explored and examined in the report and appropriate mitigation measures developed such as light shielding. Additionally, there should be a discussion of Federal Aviation Regulation Part 77 concerning height restrictions. This discussion is considered significant, especially in view of the airport Master Plan which contains plans for the southeasterly runway extension.

Energy

In the impacts section, on page 149, the report should elaborate on the effect the impacts of the energy consumption associated with the project have today and will have in the future, considering a possible continuing energy shortage.

87 In the mitigation section on pages 154-157 the report lists energy conservation recommendations. Another recommendation would be to site buildings in the development to face south whenever possible to enable the most efficient use of solar energy. Also, landscaping should be of an energy-conserving nature, i.e., deciduous trees which provide shade in the summer and shed their leaves in the fall so heat can reach the buildings. The potential use, for solar energy purposes, of the solar evaporation ponds in the project area should be investigated and proposed as mitigation for the increased energy consumption inherent within the project.

Public Services and Utilities

A. Wastewater Transportation

88 The special engineering design of the sewer system mentioned on page 167 should be extensively researched to ensure that this type of facility is feasible before a decision on the project is made.

B. Water

89 On page 172, the report says that Redwood City is responsible for providing water to the development. The report should also mention the impact the development will have on water supplies on the Peninsula. A scenario and associated impacts should be developed for the worst case, i.e., a repetition of the 1970s drought and accompanying water rationing.

Population and Housing

90 In the mitigation section on page 176, the provision of low and moderate income housing units within the project is mentioned. This point should be elaborated on in the report due to the importance of providing affordable housing on the Peninsula. A recent court decision, Associated Home Builders, etc. Inc. vs. City of Livermore (18C 3d 582), requires such discussion and the meeting of the judicial parameters established by that court must be met before this document can be certified as complete, correct or adequate.

Recreation

91 In the impacts section on page 178 and 179, the report should stress the necessity for increased patrolling of the refuge area if the project is developed. Funding for this increase should be investigated. Who will pay for this service and how much will it cost?

Growth Inducing Impacts (pp 181-182)

92 While the report states the growth inducing impacts the project may have, it does not quantify these impacts. For example, the report says that the increased population would require additional goods and services but it is not detailed within the report the amount of additional goods and services which would be required. The demand for moderate income housing is said to be likely to increase as a result of the proposed development unless some of the housing in the project area is made available to moderate income families, but no figures are given as to how much of an increase in demand for moderate housing there would be or how many units would be allocated to moderate income families. Such discussion is required in order for the DEIR to be certified as an adequate document under CEQA.

Cumulative Impacts Section (page 186)

The cumulative impacts of the proposed project are given inadequate coverage in the report. While the report mentions that the project would contribute to the intensification of land use in the largely reclaimed marshland area, it does not

93 specifically detail the cumulative effect that the proposed project and existing or planned development in similar areas would have on the region. For example, it is important that the Mariner's Island Shopping Center proposed for San Mateo as well as other major Peninsula developments be included along with the proposed project in the assessment of cumulative impacts.

In the California Appellate Court case, *Whitman vs. Board of Supervisors*, 88 Cal. App. 3d. 397 (January 1979), the court said the following: "Specific reference to related projects, both public and private, both existent and planned, in the region should be included, for purposes of examining the possible cumulative impact of such projects." This statement of the court and other comments of the court made during the court proceedings should be used as guidelines for the discussion of the cumulative impacts resulting from the project.

Marsh Restoration Alternative

94 This alternative should be studied further before a decision is made on the project to determine if this alternative is financially feasible and physically and biologically possible.

Thank you again for the opportunity to review the DEIR.

Sincerely yours,



William Rozar
Planner III

WR:KF:as

Attachment

BOARD OF SUPERVISORS
EDWARD J. BACCIOTTO, JR.
ARLEN GREGORIO
WILLIAM J. SCHUMACHER
K. JACQUELINE SPEIER
JOHN M. WARD

MARK C. NELSON
DIRECTOR

(415) 384-5600 • Ext. 4451

COUNTY OF SAN MATEO

COUNTY GOVERNMENT CENTER • REDWOOD CITY • CALIFORNIA 94063

June 1, 1981

Planning Commission
City of Redwood City
Middlefield Road & Jefferson Ave.
Redwood City, CA 94064

Attn: Ken Schroeter, Planning Director

Gentlemen:

RE: ENVIRONMENTAL IMPACT REPORT--SOUTH SHORES PROJECT, REDWOOD CITY

We have received a copy of the Draft Environmental Impact Report dated April 13, 1981, for the proposed South Shores concept plan in Redwood City. We have had the opportunity to review this document and are pleased to be able to comment on some of the information contained within the report. As you know, our office is responsible for the development of affordable housing for both sale and rent throughout San Mateo County and, in this regard, we are charged to provide technical assistance to both cities and private developers interested in the provision of affordable housing.

We would point out that the Draft EIR presents but a limited discussion on the housing needs for both Redwood City and the County as a whole. The brief narrative contained on pp. 175-176 fails to adequately document both the Redwood City and south San Mateo County needs. As you know, the mid-Peninsula housing market is currently one of the highest in northern California in reference to average sales price, and our rental vacancy rate remains exceedingly low due to the lack of new rental construction. In anticipation of continuing difficulties with regard to financing new housing and with changes recently proposed by lenders, we can assume that the ability of most families to purchase affordable housing will continue to be limited.

The County of San Mateo has been fostering discussion geared toward the concept of creation of housing and employment within close proximity to major transportation arteries. In this regard, we believe that the proposed South Shores plan would accomplish the purpose of providing a mix of housing and employment opportunities in a setting that would minimize the waste of energy by requiring long commuting distances for employees. We would point out, however, that the Draft EIR should be expanded to discuss a

Planning Commission
June 1, 1981
Page two

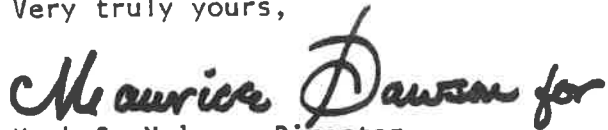
myriad of techniques available to both Redwood City and the developer to accomplish affordable housing for sale and rent.

96

The County of San Mateo is prepared to assist both the City of Redwood City and South Shores, Inc., in your joint efforts to consider the provision of truly affordable housing within the proposed project. Such techniques as land writedown, density bonuses, fast-track permit processing, reduction in local fees and the use of both mortgage revenue bonds and other public financing mechanisms can all be applied toward the objective of achieving affordable housing.

We look forward to the ongoing public dialogue regarding the proposed South Shores project and will be available to both the City of Redwood City and the developer should you desire any technical assistance regarding the provision of affordable housing.

Very truly yours,



Mark C. Nelson, Director
Housing and Community Development

MCN:br

cc: Eugene F. Masciarelli



Peninsula
Conservation
Center
2253 Park Boulevard
Palo Alto, California 94306
Telephone (415) 328-5313

May 29, 1981

RECEIVED
MAY 1 1981
CITY OF REDWOOD CITY
PLANNING DEPARTMENT

TO: Planning Commission of the City of Redwood City
RE: Draft Environmental Impact Report, South Shores Concept Plan

Dear Commissioners:

Thank you for providing the Peninsula Conservation Center (PCC) with the opportunity to present our views on the South Shores Draft Environmental Impact Report (DEIR). Enclosed is a copy of our testimony at your May 19 hearing, given by Evelyn Helmer of the PCC Board of Directors. As you know, our comments at that hearing focussed on the Vegetation and Wildlife section of the DEIR. As we have serious concerns about other sections, particularly the section on traffic, we would like to use this space to communicate these concerns to you.

The DEIR does an adequate job of describing the existing and impending traffic problems in the immediate area of the South Shores development. As the DEIR states, currently there is an average of 137,000 vehicles/day observed on the Bayshore Freeway (US 101) at Whipple Avenue. Traffic is consistently heavy throughout the day and especially heavy during peak hours. The DEIR describes the proposed development as putting 60,000 additional cars over the Whipple Ave. interchange per day, 50,000 of which would end up on US 101.

97 Given the existing road widths of US 101 and Whipple Ave., the traffic situation caused by the proposed South Shores development would be untenable. For that reason, the DEIR makes several assumptions regarding road changes. First, Whipple Ave. on the west side of Bayshore is assumed to be widened to six lanes. We would like more information on any impact that widening may have on existing structures located along Whipple Ave. Assumptions are also made regarding improvement of the Whipple Ave. and Holly/Redwood Shores Parkway interchanges, along with the provision of new arterials east of the freeway. What are the costs of these improvements? Who will bear these costs? The DEIR should address these questions fully and in detail.

A further assumption in the DEIR is the widening of US 101 to 10 lanes (an addition of two lanes). As a possible mitigation measure listed at the end of the section, the DEIR suggests adding two to four lanes to 101, "probably from the San Mateo to the Dumbarton Bridge." According to the DEIR, "without widening US 101 to 10 lanes, proposed development would saturate the freeway with traffic". Again, what are the costs of these improvements, and who will bear them? The DEIR suggests

98 that "cost-sharing among various developments and Caltrans would probably have to be made" and then states "Caltrans does not plan any widening in its current 5-year plan." This contradiction leaves the implementation of these mitigation measures totally up in the air.

The assumptions made in the DEIR are not only incomplete and non-specific, they are also inadequate. Even when considering all the assumptions noted above, according to the analysis outlined in the DEIR, traffic at the intersections along east Whipple Ave. would operate at Service Level "E", with a volume/capacity ratio of 90-99%, described in the DEIR as "at or near capacity" with "major delays and stoppages".

99 The list of mitigations suggested at the end of the section are subject to the same questions and concerns as the assumptions. Who will bear the costs of additional on and off-ramps, along with the building of an "East Bayshore Expressway"? And, perhaps more important, will these mitigation measures, along with bus service, park and ride lots, and flexible work hours, actually solve the incredible traffic problem or are they partial mitigation measures at best? The DEIR hails staggered or flexible work hours as "the single most effective mitigation measure to reduce peaking of traffic." However, several pages earlier it makes the point "if traffic is already evenly spread and near capacity during much of the day, then the usefulness of this mitigation measure is lessened." The current traffic situation on Bayshore Freeway is, according to the DEIR, "consistently heavy". The impact of a development of such magnitude as the South Shore project, even with the proposed mitigations, could seemingly only exacerbate the current problems.

100 The DEIR only looks at traffic problems generated in the immediate area of the South Shores development. The scope is far too narrow. Further studies should be made on the traffic impacts on El Camino, and the intersections on the west side of Bayshore Freeway. And certainly studies should be undertaken of effects of increased traffic on cities up and down the Peninsula.

Finally, a word on the cumulative impacts of the development projects planned for the total area east of Bayshore, north of Marsh Road, and south of Foster City. This area is referred to as the Eastside area. The horrendous traffic problems associated with buildout of the Eastside area would, according to the DEIR, "place the amount of additional capacity required as equivalent to another 8-lane freeway in the corridor." The DEIR also points out that "full buildout is not likely to be feasible in the planning horizon of this study" and that the "construction of the proposed project would have the effect of decreasing the feasible size of other proposed projects in the Eastside area." Someone will have to take a hard look at the Eastside plans and determine which projects have highest priority, instead of using the "first come, first served" approach.

The Peninsula Conservation Center would also like to voice our concerns about some additional points that were not adequately addressed in the EIR:

101

- 1) Who will pay for the expansion of the sewage treatment plant? The DEIR suggests either full or partial financing by the project sponsor. Is the sponsor prepared to bear these costs?
- 2) The DEIR concludes that the City will experience a series of positive and negative cash flows that will stabilize after 10 years. Is the City willing to undergo a \$200,000 deficit for 10 years, hoping to get positive return on a project that may never get completed?

102

- 3) The project is proposing to add 12,900 jobs and 3,723 housing units to Redwood City. The Redwood City General Plan suggests the addition of one housing unit for every job created. As you can see, the proposed development would aggravate the need for housing in Redwood City and put housing pressure on already-strained neighboring cities. We would also appreciate a detailed account of the extent of affordable housing, if any, that would be generated by this project.

These are our concerns. We would appreciate it if we could continue to be informed of the review process for this development proposal. Thank you.

Sincerely,



Malka Kopell
Program Director

cc: Robert Hickman BCDC
Cal Fong, US Army Corps of Engineers
Ted Wooster, Calif. Fish and Game
Peggie Kohl, US Fish and Wildlife Service
Eugene Masciarelli, Redwood Shores, Inc.

Encl.



LARRY SEEMAN ASSOCIATES, INC.

500 newport center drive, suite 525
newport beach, california 92660
phone (714) 640-6363

2927 newbury street, suite c
berkeley, california 94703
phone (415) 841-6840

June 8, 1981

Redwood City Planning Commission
City Hall
Middlefield Road & Jefferson Avenue
Redwood City, California 94063

Members of the Commission:

Attached is a copy of our revised report to Mr. Eugene Masciarelli of Redwood Shores, Inc., on the Vegetation and Wildlife section of the South Shores Concept Plan Draft Environmental Impact Report. We have updated the report to make it consistent with the June 1, 1981 decision of the City Council defining the limits of Bair Island, added a list of references, and corrected an error in pagination. This submittal should be considered Redwood Shores, Inc. formal comments on the Vegetation and Wildlife section of the Draft EIR.

Sincerely,

LARRY SEEMAN ASSOCIATES

A handwritten signature in black ink that reads "Malcolm J. Sproul". The signature is written in a cursive, flowing style.

Malcolm J. Sproul
Associate

Enclosure (1)
MJS:jd

- 500 newport center drive, suite 525
newport beach, california 92660
phone (714) 640-6363
- 2927 newbury street, suite c
berkeley, california 94703
phone (415) 841-6840



LARRY SEEMAN ASSOCIATES, INC.

June 8, 1981

Mr. Eugene Masciarelli
Redwood Shores, Inc.
350 Marine World Parkway
Redwood City, California 94065

Dear Mr. Masciarelli:

We are pleased to submit the results of our review of the Vegetation and Wildlife section of the Draft EIR on your South Shores Concept Plan. As you requested, we evaluated the section both in terms of its organization and its content. In addition, we obtained an estimate of the area of salt marsh and related habitat types in the South Bay and assessed, on the basis of information available through other sources, the likelihood that salt marsh could be reestablished on the project site. Our report is attached and we have summarized our findings here for your convenience.

With respect to its organization and written quality, the section we reviewed had several flaws. The Setting section of an EIR is supposed to include a description of the project site. For projects such as this one it may be necessary to describe the area around the project site because of the strong ecological relationships that tie the site to its surroundings. EIP described the habitat types present on the adjacent Bair Island, but failed to indicate clearly what habitat types are actually present on the South Shores project site. This failure is the primary organizational shortcoming in the Setting section. Misplaced and unnecessary information are the other organizational flaws.

A host of other problems, including unclear explanations and pervasively faulty syntax, create difficulties for the reader. They tend to conceal the information or to produce text that is dry and difficult to read. The guidelines for our criticism of the written quality were provided by Wilfred Stone and J. G. Bell in Prose Style, A Handbook for Writers. William Strunk, Jr. and E. B. White in The Elements of Style, Sir Ernest Gowers in The Complete Plain Words, and Dr. Michael Stroud in an unpublished manual used in a course on Technical report writing and editing at the University of California at Berkeley.

These authorities collectively suggest that the writer avoid awkward sentence constructions, indirect statements, the passive voice, and forms of

the verb "to be" (was, is, were, etc.) and use concise constructions, direct statements, and active verbs that express the intended event or idea. The section we reviewed contains an excessive number of constructions that should be avoided. Because they make it difficult for the reader, we consider them to be flaws in syntax.

Several explanations are unclear, either because of jargon, ambiguous terms, or poorly chosen words alone. We provide a few examples in our report.

With respect to content, accuracy, and completeness, the Vegetation and Wildlife section is generally adequate. We are satisfied that the important impacts have been identified and that the mitigation measures proposed would effectively minimize the impacts of the project on the adjacent area. We feel that the Setting section contains most of the information necessary but that it should be designed to include a proper description of the project site.

In our report we identify several problems. The most important of these are listed below and the remainder are contained in our report.

On page 32 in the description of the project characteristics, the report states that two bridge crossings of Corkscrew Slough are proposed. They are not proposed in this development plan and reference to them should be deleted. If the bridges were proposed the discussion of potential impacts would need to be significantly revised.

The Setting portion of this section makes numerous references to the use of Bair Island by a variety of wildlife species. Of particular interest are the rare or endangered species and the heron and tern nesting colonies. We feel it would be useful to the reader if the areas of principal use by these species were mapped. A suitable map containing this information is found in the "Bair Island Environmental Study" prepared by the State Lands Commission.

We have two specific recommendations on the proposed mitigation measures. The report should recommend as mitigation that no construction work or disturbance of vegetation take place on the outboard side of a levee except where bridge crossings are proposed or as necessary for construction work on the marina.

The report recommends as mitigation that a six-foot-high chain-link fence be placed along the inner edge of a buffer zone protecting Corkscrew Slough

Mr. Eugene Masciarelli
June 2, 1981
Page 3

lsa

and that the borrow trenches found along the inboard side of the levee be enlarged. This measure should be modified to allow use of a more aesthetically pleasing fencing material and to use the enlarged borrow pits as an aesthetic feature in project plans.

We have also compiled information regarding the amount of salt marsh and marsh-related habitat types in South San Francisco Bay and the San Francisco Bay National Wildlife Refuge, as you requested.

We were unable to reach a definite conclusion on the question of whether the salt ponds present on the South Shores site (ponds A-9, A-10, A-11, and A-12) are restorable in their existing condition or whether mechanical measures (excavation, scraping, sculpturing, filling) would be necessary to allow salt marsh species to establish if the ponds were opened to tidal flow.

Please feel free to call me if you have any questions about the information contained in our report.

Sincerely,

LARRY SEEMAN ASSOCIATES

Malcolm J. Sproul

Malcolm J. Sproul
Associate

Enclosure (1)
MJS: jdd

REVIEW OF THE VEGETATION AND WILDLIFE SECTION
DRAFT ENVIRONMENTAL IMPACT REPORT
SOUTH SHORES CONCEPT PLAN

INTRODUCTION

As requested, we have reviewed the Vegetation and Wildlife Section of the Draft Environmental Impact Report that Environmental Impact Planning Corporation (EIP) prepared for the South Shores Concept Plan. In our review we gave separate consideration to the organization of the section and to its content, accuracy, and completeness. We present the results of our review and analysis of the organization first. As part of our review of the organization of the section, we analyzed the writing style.

ORGANIZATION AND WRITING STYLE

We make our comments and suggestions regarding the organization and written quality of the Vegetation and Wildlife section with the understanding that Environmental Impact Reports are typically written under tight time constraints. The time available does not often permit the consultant to let the initial in-house draft sit briefly before editing it for submission to the client. As we know from our own experience, the Draft EIR is normally better organized and written when the initial in-house draft has been allowed to "cool" before being edited. We assume, therefore, that the organizational problems and the syntactical errors that have made the report difficult to read and understand would have been eliminated had the consultant had more time. However, we do believe that the responsibility for clear, well-written, easily readable reports still rests with the consultant.

With this understanding we conducted our review. We found several kinds of problems that may explain the difficulty Redwood Shores, Inc. had with the Draft EIR. Some of these problems are minor, being restricted to small portions of the Vegetation and Wildlife section. Others are pervasive and characterize the entire section. These problems are: weak organization caused by an inadequate description of the project site apart from its surroundings, the inclusion of information in the wrong place, and the inclusion of unnecessary information; inadequate or unclear explanation resulting from ambiguous language, use of jargon, and poor choice of words; syntactical errors and frequently faulty sentence construction, grammatical errors and poor relationships between ideas. Together, these problems make the content of the section difficult to grasp in places.

The first organization problem is a failure to distinguish the project site from its surroundings in terms of the habitat types it supports. The introductory paragraphs in the Setting section describe the South Shores project site as well as Bair Island. It fails to make a clear distinction between the habitat types that are present within the project site boundary and those that are part of the larger mosaic of surrounding habitat types that includes Bair Island.

103 The information is provided as the reader proceeds through the series of subsections on the individual habitat types that "are found in the area that would be affected by the proposed project," but the list of habitat types provided at the outset should state which are present. Furthermore, the reader is not made aware of Figure 6, which is a map of the habitat types, until four pages later. A reference to Figure 6 should be included in the paragraph that lists the habitat types. The information about the habitat type distribution in the text is not complemented well by the map. Raised levees occur around all four dry evaporator ponds but the legend accompanying the map does not include a symbol for the type and the map does not show its full areal extent. Upland Grass and Shrubs vegetation is not present on the project site according to the map but the reader cannot tell this from the text. Because the map does not clearly show the extent of the Raised Levee type, the reader cannot trust that the absence of the Upland Grass and Shrubs type from the project site on the map means that it is not present in the field.

The problem of inadequate site-surroundings distinction is compounded by the switching back and forth between the project site and Bair Island in the Salt Marsh subsection. The first reference is made to "the entire Bair Island" and the next is to the project site. Although the switch is clear, the subsequent wildlife information is presented within the context of the "entire Bair Island" again. This switch is also clear. The problem rests not with the switches, but in the effect it has on the reader given that the types present on the site have not been indicated beforehand.

The reason the site is not well separated from the surrounding area in the description rests in EIP's correct understanding that the site is an ecologically integral part of a larger area. Strong ecological relationships tie the site to Bair Island and the impacts of development on the project site cannot be analyzed as if the project site is isolated. However, to fulfill the purposes of the EIR the project site must be described unambiguously regardless of how strongly it is tied to surrounding ecosystems.

Information is also included in the wrong place several times in the section. Mislocated information is an indication of poor organization. For example, on page 77 information about the California clapper rail and the salt

104 marsh harvest mouse is included in the Impacts section when it belongs in the Setting section. In this instance, the information appears to be redundant but could be included in the form of appositives without seeming to be out of place. On page 86, the first full paragraph contains information that belongs in the section of the EIR devoted to growth-inducing impacts. Although EIP includes the information in the first full paragraph on page 60 as part of the Setting, it could just as well be placed in the Impacts section to support the statement regarding the loss of salt marsh.

The next organizational problem is relatively minor. It results from the inclusion of unnecessary information. The first two paragraphs of the Salt Marsh subsection present interesting information that the reader can use to assign importance to the salt marsh. However, the information is general, is not provided in similar form for the remaining habitat types, and does not contribute to a foundation upon which the remainder of the section relies. For these reasons, it can be omitted.

The last organizational problem is also relatively minor. It results from non-parallel structure in the Impacts and the Mitigation sections. The Impacts section begins with a consideration of the salt evaporator ponds and levees, then the salt marsh, sloughs, and artificial lagoons. Then the issue of urban pollutants is addressed. Mitigation measures are not presented in the same sequence as the impacts. Urban pollutants are addressed immediately after sedimentation. This non-parallel sequence is slightly irritating but is only important in that it accompanies other organizational problems.

There are several explanations that are either inadequate or unclear in the Vegetation and Wildlife section. We identify a number of them here by way of illustration.

105 One of these has to do with the areas of actual marsh and restorable marsh. In the Mitigation section a reference is made to 940 acres of restorable marsh. This is a new number to the reader. Previously, the reader is informed that there are 71 acres of actual salt marsh on the project site and that the total project area is 1095 acres. The reader can infer that the dry evaporator ponds on the South Shores site are part of the 1024 acres and that the area covered by levees could account for the remainder, but the area of dry salt evaporator ponds is given earlier as 919 acres and no area is given for the levees. EIP should supply the link for the reader.

106 Another unclear explanation occurs on page 63 where California clapper rail numbers are being presented. Because the same bird can be seen several times, sightings cannot be equated with the number of actual individuals observed. EIP does not confuse the two, but by using "also" and "additional" to refer to Dr. Harvey's and their own observations, EIP may lead the unin-

formed reader to assume that the three numbers can be added together to produce a meaningful total. Although this misinterpretation may not be extremely likely, EIP should eliminate the possibility by stating the relationship more adequately.

In discussing the salt marsh song sparrow, EIP attempts to establish a relationship between diminishment of a riparian corridor and development. The connotation is that a barrier is being created but no mention is made of one. The explanation is also weakened by an attempt to establish a cause and effect relationship within one sentence that does not contain the necessary information.

107 On pages 68-69 herons are described as nesting relatively near the ground (atop shrubs) because of the absence of predators. At the end of the next paragraph white-tailed kite nests, also located near the ground atop shrubs, are described as being vulnerable to predators. If, as may be interpreted, the intent is to make a statement about future possibilities following development, the statement regarding vulnerability is misplaced. If the intent is to describe existing conditions, the statements about the herons and the white-tailed kites appear to be contradictory. This contradiction should be resolved.

In several instances, the explanations fail because the wrong words were used. Some jargon terms are at fault, but in several cases the term used is incorrect. The following comments are offered regarding several examples:

- 108
1. page 75 - The location of the Point Reyes bird's beak observed in 1945 may not have been precisely recorded but precision is not a property of the location itself.
 2. page 67 (next to last line) - "Vertical stratification" is a jargon term. It refers to the layering of plant foliage that results when plants of different height occur above and below one another.
 3. page 78 (line six, first full paragraph) - Erosion is not a necessary consequence of fill placement. Some material may "slop" over into the salt marsh or be carried into it by surface runoff, but the mechanism is not satisfactorily explained.
 4. page 78 (fifth sentence) - "Change" has no logical referent in either this sentence or the preceding one.
 5. page 60 (line five) - "Young growth stages" do not take advantage, the organisms do. This is an example of poor shorthand.
 6. page 66 (line seven) - "Haul-out areas" is jargon. The term may not mean anything to the average reader.
 7. page 85 (last sentence, top continued paragraph) - "Decimate" means to reduce in number by ten percent. The sense of the sentence is that the entire colony was destroyed rather than reduced fractionally. The word is, therefore, improperly used. Furthermore, by using "decimated" and

"abandoned" to refer to the colony, EIP creates a situation where the reader cannot tell whether the term "colony" refers to the birds or to the place where they had nested. The relationship is confusing.

8. page 81 (last sentence, top continued paragraph) - "Generalized" is an incorrectly chosen word. It has no meaning with respect to water quality here.

The last category of problems contains basically problems with syntax. These problems occur consistently throughout the section. They are, however, not unusual in scientific writing. These problems include indirect statements, wordy constructions, overuse of the passive voice and forms of the verb "to be", and occasionally poor relationships between the ideas in sequential sentences. No examples illustrating the unnecessary use of the passive voice or forms of the verb "to be" will be given. These verbs are used almost uniformly throughout. These verbs, particularly "was", "are", etc., tend to require longer sentences and they tend not to portray the intended relationship between the subject of the sentence and the action event portrayed. The real verb is usually concealed somewhere in the sentence in the form of a noun, adjective, or adverb and, because it is concealed, the sentence lacks a feeling of action. Strung together, a long series of sentences without anything more than forms of the verb "to be" - which are no more than the grammatical equivalents of equal signs - produces boring reading through which the reader must struggle to glean the information contained.

A few examples of indirect statements are listed below to illustrate:

1. page 81 (sentence two, third paragraph) - "may cause their death" is an unnecessarily indirect way to say "kill them". The shorter, more direct version is preferrable because the impact on the reader is immediate.
2. page 82 (third sentence, paragraph two) - B.B. guns are not disruptive to foraging birds, youngsters (or others) that discharge them are. The sentence is unnecessarily indirect.
3. page 81 (last line, third paragraph) - This is an example of faulty implication. "But rather" is not the correct link between "additional stress" and "visible effects" unless they are mutually exclusive or opposite kinds of consequences.

The results of the review of the organization and written quality of the Vegetation and Wildlife section can be summarized in this way. The information present is concealed or partly misplaced. The writing style, including syntactic conventions and choice of words, does not facilitate the direct and unhindered exchange of information. The section must be read more than once to be fully understood.

CONTENT

The information presented in the Vegetation and Wildlife section is generally correct. The major organizational problems in the setting and potential impacts sections are mentioned above. The mitigation measures proposed appear adequate to protect the important wildlife resources of the South Shores project site and Bair Island and we have only suggested slight modifications. Our specific comments on the contents of this section are listed below:

- Page 58 - The first two paragraphs of this section should be labeled "Introduction." The setting should begin with the third paragraph.
- 109** Page 62 - The California clapper rail and the salt marsh harvest mouse are Federally and State listed as endangered species.
- 110** The Vegetation Map is inadequate. It should be retitled "Habitat Types", identify the levees, and show the borrow pits which pond water. The project site should be differentiated from the surrounding area. The map is difficult to read and should be redrawn or reproduced in a different manner so that all information is legible.
- 111** The clapper rail breeds at Elkhorn Slough, Monterey County in very low numbers. The last sentence of this page should be changed to reflect this.
- Page 64 - The salt marsh harvest mouse is listed as endangered by both the State and Federal governments.
- 112** The report should state that the optimal habitat of salt marsh harvest mice is a thick cover of pickleweed which is submerged by only the highest tides. Use of marginal habitats should also be described.
- 113** Page 67 - The report should state if any of the upland grass shrub type is found on the project site.
- 114** Page 70 - The California least tern is listed as an endangered species by both the State and Federal governments.
- 115** Page 71 - The sentence mentioning a potential increased colonization of San Francisco Bay by least terns due to destruction of other nesting areas is speculative and should be deleted. The Alameda Naval Air

Station least tern colony has not been abandoned. In 1980, 88 nests were recorded. Predator pressure probably resulted in early dispersal of the birds.

- 116** Page 72 - The location of the breeding birds shown in this table should be mapped as well as the location of all rare and endangered species.
- 117** Page 74 - The peregrine falcon is listed as an endangered species by the State and Federal governments.
- 118** Page 80 - Information presented in the 3rd paragraph, beginning with the third sentence and continuing onto page 81, fifth sentence should be deleted from this section and placed in the "Water Quality" section of the report.
- 119** Page 84 - The reference to dogs as predators of salt marsh harvest mice should be deleted. Dogs do not hunt mice to any great extent as cats do. The reference to coyotes swimming Corkscrew Slough should be deleted. Coyotes are not found in this area and it is doubtful they would be kept as pets by homeowners.
- 120** Page 86 - We disagree with the statement that noise from the proposed bridges would impact wildlife. Marsh associated wildlife species including clapper rails are found adjacent to busy freeways in several locations around the bay such as at the Bay Bridge Toll Plaza and the Hoffman marsh. This sentence should be deleted.
- 121** Pages 89 - The mitigation measure recommending that a six foot high chain link fence be placed along the inner edge of the buffer should be revised to allow a more aesthetically pleasing fencing material which is anchored at its base.
- 122** A mitigation measure should be added to the report which prohibits construction work or disturbance of vegetation on the outboard side of all levees except where bridge crossings are proposed or for necessary construction work on the marina.

HABITAT TYPE AREAS

The following table shows the areas of salt marsh and marsh-related habitat types in South San Francisco Bay, the San Francisco Bay National Wildlife Refuge, and the Greco Island unit of the refuge. The areas for the entire South San Francisco Bay were taken from Volume 1 of Protection and Restoration of San Francisco Bay Fish and Wildlife Habitat, prepared by Jones & Stokes, et al. for the U. S. Fish and Wildlife Service. The areas for the Wildlife Refuge were obtained from Mr. Larry Warden, Assistant Refuge Manager.

HABITAT TYPE AREAS

		Area, acres
<u>SOUTH SAN FRANCISCO BAY (acreages approximate)</u>		
Tidal Marsh		5,440
Diked Marsh		3,520
Tidal Ponds		640
Diked Ponds		26,240
TOTAL		<u>35,840</u>
<u>SAN FRANCISCO BAY WILDLIFE REFUGE</u>		
	Whole Refuge	Greco Island Unit ¹
Salt Ponds	12,690	625
Salt Marsh	3,828	1,312
Tidal Mud Flats (unvegetated)	5,345	2,369
Upland (Grass and Shrub)	121	35
Open Water	815	417
TOTAL	<u>23,000</u>	<u>5,028</u>

¹The Greco Island Unit includes Bair Island, Greco Island, the refuge area north of Dumbarton Bridge on the west side of the Bay, and a small parcel south of the bridge.

HABITAT RESTORATION

The information available regarding marsh restoration leads us to believe that restoration is possible. The area flooded approximately five years ago on Bair Island has been undergoing slow revegetation. Currently, pickleweed stands cover 15-20 percent of the flooded area (Lowe, 1981; Cole, 1981). This recovery suggests that the same could be expected elsewhere in the immediate area. The issue in restoration is cost.

Restoration of marsh habitat in ponds A-9 and A-10 of the South Shores property could be achieved at less cost than restoration of ponds A-11 and A-12. According to Mr. Ray Tingaard of Leslie Salt Company, all four ponds were concentrating ponds but salinity increased from pond A-9 to A-12. Pond A-12 was most saline and would have the most saline substrate now. Substrate rehabilitation (scraping, sculpturing) may be necessary to insure or speed the revegetation of the more saline ponds (A-11, A-12), but restoration of all four ponds appears to be at least mechanically feasible.

Tidal elevations, ground surface elevations, substrate salinity information, and data on the past and present occurrence of salt marsh species (with respect to tidal and ground surface elevations) are necessary. Together, these pieces of information would provide the base from which to determine how restoration could be accomplished.

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- Atwood, Jonathan L., R.A. Erickson, P.R. Kelley, and P. Unitt. 1979. California least tern census and nesting survey, 1978. California Department of Fish and Game, Nongame Wildlife Investigations, Job V-2.13.
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- Harvey, Thomas E. 1980. California clapper rail survey, 1978-1979. California Department of Fish and Game, Job Final Report, Job V-1.8.
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- Schaub, David B. 1971. Salt-marsh harvest mouse survey. California Department of Fish and Game, Special Wildlife Investigations.

PERSONS CONTACTED

Ms. Peggy Cole, U.S. Fish and Wildlife Service

Mr. Roy Lowe, San Francisco Bay National Wildlife Refuge

Mr. Ray Tingaard, Leslie Salt Company

Mr. Larry Warden, Assistant Refuge Manager, San Francisco Bay National
Wildlife Refuge

Mr. Ted Wooster, U.S. Fish and Wildlife Service

May 28, 1981

SANTA CLARA VALLEY AUDUBON SOCIETY, Inc.

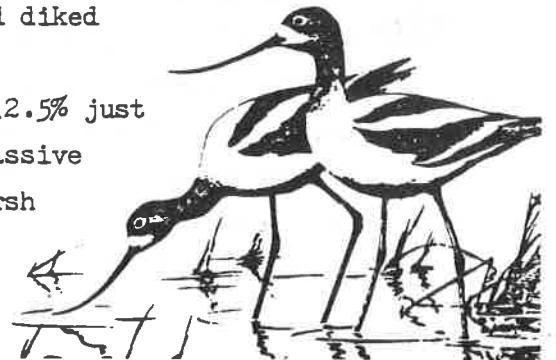
To whom it may concern:

This letter is in response to the Draft Environmental Impact Report for the South Shores development proposal adjacent to Bair Island in Redwood City, Calif. In a letter dated 3/19/81, South Shores requested that a distinction be drawn between their actual project site and Bair Island proper. The Santa Clara Valley Audubon Society (SCVAS) acknowledges this distinction. However, we feel the magnitude of this project which calls for 3,723 dwelling units with a potential population of 9,307 people, will undoubtedly have a significant impact on Bair Island itself directly and indirectly.

The "vegetation and wildlife" section of the DEIR was thorough, well documented and articulate. It addressed the amazing abundance of breeding populations on Bair Island, its uniqueness as an isolated salt water marsh ecosystem, the four endangered species dependent on its habitat and the impacts likely to be felt from the urban conversion of adjacent lands. We feel however, that the mitigation measures are entirely inadequate and that development of this magnitude cannot go unfelt by neighboring inhabitants.

123 A 100 foot buffer zone along Corkscrew Slough and a 6 foot high chain link fence will serve as obstacles but not deterrents to humans, rats, cats, dogs, raccoons, opossums and all other extensions of civilization who all pose predation threats to the nesting avian species. Prohibiting recreation on Corkscrew Slough, rat-control programs and domestic animal controls sound nice in theory but are highly unenforceable regulations, as is attempting to monitor the refuge itself. If, for example, dogs managed to reach the Island and caused subsequent abandonment of the California Least Tern colony, what would be the penalty? Who would be blamed?

The thrust of the San Francisco Bay Plan and BCDC focuses on restoring potential marshland which is in direct conflict with this proposal. Likewise, "the preservation of existing wetlands and restoration of those lowlands lying within the historic marsh margin of the Bay are goals of the highest priority for both the U.S. Fish and Wildlife Service and the California Department of Fish and Game." That 87.5% of the Bay's historic intertidal marshlands have been dredged, filled and diked for conversion to harbors, industrial, commercial, residential and other uses, renders the remaining 12.5% just that much more valuable. In the context of these massive reductions, the report notes all remaining salt marsh areas must be viewed as precious commodities to be preserved, maintained and if possible, enhanced.



124 Restoration of pond B-3 as compensation for the loss of 940 acres of marshland is a contradiction. On p.58 of the DEIR it states, " Bair Island as a whole constitutes one of the most valuable remaining wildlife areas in the South San Francisco Bay region." The value of this land must be measured not only against what has been lost but further as its value to upcoming generations who might appreciate observing the California Clapper Rail, California Least Tern, Brown Pelican and Salt Marsh Harvest Mouse alive in their native habitat instead of stuffed in the Steinhardt Museum. What mitigation measures are there for disrupting the remaining natural habitat of a federally endangered species? Improving the levees along Corkscrew Slough could have just that consequence for the endangered Clapper Rail.

Potential impacts to the waterways surrounding the project site need critical examination and are circumvented in the EIR by lack of proper data. If there is no monitoring of the water quality now, how will they measure potential degradation of water quality in the future? The DEIR states, "It is thought that all 3 surrounding sloughs; Corkscrew, Steinberger and Redwood Creek have been adversely effected by urban contaminants but there is no conclusive data." On p.56 the DEIR reiterates, "The existing hydrologic and biological systems in the wetlands would be disrupted by dredging and filling. The quantity of urban runoff and pollutant concentrations have not yet been determined. Therefore the extent of adverse impacts cannot be concluded." Although the EIR is careful to point out the erosion, sedimentation and inevitable urban stormwater runoff that is likely to pollute these waterways as a result of this project, it offers no mitigation measures which only raises more questions about the environmental feasibility of this project. The DEIR highly recommends that further detailed studies be conducted to render these determinations. Will this data be available in the final EIR?

126 On p.49 the DEIS states; "Erosion, slope failure and subsidence are the geomorphic processes most likely to occur across the project site. Because the younger bay muds may be slightly underconsolidated, the area gradually may be subsiding under the influence of it's own weight." The DEIR further states that the proposal necessitates a 'soil erosion control plan' to reduce post-construction settlement, to accomodate differential settlement and to produce stable slopes." Coupled with close proximity to the San Andreas Fault, the potential for long-range adverse impacts on this site is severe. Will prospective buyers be informed of these problems? What are the 'known design concepts' for solving the challenging geotechnical

environmental problems associated with this project? How does placing fill on subsiding land resolve the long-range potential for slope failure? How will altering the salinity of the soils effect their stability? Further, how will the project be landscaped in such a highly saline environment?

127 Traffic problems, although not quite so direct an impact, will be felt nonetheless. On p.120 the DEIR states, "Perhaps the more critical problem is that of mainline freeway capacity which demonstrates that without widening US 101 to 10 lanes, the proposed development would saturate the freeway with traffic." Caltrans has no plans to widen the freeway. How will this problem be resolved? Who will pay for it?

It seems clear that the environment as a whole in the San Francisco Bay Area is at a saturation point. If the housing-jobs imbalance has made the demands for housing so great that we need to destroy the last 12.5% of our most unique and productive tidal marshlands, then we have lost sight of our priorities. While the project contributes to the overall loss of wetland wildlife habitat, it also creates a heavy multiple taxation on the environment including traffic congestion, air pollution and depletion of public services and sewage. Coupled with the fear that this could be a precedent-setting project, the SCVAS would like to express extreme reservations. This is not only a local project but encompasses several State laws and policies concerning how we are to deal with our wetlands and waterways. The Wetlands Policy, CEQA, NEPA and the Federal Endangered Species Act arose from conflicts such as this one where the demands of urbanization were at the expense of other beautiful life forms. Perhaps one day Bair Island's value will exceed any market price Mobil Oil could set on it because her richness and beauty will be realized as belonging to us all.

Sincerely,

Carol C. Anderson

Carol C. Anderson

Chairperson, Land Stewardship Committee
H-29 Koshland Way
UCSC Santa Cruz,
Ca. 95064



Predatory Bird Research Group
231 Clark Kerr Hall

ENVIRONMENTAL FIELD PROGRAM
SANTA CRUZ, CALIFORNIA 95064

2 June 1981

TO WHOM IT MAY CONCERN:

This letter is in response to the Draft Environmental Impact Report for the South Shores development proposal for the area adjacent to Bair Island in Redwood City, California. I am in support of continued maintenance of this area as open space for wildlife use, rather than changing the area to convert it to human, urban or industrial use.

This area is a significant as one of the last remnants of tidal marshland in the South San Francisco Bay region. Marshlands in that area have been reduced by at least 75%, and they are unique and important parts of the community. Several species occupy this remnant of habitat and are present in important numbers, in many cases this area is the only region in which some of these species still exist in the Bay area.

128 My thesis on Bay area song sparrows taught me the value of the remnant Bay region marshland. One of the subspecies of song sparrow is completely limited to South San Francisco Bay. A large part of the remaining population occurs on Bair Island and the adjacent tidal sloughs. The area was special enough to develop this unique subspecies. I think that helps justify the area's continued existence.

A species I now am studying, the peregrine falcon, once nested on the ground in the area now known as Bair Island. This is the only record for this species nesting on the ground in California, so special of an area this region was. Now peregrines are only found at Bair Island as a migrant or winter resident visitors, but it is important to maintain the habitat for that purpose as well.

Open space, the wildlife values, these types of things are important. What may be more important is avoidance of continuing overcrowding in this general area by humans. The area is clearly heavily populated, the roads are over-vehicled, the halting of continuing habitat alteration in this area will also benefit the existing overcrowded human population. Better quality wildlife habitat can be maintained and at the same time maintain, or improve the quality of human life in the area.

Please consider resisting development of the Bair Island region for human urban use, and consider increasing the quality of wildlife habitat in the area.

Sincerely,


Brian James Walton
Coordinator

COUNTY OF SAN MATEO

INTER-DEPARTMENTAL CORRESPONDENCE

DATE June 1, 1981

TO: DAVID HALE, DIRECTOR OF PLANNING

FROM: S. H. CANTWELL, JR., DIRECTOR OF PUBLIC WORKS

SUBJECT: COMMENTS REGARDING DRAFT EIR SOUTH SHORE DEVELOPMENT PLAN DATED APRIL 13, 1981

129

The County of San Mateo objects to that portion of the EIR which discusses airport noise. The noise level standard of 50-60 CNEL used as normally accepted does not account for future homeowners who do not consider 50-60 CNEL as acceptable. Currently, complaints are received from individuals and homeowner groups which lie beyond the 50 CNEL. Lawsuits against the airport are threatened and a possibility exists that the county as the airport operator could incur noise associated liability. The construction of homes below the flight patterns of a long-established airport, especially in view of the current climate regarding aircraft noise, does not appear to be a compatible use.

Past experience at this and other airports reveals that developments near airports eventually create a conflict between the airport and the residents of that development. The fact that the airport was established prior to the development is soon forgotten and pressure to close the airport becomes severe.

130

There is no discussion or consideration of safety in the report. The excellent safety record of general aviation notwithstanding, there does exist the possibility of aircraft malfunctions and forced landings. Completion of this project will basically leave the pilot no place to go and the pilot may be forced to land his aircraft in a residential area with the inherent risk to those who reside below the aircraft's flight path. Such an action could also lead to county liability.

131

Pilots landing at the airport at night could encounter difficulty in locating the airport and further could have their night vision disturbed by lighting connected with the project. This possibility should be explored and examined in the report. Additionally, there should be a discussion of Federal Aviation Regulation Part 77 concerning height restrictions. This discussion is considered significant especially in view of the airport master plan which contains plans for a southeasterly runway extension.

RECEIVED

JUN 2 1981

CITY OF REDWOOD CITY
PLANNING DEPARTMENT

David Hale
June 1, 1981

Page 2

132

As a mitigation measure, consideration should be given to avigation/ noise easements and to sound insulation of buildings and homes that are proposed in the project. The Public Works Department will submit a request for such mitigation measures as a condition to project approval at the proper time. The annual operational count at the San Carlos Airport has been fairly well stabilized since 1969 when the tower was installed and operational counts were first established. While there are seasonal - and some yearly - fluctuations, it is anticipated that the number of landings and takeoffs will remain relatively high and the noise will remain at about the current level. Potential home buyers should be made aware of these facts through easements, conditions, covenants and/or restrictions.

S. H. Cantwell Jr.
S. H. CANTWELL, JR.

SHC:RB:lg
cc: Ray Burdick, Airports Manager

LEGAL AID SOCIETY OF SAN MATEO COUNTY

PETER H. REID
EXECUTIVE DIRECTOR

2221 BROADWAY
REDWOOD CITY, CALIFORNIA 94063
TELEPHONE (415) 365-8411

June 1, 1981

Planning Commission
City Hall
Redwood City, CA 94063

Attn: Ken Schroeter, Planning Director

Re: Draft EIR - South Shores

Dear Mr. Schroeter:

The following are comments on the Population and Housing Component (IVM) and related portions of the draft EIR.

CEQA itself, as well as implementing State guidelines and court decisions, makes it clear that adequate housing is an environmental concern that must be considered in an EIR. In regulating to protect the environment:

It is the intent of the Legislature that all agencies of the state government which regulate activities of private individuals, corporations, and public agencies which are found to affect the quality of the environment, shall regulate such activities so that major consideration is given to preventing environmental damage, while providing a decent home and satisfying living environment for every Californian. (Pub. Res. C. §21000g, emph. added)

Furthermore, it is State policy to:

Ensure that the long-term protection of the environment, consistent with the provision of a decent home and suitable living environment for every Californian, shall be the guiding criterion in public decisions. (Pub. Res. C. §21002d).

The environment that CEQA encompasses extends beyond conventional physical considerations:

Environment is more broadly defined as the totality of man's surroundings: social, physical, natural and man-made. It includes human, plant and animal communities and the social, economic and natural forces that act on all these (14 Cal. Admn. C. §15081; emph. added)

Similarly, the courts have held in conjunction with NEPA, a persuasive interpretation of CEQA since both Acts have comparable purposes (No Oil Inc. v. Los Angeles (1975) 13 Ca. 3rd 68):

...The traditional environmental objectives of clean air and water and preservation of national parks and wilderness are not the central concerns of most inner city poor. They focus instead on more immediate economic and social interest...

Their use of the term environment is broader than the traditional definition. The concept embraces not only more parks, but better housing; not only cleaner air and water but rat extermination. First National Bank v. Richardson, 484 Cal. 2d 1369, (7th Cir. 1973) (emphasis added)

Overall, the draft Housing component and other relevant portions do not contain sufficient information and analysis to satisfy the above and other requirements governing the scope and depth of an EIR. A technical appendix covering this matter may be necessary. More specifically:

133 1. The two paragraph "Setting" subsection does not provide any specifics about the housing needs of the low and moderate and other components of Redwood City's present and future population, or the City's plans and policies to meet these needs. Other factors in the local housing scene are not examined, such as the "gentrification" of lower income neighborhoods due to inflation, housing shortages, and other causes.

Without a comprehensive analysis here, the impacts and effectiveness of mitigation cannot be meaningfully analyzed.

134 2. The "Impacts" subsection is also too cursory. 12,900 jobs are projected, along with 3,723 new units. The extent that these new job holders and additional units would exacerbate, or reduce, gentrifying pressures and the employment-housing imbalance should be analyzed.

The nature of the commercial development suggests that a substantial amount of the new positions will be lower paying (i.e. clerical, service, etc.). But, there is no indication of whether the development will be structured so that low-moderate income employees will be able to live in the new housing and, if so, how this will be accomplished. To the extent that they will

not be accommodated, there should also be an analysis of where they are likely to reside and the ensuing ramifications (i.e. heightened competition for adjacent lower cost units and resulting price increases and displacement.

Furthermore, there is considerable discussion of traffic and transportation impacts elsewhere in the draft. But, accuracy there is suspect due to this variable, since the magnitude of the effects is related to the extent of added commuting generated by South Shores.

135 The consistency of the development with the City's housing element is not discussed, although it should be, either here or in the section on Relationship to Local Plans.

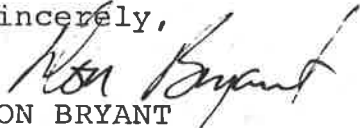
3. Mitigation is again too brief and incomplete.

136 Inclusionary zoning is mentioned in one sentence without any discussion of how and to what extent it will (and will not) reduce housing problems. Unless a sufficient analysis is undertaken feasibility cannot be ascertained.

Other mitigation measures are not mentioned. A few include: land donations for lower-income housing, density bonuses (i.e. AB 1151), Section 8, and expanding both the aggregate amount of housing to be developed and the number of low-moderate income units.

Thank you for the request and opportunity to comment on the draft. I hope that the foregoing provides direction for improving the Housing and related components.

Sincerely,


DON BRYANT
Attorney at Law

DB:bc



DEPARTMENT OF THE ARMY
SAN FRANCISCO DISTRICT, CORPS OF ENGINEERS
211 MAIN STREET
SAN FRANCISCO, CALIFORNIA 94105

SPNED-E

2 June 1981

Mr. Ken Schroeter
City of Redwood City
City Hall
1017 Middlefield Road
Redwood City, CA 94063

SUBJECT: DEIR - South Shores Concept Plan and Technical Reports

Your request for comments from this office was received on 29 April 1981 by your notice dated 18 April 1981.

The proposed construction project will require Department of the Army Authorization under Section 10 of the River and Harbor Act and/or under Section 404 of the Clean Water Act. A Copy of our pamphlet "U.S. Army Corps of Engineers Permit Program, A Guide for Applicants," is inclosed. For additional information please contact our Regulatory Functions Branch at 415-556-5966.

The following Corps projects or studies may be impacted:
The proposed development is in an area where the Corps' Reconnaissance Report for San Francisco Bay Shoreline is considering possible flood protection measures. The Report considers levees landward of the development site. For additional information please contact our Planning and Reports Branch at 415-556-5947.

Any impacts on wetlands, threatened or endangered species, other valuable fish and wildlife resources, and on cultural resources, are among the important environmental considerations for all Corps permit applications.

137

Other areas of environmental concern specific to this project are:

138

(1) due to the large size of the project a more detailed discussion of dredging, including quantities and disposal sites may be appropriate; and
(2) the apparent inconsistency in designating areas to be preserved for marsh land as a "STUDY AREA FOR FUTURE DEVELOPMENT" on the South Shores Concept Plan: Proposed General Plan Amendment (Figure No. 4).

139

Also, in Appendix E, page 3, para 3.5(I) Tides, the Report states that MLLW datum is NGVD datum. This is incorrect. To convert MLLW to NGVD (mean sea level) datum at the Port of Redwood City you need to subtract 3.92 feet, per the National Oceanic and Atmospheric Administration (NOAA) report dated February 1980.

140

The estimated 100-year tide for this area is 6.7 feet NGVD or 10.6 MLLW datum. MHHW for this location is 8.00 feet, MLLW datum. From this

SPNED-E

2 June 1981

Mr. Ken Schroeter, City of Redwood City

information it appears that figure 3.5, Appendix E is drawn to the wrong datum. For additional information please contact our Hydraulics and Hydrology Branch at (415) 556-5102.

Thank you for including us in your review process.

1 inclosure
As stated

for Roger Alder
for

BARNEY OPTON
Acting Chief, Management & Services Section
Environmental Branch
(415) 556-0325

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JUN 4 1981

CITY OF REDWOOD CITY
PLANNING DEPARTMENT



Association of Bay Area Governments

Hotel Claremont • Berkeley, California 94705 • (415) 841-9730

June 1, 1981

Mr. Ken Schroeter
Planning Director
City of Redwood City
1017 Middlefield Road
Redwood City, CA. 94604

RE: Draft EIR South Shores Concept Plan and Technical Reports

Dear Mr. Schroeter:

Thank you for the opportunity to comment on the above document. The following staff comments interpret the proposed plan's relationship to concerns expressed by ABAG's city councilmembers and county supervisors.

These officials promote: 1) living, working and shopping in the same community (Regional Strategies); 2) balanced residential and industrial growth (Economic Development Element, Regional Plan) and 3) higher density development, particularly in close in locations (ibid.) .

141 South Shores in Redwood City is one of the last large sites available for infill in the West Bay. The proposed plan will add 12,900 new jobs; 3,725 dwelling units. This proposed land use mix will place even greater strain on an already tight housing market. (The City's overall vacancy rate is 3.2%; its jobs/housing ratio: 1.380. A shift in the proposed land use mix toward more housing units could assist in providing a better project level as well as citywide jobs/housing balance. In this vein, we request the Final EIR include an estimate of the following (we understand that there is only limited information on which to base this estimate):


- 142**
- o What types of jobs can be expected within the proposed development;
 - o What salary levels will these newly created jobs command;
 - o How many dwelling units- and what types (bedroom mix, tenure and cost) will be necessary to house these employees and their families;
 - o Will a significant number of these employees be transferred from nearby firms and, therefore, contribute less to the housing market impacts of the proposal and
 - o What assumptions can reliably be made as to where these employees can afford to reside? How will these assumptions affect the traffic analysis included in the DEIR (including transbay traffic)?

143 We urge that the Final EIR include an alternative which provides more affordable housing and/or a greater balance of housing to jobs in the project. This alternative could include higher residential densities. Of course, given site character-

istics, this analysis should include a discussion of the seismic-related hazards (settlement and liquefaction potential) of higher density residential development.

We have sent under separate cover (staff letter for the Regional Airport Planning Committee) our concerns regarding the noise and safety aspects of the proposal vis-a-vis San Carlos Airport.

Sincerely,


Michael Visconti
Manager
Plan and Project Review

cc: Environmental Impact Planning Corporation

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JUN 4 1977

CITY OF RIVERSIDE
PLANNING DEPARTMENT

PROBE

COMMUNITY DEVELOPMENT CENTER
REDWOOD CITY AREA COUNCIL FOR COMMUNITY ACTION, INC.
2615 Fair Oaks Avenue
Redwood City, California 94063
369-8249

June 2, 1981

Redwood City Planning Commission
Redwood City Hall
Middlefield Road & Jefferson Avenue
Redwood City CA 94063

Dear Commissioners:

This letter is sent to you relative to South Shores development concept plan of Redwood Shores, Inc. and the environmental impact report for the said area. Since 1972, I have jogged in what I call the "salt flats." I observed the area bounded by the airport, 101 to Whipple Avenue, Pete Harbor, and the slew east of this area. The land mass in this area seem to be merely sunken and cracked salt pond bottom. It seems not to be fit for any kind of animal or plant life survival. It is my understanding that this salt flat area is part of the total acres being considered by Redwood Shores for development.

The larger area of the South Shores development concept extends east of the salt flats into areas of important environmental concerns. I realize that the development/environmental issues generating as a result of the South Shores development concept will be like those of San Bruno Mountains. There will be charges and counter charges by various interest groups. In fact, the issue of housing is mainly the reason for my sending you this letter. I have spent nearly 13 years, now, at PROBE and in the broader community relative to the housing needs for low-income. I have served on San Mateo County committees, ABAG committees, Board of Directors of Mid-Peninsula Coalition Housing Development Corporation, San Mateo County Non-Profit Housing Development Corporation, and many other workshops, meetings, legislative hearings, rallies, etc.; all relative to housing. I have watched the housing needs in San Mateo County grow from low-income to moderate income to middle income to the issue of affordable housing.

I presently serve on the Housing Task Force of San Mateo County under the leadership of Supervisors Gregorio and Speier. One of the tasks of this task force is to identify cities for housing construction in San Mateo County period.

"WE ARE NOT OUTNUMBERED



WE ARE OUTORGANIZED"

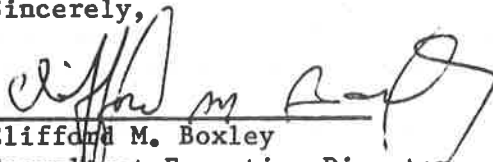
I feel that the Redwood Shores' South Shores site concept for housing should be an item presented before the County Housing Task Force Land Use Committee; mainly to have a balance local citizen response to the concept.

144

I know that housing in San Mateo County is a crucial item for all except the wealthy. Housing is something that your Planning Commission should give a great deal of attention and understanding when any proposal is presented before your Commission.

Again, as always, there must be trade-offs in allowing exorbitant-priced housing developments in order to benefit low-moderate income needs. Otherwise, you will be forcing your own children out of San Mateo County.

Sincerely,



Clifford M. Boxley
Consultant Executive Director

Regional Airport Planning Committee

June 1, 1981
W.I.: 902-50-01

Ken Schroeter,
Planning Director
Redwood City
1017 Middlefield Road
Redwood City, CA 94604

RE: Redwood Shores Concept Plan DEIR

Dear Mr. Schroeter:

The Regional Airport Planning Committee, a joint committee of the Association of Bay Area Governments (ABAG) and the Metropolitan Transportation Commission (MTC), has the responsibility for reviewing airport projects and proposed land uses around airports for compatibility with the Regional Airport Plan. The following staff comments were prepared in response to the referenced Environmental Impact Report (EIR).

Future Plans for San Carlos Airport

145 San Carlos Airport is one of the major, publicly-owned, general aviation airport facilities in the San Francisco Bay Area. The Regional Airport Plan contains recommendations for improving this Airport, based on the Airport Master Plan, which include extension of the runway, construction of new aircraft parking and acquisition of additional approach area to the south of the runway. The EIR should include a discussion of the future plans for San Carlos Airport.

Safety

146 The EIR does not address the impact of airport operations on the safety of persons living and working in the proposed development. The airport traffic pattern, to the east of the runway, will bring planes over homes and other buildings at altitudes of 800 feet -- and lower during some weather conditions. Training flights from the airport will also circle directly over the proposed development. Further, if an aircraft's engine fails in the air during takeoff, pilots must either land the aircraft off the airport or attempt to reenter the traffic pattern and return to the runway. Development around an airport limits the areas where a pilot can land and increases the risk to both the pilot and to persons on the ground.

147 It is recommended that the EIR include a discussion of airport traffic patterns (and the variability of these patterns as actually flown by the pilots) and that the EIR include a discussion of the airport safety issues raised above. The EIR should address the willingness of the developer to grant an aviation easement to the Airport (County) over the entire property, to protect the right-of-flight over this area and to limit the Airport's future liability.

Airport Noise

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The EIR shows that residential areas in the development would generally be located outside the areas of most intensive airport noise (65 CNEL) but that there would be some homes within the 55-60 CNEL Contour. Our experience at other Bay Area airports has shown these contours are not necessarily an accurate measure of people's annoyance. For instance, a number of complaints concerning airport noise are currently generated by the existing community north of the Airport. Individuals who enjoy outdoor use of their property will be particularly affected by annoyance from aircraft overhead. Complaints about noise can be expected to increase significantly with the proposed development, leading to pressures for operational constraints on the Airport.

149

It should be noted that the location of the San Carlos Airport was initially selected so that aircraft operations could be directed over water and cause the least impact upon local communities. The Regional Airport Plan does not anticipate any lessening of the need for general aviation facilities in the Bay Area and stresses the importance of protecting and maintaining existing facilities. In order to mitigate future pressures to restrict use of the Airport, due to adverse noise impacts in the proposed development, it is recommended the EIR address the willingness of the developer to grant noise easements over the entire property to the Airport (County). It is also recommended that the EIR address the advisability of including sound insulation in the residential units closest to the Airport.

Should you have any questions concerning these comments, please do not hesitate to call (415) 849-3223, extension 34.

Very truly yours,

Chris Brittle
Chris Brittle,
MTC Staff Liaison

Gordon Jacoby
Gordon Jacoby,
ABAG Staff Liaison

B/J:r

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JUN 3 1981

CITY OF SAN JOSE
PLANNING DEPARTMENT

June 2, 1981

City Planning Commission
City Hall
1017 Middlefield Road
Redwood City, CA 94065

Dear Planning Commissioners:

RE: SOUTH SHORES - Redwood City

The Environmental Impact Report for the South Shores Plan carefully reviews in a most thorough fashion the legitimate concerns for certain animal species and where they live. The general thrust of this report is that these animal species would make greater use of the site if a sizeable dollar investment were made to restore the area to its historical condition. I would not argue the merit of this suggestion in and of itself, but I would question whether it represents the greater benefit of the public for society at large for this particular piece of land. There is no question that we must provide and preserve habitats for endangered animal species. On the other hand, it would seem that housing for the human species is also becoming rare and endangered.

Today it is much harder to find adequate housing sites than it is to find wildlife refuge areas. It is well known and documented that the Peninsula suffers from a great imbalance between the amount of jobs available and housing for people who work at the jobs. The housing crisis situation in Redwood City, on the Peninsula and in the County of San Mateo is a subject matter for the papers on a weekly basis. As you are well aware, it has become so critical statewide that the State has now put legislation into effect requiring each city and county to provide its fair share of housing.

The South Shores site has the infra-structure for urban services with the capacity to handle a large residential development. This, in and of itself, makes it very unique in terms of providing housing. There just aren't that many sites that have the capability of providing a large number of homes that the South Shores site can provide. The City of Redwood City alone, of those on the west side of the Bay, is willing to consider such a development of this magnitude. To the best of my knowledge, there is no comparable sized site that would be an adequate alternative. The number of houses that are needed throughout the Peninsula is staggering. Without such sites as South Shores, this housing need will never be satisfied. Therefore, the importance of this site as a major source of expanding the supply of housing should be emphasized in the Environmental Impact Report, along with the other issues, in order to put housing into its proper perspective of importance. The habitat (housing) for human beings has to be as important as the habitat for animals.

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City Planning Commission
City of Redwood City

June 2, 1981 - PAGE 2

RE: SOUTH SHORES - Redwood City

151 A large pre-planned project, such as South Shores, provides us builders with the opportunity to use land, capital and labor in the most effective way that keeps housing costs from accelerating even further. The South Shores project will provide a steady supply of land on which housing units can be built each and every year until completion of the project. This is as opposed to the smaller, individual sites each of which has to be processed through a political jurisdiction, which may supply 50, 100, maybe even 150 units. I believe this is a very important point that should be emphasized in the Environmental Impact Report. The Peninsula has suffered from the lack of a steady supply of housing which meets the market demand. When the supply is cut off, the price of new housing rises. If you have a continuing supply, it will go a long way to alleviate the extreme inflation in housing prices that we have seen on the Peninsula. Also, if there is a continuing supply of housing on the market at market rate prices and the supply is sufficient for the market to be competitive, this will be very helpful in allowing the housing industry to provide housing for low and moderate income people.

The South Shores development will not, in and of itself, solve all the housing problems in this area. However, it would increase the City's present supply of housing units by a very significant and important 17%. The project provides not only housing, but many jobs which will give it a very balanced approach to development. It is one of the few projects on the Peninsula that is providing both housing, office and industrial developments all in the same area.

Thank you very much for the opportunity to comment on the E.I.R.

Sincerely,

O'BRIEN & HICKS, INC.



Dennis O'Brien

DO/ec



REDWOOD SHORES HOMEOWNERS ASSOCIATION

P.O. BOX 1107

BELMONT, CALIFORNIA 94002

The Redwood City Planning Commission
P.O. Box 391
Redwood City, California 94064

Ladies and Gentlemen of the Planning Commission:

Since I have not reviewed an Environmental Impact Report the nature and depth of the one done for the South Shores project I will not address how thorough or well done or not well done the report may be. I simply do not know. I, like many others, am concerned about our environment and noise and pollution, etc. The items I wish to talk about pertain to areas that I do have knowledge. I do not feel it is fair nor productive to complain about items in the report I am not qualified to comment on.

The first area of concern is the financing of the South Shores Project. Throughout the EIR the author disclaims any mention of financing by saying that all tables, money, and costs are in the future and can change. This is fine but I feel you hired these people to come up with numbers that will make sense and are as close as any numbers could be. The Planning Commission should be aware, if not already, that an ongoing process has almost reached completion in relation to the sale of any Bonds in Redwood Shores. Our Association along with the City Council, City Staff, the Developer, and hired consultants have been working on a measure that will allow continued development and stop the need ever again for the sale of any bonds against the people of Redwood Shores and South Shores as we know them. The author had to cover every area of public concern and questions in the Report and I know it has taken a long time to complete it. However, the most current data they include in the report, and it appears in Appendix G Tables 5 and 6, is from the hired consultant firm of Bartel-Wells dated July of 1980! Included in the EIR the word "bonding" appears time and time again as we know it and especially in talking of financing on pages 161 and 162 in conjunction with a fee schedule. All of this is ancient history. There have been two updated Bartel-Wells Reports since July of 1980 and as of a meeting of the City Council sitting as the Board of Directors of the District in May, there will be no more bonds sold in Redwood Shores and South Shores ever. The measure that will eliminate the need for bonds will be a developer fee schedule for each unit to be constructed. Clearly this latest development has a significant effect on all projections made by the author.



REDWOOD SHORES HOMEOWNERS ASSOCIATION

P.O. BOX 1107

BELMONT, CALIFORNIA 94002

As the author stated on page 13, Appendix G, "our understanding of political realities is that approach (bonding) would not be feasible due to the strong homeowner opposition to increased bond taxes." Their statement is correct and the City Council feels the same way.

Another area of misunderstanding is in the actual construction and/or start of the South Shores project. During our work on the fee schedule many tables were prepared for development of South Shores and the cost involved. This was important to us as it would effect any alternative financing method used that could effect Redwood Peninsula. All the work done by the City, Staff and Consultants during our process centered only around Pond A12. This in itself is curious. I assume it is because Pond A12 is the first land to be developed so as to be able to get to the rest of the project. What is not clear is if you take the Author's Table 5 on page 31 under "Time Phasing of Proposed Development Plan", by the year 1987 you wind up with the following:

1. 1,822,583 sq. ft. of office space complete.
2. 1,173 units (townhouses, condos, etc.) complete. This figure is more than all the homes now complete on Redwood Peninsula. In other words doubling the size of Redwood Shores by 1987 from today.

But, if you take Table 2 of the Bartel-Wells Report done April 21, 1981, and I have included copies, you will see that the first money spent for improvements just to make the land buildable on Pond A12 occurs in the year 1987. How can you have this tremendous amount of completed improvements when the land is not even buildable? This is not a small difference but a huge difference. Again, I realize that we are talking six years into the future and many things can change but this information was available to the author and why it was not used I have no idea.

You must also notice that Pond A12 is totally commercial with the exception of the Marina not the mixture of all types of development as the rest of the Ponds would generate. I know the concept of just developing Pond A12 has not gone by unnoticed as it is one of the mitigation alternatives at the end of the Report on page 188.



REDWOOD SHORES HOMEOWNERS ASSOCIATION

P.O. BOX 1107

BELMONT, CALIFORNIA 94002

154

The issue of housing is critical to the mixture of any community, not just Redwood Shores. The author does not go into any detail as to the imperative need for housing, only that the "demand will remain." Housing is needed desperately, and if they can give almost 100 pages to the environmental issues certainly the human needs should receive more study.

In conclusion, there will be no more bonds sold on Redwood Peninsula or South Shores, as we now know them. The report is inaccurate when it refers to bonding and as of current information that may not have been available when this report was complete, any discussion of bonds should be removed from this report. The proposed build-out of South Shores is inaccurate, as current figures show no money will be spent in the South Shores project until the year 1987. The housing issue must be addressed in greater depth because it is a problem for all of us and the time to make it work for the future of the South Shores project is now. Thank you.

Sincerely,

Gregg Boran
President of Redwood Shores Homeowners
Association

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JUN 14 1981

CITY OF REDWOOD CITY
PLANNING DEPARTMENT

DEPARTMENT OF TRANSPORTATION

P. O. BOX 3366, RINCON ANNEX
SAN FRANCISCO 94119
15) 557-1840



June 8, 1981

04-SM-101 PM 6.6/8.4
SCH #80072909

Mr. Ken Schroeter
Planning Director
City of Redwood City
1017 Middlefield road
Redwood City, CA 94063

Dear Mr. Schroeter:

Subject: Caltrans District 4 comments on the DEIR for South Shores Concept Plan and General Plan Amendment

155 We agree with the authors that buildout of the Eastside Area, of which this proposal is a significant element, will be dependent on sufficient transportation facilities and services, without which development will not be practical or feasible in the size and scope thus far proposed. Severe traffic and circulation impacts to State highway facilities are identified and it seems obvious, as supported in the text, that a new traffic arterial east of and parallel to Route 101 will need to be master planned and made a condition of development throughout the Eastside Area.

156 We have deferred verifying the traffic impacts since mitigation measures to increase capacity on Route 101 and its interchanges are unlikely to be constructed before buildout (1993?) and, furthermore, intermediate impacts and mitigation required before buildout have not been identified nor evaluated. This will need to be accomplished in EIRs for specific development with reference to this EIR and the forthcoming Eastside Transportation Network Study for Redwood City. It is believed that the study should involve cities north and south of Redwood City.

157 Mitigation measures to reduce traffic and transportation impacts, even though we agree that most of them have merit and should be adopted, have not been analyzed or evaluated for reducing the traditional trip rates and effects on behavioral trends in transportation modes. The Eastside Traffic Study perhaps will

Mr. Schroeter
Page 2
June 8, 1981

evaluate expectations associated with mitigation measures to reduce auto trips while providing reasonable levels of traffic and transportation service. The effects of no mitigation or reduced mitigation must be discussed because implementing instruments are not assured at this point in time.

158 We are aware that some cities now require developers of employment centers to require off-set work hours (a certain percentage) and to provide funds for park and ride facilities. There may be applicability of these requirements, among others, to be incorporated in areas of substantial new development as in this project proposal.

Following are specific comments:

We concur that it is unlikely that additional lanes will be constructed on Route 101 (page 10).

159 Ten lanes are not proposed on Route 101 in our current planning program (page 120).

160 As previously noted, an internal expressway to complement Route 101 is desired and will probably be required (page 125).

161 The effectiveness of the mitigation measures have not been evaluated (page 126). ((This statement is not peculiar to this project and EIR. This is the usual practice of the preparers of environmental documents, both in the private and public sectors. We find a need for data associated with mitigation measures to determine the value and effectiveness and also, we must evaluate environmental effects and impacts of the measures as they may affect our facilities, operations and guideline requirements)).

162 Again, we concur with provisions of a north-south arterial (page 127). It is appropriate to suggest that its alignment and location provide sufficient distance from interchange ramp inter-sections so as not to produce conflicts that will generate additional congestion within the interchanges.

163 It is suggested that an East Bayshore Expressway should extend to the north as far as possible and with cooperation and coordination with appropriate agencies (page 128).

Mr. Schroeter
Page 3
June 8, 1981

In conclusion, the document has adequately addressed the concerns of our response to the subject Notice of Preparation. It is requested that a copy of the FEIR be sent to the undersigned. If the environmental constraints indicate a downscaping that will require amendments to the documents, we also request the opportunity to review such documents.

Sincerely yours,

JOHN WEST
District Director

By 
R. W. SIEKER
District CEQA coordinator

PS Our response to the Notice of Preparation dated September 10, 1980, specifically requested a copy of the DEIR be sent to us in addition to the State Clearinghouse distribution. This was not done. We ask this to facilitate our review process that requires several different disciplines within our District. It is our endeavor to provide substance in our comments. We need adequate time to evaluate our concerns.

cc: State Clearinghouse

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JUN 10 1981

CITY OF LOS ANGELES
PLANNING DEPARTMENT



State of California

GOVERNOR'S OFFICE
OFFICE OF PLANNING AND RESEARCH
1400 TENTH STREET
SACRAMENTO 95814

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JUN 2 - 1981

CITY OF REDWOOD CITY
PLANNING DEPARTMENT

EDMUND G. BROWN JR.
GOVERNOR

June 19, 1981

Mr. Ken Schroeter
City of Redwood City
1017 Middlefield Road
Redwood City, CA 94063

SUBJECT: SCH# 80072909 SOUTH SHORES CONCEPT PLAN

Dear Mr. Schroeter,

State agencies have commented on your draft environmental impact report. If you would like to discuss their recommendations and concerns, contact the staff from the appropriate agencies.

DEPARTMENT OF BOATING AND WATERWAYS

The type of pollution introduced due to the increase in recreational boat use is not considered significant enough to have a detrimental effect on the biological community or water quality. The Department recommends that Corkscrew Slough be left open to boating since Deepwater Slough was filled and closed to boat traffic. The Department concurs that a further study of water traffic should include the impacts to recreational boat use after the bridge is completed. Also, the report does not answer questions raised in an earlier comment letter regarding the need for speed limits, establishment of special use areas, and the need for additional boat patrol units.

DEPARTMENT OF WATER RESOURCES

There is some confusion concerning the determination of final levee and interior elevations. The applicant should address levee design standards and work out the design plan with the U. S. Army Corps of Engineers to insure the levees will meet 100-year flood protection criteria. The EIR should discuss the final elevations and standards to which the flood control structures will be built.

DEPARTMENT OF FISH AND GAME

The department is opposed to any filling of wetlands unless the project is water dependent or an essential transportation, water conveyance or utility project. The Department of Fish and Game has been directed to develop a protection plan for existing and potential habitat sites and to increase the amount of wetlands in California by 50 percent by the year 2000. The project site is eligible for marsh restoration. The project also does not appear to conform to

Page 100
June 19, 1981
Mr. Ken Schroeter

portions of the Subdivision Map Act. The department also requests copies of any construction or use permits that are issued as a result of the certification of the document.

DEPARTMENT OF TRANSPORTATION, DISTRICT 04

The document adequately addressed the concerns of their response to the Notice of Preparation for the project.

When preparing the final EIR, you must include all comments and responses (CEQA Guidelines, Section 15146). The certified EIR must be considered in the decision-making process for the project. In addition, we urge you to respond directly to the agencies' comments by writing to them, including the State Clearinghouse number on all correspondence.

Section 15002(f) of the CEQA Guidelines requires that a governmental agency take certain actions if an EIR shows substantial adverse environmental impacts could result from a project. These actions include changing the project, imposing conditions on the project, adopting plans or ordinances to avoid the problem, selecting an alternative to the project, or disapproving the project. In the event that the project is approved without adequate mitigation of significant effects, the lead agency must make written findings for each significant effect (Section 15088) and it must support its actions with a written statement of overriding considerations (Section 15089).

If the project requires discretionary approval from any state agency, the Notice of Determination must be filed with the Secretary for Resources, as well as with the County Clerk.

Sincerely,

for Terry Roberts
Stephen Williamson
State Clearinghouse

Anna Polvos
Anna Polvos
State Clearinghouse

Attachments

cc: Ken Fellows, DWR

Memorandum

To : (1) Jim Burns, Projects Coordinator
The Resources Agency

Date : May 29, 1981

(2) City of Redwood City
1017 Middlefield Road
Redwood City, CA 94063

Subject: SCH#80072909 - Draft EIR
South Shores Concept
Plan - Redwood City

Attn: Ken Schroeter

From : **Department of Boating and Waterways**

Cal Boating has reviewed this Draft EIR for the South Shores Concept Plan, Redwood City, and would like to offer the following comments:

- 164 1. On page 79, the report indicates a concern with an increase in recreational boat use due to the introduction of boat-related gasoline and oil products into the waterways which are "generally presumed to be detrimental." However, a report entitled "Analysis of Pollution from Marine Engines and Effects on Environment", (USEPA Grant No. R80799) indicates that this type of pollution is not considered significant enough to have a detrimental effect on the biological community or water quality.
- 165 2. On page 179 of the report, a statement is made that Corkscrew Slough should be closed to boat traffic. The Department recommends that Corkscrew Slough be left open to boating since, several years ago, Deepwater Slough was filled and, thereby, closed to boat traffic.
3. Page 1 of Appendix C indicates that a further study of water traffic may be required before final approval is given by the Coast Guard for the bridge height selected. The Department concurs with this statement and feels that the study should include the impacts to recreational boat use after the bridge is completed.
- 166 4. The report does not fully answer the questions raised in our letter of August 29, 1980 (Appendix H) regarding the need for local regulations controlling speed or the establishment of special-use areas. Would the City need additional boat patrol units to enforce any new regulations that might be needed in the area?

Thank you for the opportunity to review your environmental document.


MARTY MERCADO
Director

Memorandum

To : 1. Jim Burns, Projects Coordinator
Resources Agency

2. City of Redwood City
1017 Middlefield Road
Redwood City, CA 94063

Date: May 28, 1981

From : Department of Fish and Game

Subject: Draft EIR, South Shores Concept Plan and Technical Reports, City of Redwood City, San Mateo County; SCH 80072909

We have reviewed the subject document, a proposed General Plan amendment for development of a 1,095 acre area of former salt ponds, and are opposed to any filling of historic diked wetlands unless the project is water dependent or an essential transportation, water conveyance or utility project, in which case adequate mitigation for project-caused losses must be a part of the project. This position is supported by the Resources Agency.

In view of the constraints to development and the high wildlife values involved, we recommend the adoption of Alternative D, Marsh Restoration with both inner and outer Bair Island restored to full or controlled tidal action.

The San Francisco Bay area is one of the most important biotic resources in the state. Much has already been lost due to diking, filling, and development. The loss due to diking for agriculture and salt production, however, is not an irreversible loss since these diked areas become seasonal wetlands during the rainy season providing some value to wildlife. In addition to the existing wildlife uses, they also retain the potential of being returned to tidal action.

Senate Concurrent Resolution No. 28 by Senator Keene, directs the Department of Fish and Game to develop a plan to protect existing wetlands habitats and identify potential habitat sites and to make every effort to increase the amount of wetlands in California by 50 percent by the year 2000. The remaining undeveloped wetlands of San Francisco Bay, including this site, are potential sites for marsh restoration.

The project, as proposed, does not appear to conform to four provisions of the Subdivision Map Act (Chapter 4, Section 66474), which states "A legislative body of a City or County shall deny approval of a final or tentative map if it makes any of the following findings:"

1. That the proposed map is not consistent with applicable general and specific plans.
2. That the site is not physically suitable for the type of development.
3. That the site is not physically suitable for the proposed density of the development.

1. Jim Burns, Projects Coordinator
2. City of Redwood City

-2-

4. That the design of the subdivision or the proposed improvements are likely to cause substantial environmental damage or substantially and avoidably injure fish or wildlife or their habitat.

Adverse impacts to vegetation and fish and wildlife resources are well documented in the subject report.

169

We believe Pond B-2 mentioned on page 36, paragraph 3, should be Pond B-3 as suggested on page 8. The Wetlands Policy statement on page 47 should include the words, ". . . does not. ." before the word ". . . permit. . .," significantly changing the statement in the DEIR. Also, the second page of the Wetlands Policy is missing from Appendix H.

Please send us a copy of the material which will be added to the Draft document in order to certify it as a Final. We also request a copy of any construction or use permits that are issued as a result of the certification of the document.

State EIR guidelines, Section 15146, require lead agencies to respond to all comments/recommendations received on the Draft EIR and to include them in the final document.

Department of Fish and Game personnel are available to discuss our concerns in more detail. To arrange a meeting, the project sponsor or applicant should contact Mr. Walt Smith, Wildlife Biologist, 1051 Valencia Road, Aptos, CA 95003, telephone number (408) 688-2244.

EC *Fullerton*
Director

Memorandum

To : 1. James W. Burns, Assistant
Secretary for Resources

Date : MAY 25 1981

2. Mr. Ken Schroeter
City of Redwood City
1017 Middlefield Road
Redwood City, CA 94063

File No.:

Subject: SCH 80072909, South
Shores Concept Plan and Technical
Reports, Draft Environmental
Impact Report

From : Department of Water Resources

We have reviewed the subject draft environmental impact report (DEIR) which was transmitted by the State Clearinghouse Notice of Intent and have the following comments and recommendations:

The proposed project site is identified on the Federal Flood Hazard and Boundary Maps (Redwood City Panels 4, 5, 7 and 8) to be within 100-year special flood hazard areas. The more detailed Federal Insurance Rate Maps (yet to be published) identify the area as an "A-1" zone with the 100-year flood elevation at 7 feet above mean sea level, National Geodetic Vertical Datum (NGVD).

170 On page 3, Appendix E, the DEIR states tide predictions are based on the mean low low water (MLLW) level. In parenthesis of this statement it notes "NGVD" which is mean sea level datum of 1929. The MLLW datum is used by the U. S. Army Corps of Engineers (Corps) and is not equivalent to the NGVD. Adjusting the local shores datum (stated as RC-GID in the report) to the NGVD and using tidal predictions based on MLLW confuses the determination of final levee and interior elevations.

171 Page 4, Appendix E, notes that the 100-year flood dikes or levees are intended to protect the project site. Appendix B, the Levee Special Report, does not include final levee design standards in great detail. We encourage the applicant to address this issue by referring to the Corps' levee design standards (Engineering Manual 1110-2-193 for Design and Construction of Levees, March 31, 1978). The applicant should work out the design plans with the Corps to insure the levees will meet the 100-year flood protection criteria. Associated problems of settling and the existence of nearby faults also should be considered in the levee design. Average levee settlements of over an inch per year were recorded between 1974 and 1980 (Appendix B, pages 4 and 5).

The interior elevation is below the 100-year base flood elevation by at least 2 or 3 feet. Coupled with this is the interior drainage which is expected to be a major problem. Because of these factors, the DEIR should discuss the final elevations and standards to which the flood control structures will be built.

Wayne MacRostie

Wayne MacRostie, Chief
Central District
(916) 445-5631



GROWTH POLICY COUNCIL
OF SAN MATEO COUNTY
2121 South El Camino Real

San Mateo, Ca. 94403
Suite 603
(415) 573-8387

June 25, 1981

RECEIVED
JUN 29 1981
CITY OF REDWOOD CITY
PLANNING DEPARTMENT

Redwood City Planning Commission
City of Redwood City
1017 Middlefield Road
Redwood City, Ca., 94065

RE: DRAFT E I R - SOUTH SHORES CONCEPT PLAN

Dear Members of the Commission:

I am writing to you on behalf of the Board of Directors of the Growth Policy Council of San Mateo County, Inc. (GPC). The GPC is a private, non-profit organization dedicated to helping San Mateo County achieve reasonable growth policies; its membership is composed of leaders of the business, labor and professional communities in the County.

The South Shores Draft EIR causes us a great deal of concern - primarily in its omissions and its emphases. We feel that authors of the document, while calling for a balance of concerns, in fact find the "environmental concerns" (as opposed to strictly "human concerns") most pressing.

The document sets up an artificial dichotomy between environmental and human concerns. We feel that a more accurate definition of "environment" must include its human dimension. Witness, page 8:

The proposed project raises questions relating to fundamental planning issues: the need to balance demand for developable land, with consequent benefits of increased housing and employment, against the needs for environmental protection.

The section cited could be considered nitpicking were not the 340 pages following reflective of this environmental dualism and were not the stress placed upon the four animals' needs so heavy.

Examples of this favoritism may be found throughout the text. Let me cite just a few:

1. Page 37 - " marshes have demonstrated a surprising ability to take up pollutants and yet not show significant adverse effects nor pass on the burden to wildlife. Nevertheless, introduction of pollutants into natural ecosystems must be presumed to be detrimental."

172 Why, given their "surprising ability", must the worst be assumed?

2. Page 37. " The preservation of existing wetlands and restoration of those lowlands lying within the historic marsh margin of the Bay are goals of the highest priority for the U. S. Fish and Wildlife Service and

173

the California Department of Fish and Game." Nothing wrong with such goals for the fish and game departments; where, in the document is any reference to the goals of H.U.D., the California Housing and Community Development, the adopted State and Federal housing priorities or, on a more local level, the ABAG housing policy?

174

3. Page 11 - " On a regional scale, hydrocarbon and oxide of nitrogen emissions would be a degradation of South Bay air quality, although it would not be of a magnitude that could be picked up at air monitoring sites. " How significant are emissions that can not be detected at monitoring sites?

There are numerous other examples of "unbalanced" statements in this document. National, State, regional and local studies abound on the serious, human dimensions of the housing crisis but are given little or no attention in this document.

The Growth Policy Council would agree with and extend to the entire project the conclusion given in the geo-technical report, page 52:

" While there are challenging geotechnical - environmental problems associated with this project, they are solveable and their effects may be reduced to reasonable levels of loss or risk through use of known design concepts and construction techniques."

Respectfully submitted by,

GROWTH POLICY COUNCIL



Thomas J. Nolan
Executive Director

TJN:bk

HUGHES PLASTICS CO., INC.

2501 Spring Street, Redwood City, California 94063

Telephone (415) 367-8300

June 30, 1981

Planning Commission
City Hall
1017 Middlefield Road
Redwood City, CA 94063

RE: South Shores Environmental Impact Report (EIR)

Dear Planning Commissioners:

This environmental impact report has generated many comments, letters and newspaper articles on the issues of concerns to a wide variety of interests. Many of the comments and newspaper stories suggest a more regional perspective should be used as the basis for evaluating the South Shores proposal. The statistical data necessary to put this proposal in the regional perspective is not included in this EIR. Therefore the reader is unable to make a sound judgement between the conflicting demands of restoring the site for its open space resource value, vs developing it for needs of people for housing and employment.

From reports published by the San Mateo County Planning Department and the Association of Bay Area Governments it is possible to estimate the acres of land in the county preserved for various public purposes as follows:

1) City Parks	3,050
2) County Parks	13,781
3) State Parks	4,497
4) Other State Lands	1,210
5) South Bay Wildlife Refuge	
Greco Island Unit	5,028
6) Regional Open Space Dist.	1,600
7) San Francisco Watershed	22,863
8) Agricultural Preserves	43,830
9) Timber Preserve Zone	<u>31,000</u>
Total under preservation	126,859
Total Acres in County	291,000
% of total county preserved	43.74%

The additional acreage proposed for preservation by the Regional Open Space District, South Bay Wildlife Refuge, County Park Acquisition Program and any expansion of the Golden Gate National Recreational Area could increase this total considerably. Therefore, the 921 acres proposed for actual development at South Shores is only 3/10 of one percent of the county's total area. If the South Shores site was preserved as open space it would add 7/10 of one percent to the present total open space in the county.

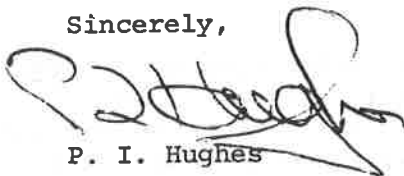
Planning Commission
June 30, 1981
Page 2

The 3723 housing units proposed for South Shores would represent a 1.5 percent increase to the total 233,479 units of existing housing in the county. If the one hundred twelve acres of commercial uses proposed for ponds A-9, 10 & 11 were developed with 2,128 housing units, the total 5,851 units would be an increase of 2.5 percent to the existing total 233,479 dwelling units in the county.

I believe that the project description starting on page 23 of the Draft EIR would be considerably improved by the addition of this kind of statistical information. My reference to housing statistics would more appropriately be included in the population and housing section on page 175.

Thank you for this opportunity to comment on the South Shores EIR.

Sincerely,


P. I. Hughes

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

WESTERN REGION

P O BOX 92007, WORLDWAY POSTAL CENTER
LOS ANGELES, CALIFORNIA 90009



June 29, 1981

Mr. Ken Schroeter
Planning Director
City of Redwood City
Planning Department
1017 Middlefield Road
Redwood City, CA 94063

Dear Mr. Schroeter:

The Federal Aviation Administration (FAA) has reviewed the Environmental Impact Report (EIR 80-05) for the South Shores Concept located east of the San Carlos Airport. The proposed development raises several concerns that warrant comment.

176

The San Carlos Airport is a publicly-owned general aviation airport serving the San Francisco Bay Area. The airport master plan identifies future improvements to this airport including a runway extension, additional aircraft and automobile parking, and acquisition of additional airport's land to the south. The EIR should identify future plans for the airport including aircraft operations by type and number.

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Furthermore, the EIR does not address the safety of persons living and working in the proposed development area as their safety relates to airport operations. It is recommended that the EIR include an analysis of airport traffic patterns, training flights, and operations during unusual weather conditions. The EIR should also identify the granting of aviation easements to the County of San Mateo, airport owner, in order to protect the right-of-flight of this airport. The location of the San Carlos Airport was originally selected in order to operate officially with the least impact upon the local community. The granting of aviation easements is recommended in order to limit the airports liability with respect to future develop.

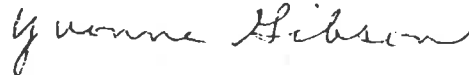
178

The noise impacts in the EIR were based upon 1975 data. It is recommended that a new noise analysis be prepared in order to identify the latest noise levels for the airport area. It should also be remembered that CNEL contours are not necessarily a measure of a community annoyance with respect to aircraft. Complaints concerning airport noise have been received from the community located north of the airport, and outside of the 65 CNEL. Outdoor use of the property proposed from development could possibly lead to further noise complaints. It is recommended that the City include sound insulation for all proposed residential units. The aviation easements, recommended above, should specifically identify potential noise annoyance, even though the residential development is proposed outside the 65 CNEL.

Finally any construction or alteration to existing structures meeting notice requirements of Federal Aviation Administration Regulations Part 77, "Objects Affecting Navigable Air Space", are required to file notices with the FAA prior to construction.

We will be happy to discuss these comments further at your request. Please contact Yvonne Gibson, Conservation Specialist, at 536-6231, if you have any questions.

Sincerely,

A handwritten signature in cursive script that reads "Yvonne Gibson".

Yvonne Gibson
Conservation Specialist

RECEIVED

June 22, 1981

JUL 1 1981

Mr. Ken Schroeter
Redwood City Planning Commission

CITY OF REDWOOD CITY
PLANNING DEPARTMENT

Dear Sir:

We, the undersigned individuals, are not affiliated with any formal interest group or lobbying organization, but are private citizens living in or near Redwood City or employed therein. Our united interest for signing this petition is to express concern over city level decisions regarding urban development on the salt evaporators adjacent to Bair Island.

We strongly urge a delay in conclusions, or that the "No Project Proposal" decision regarding South Shores development be adopted by Redwood City Planning Commission for the following reasons:

179

1) The City of Redwood City has not given adequate public exposure regarding the impacts of this large scale land development. One public notice in local papers is not enough exposure to inform an entire community. For a responsible decision to be made, Redwood City taxpayers need to be fully informed of such a large scale action that will affect their city.

180

2) The salt marsh habitat on Bair Island is not different from salt marsh habitat on the salt evaporator levees. The populations of endangered and rare animals (i.e., white-tailed kite, California least tern, clapper rail, and salt marsh harvest mouse) are continuous. Enough wildlife habitat has been eradicated in the Bay Area already. The endangered species mentioned cannot coexist with humans.

3) The legal status of ownership regarding the aforementioned diked salt evaporators is in question. Before any development of that area begins, questions over ownership should be resolved.

4) Urbanization of salt evaporators would lead to increased traffic congestion on Highway 101. This highway system is already overloaded, especially at Whipple Ave.

5) Simply too many people already use the roads, sewage facilities and solid waste disposal sites in the South Bay, especially Redwood City. We feel this area cannot absorb the additional congestion.

~~Margaret Jones~~ 200 Davey Glen R Belmont
Myra Highland 504 Edmonson Street R.C.
HANKS C. HAWKINS 811 HARBOR BLVD. R.C.
Donald E. Plass 159 Nottingham Ave R. C.

Carolyn L. Rutledge, 1924 Edgewood Drive, P.A.

Janet W. Jones 200 DAVEY GLEN BELMONT CA 288

Debra T. Carpenter 2051 Sharon Rd. Menlo Park

July 81

1/24/81

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7/1/81

July 1, 1981

July 81

July 1, 1981

153 Crystal Springs Rd
San Mateo, Ca 94402
June 29, 1981

Planning Commission Director
Planning Commission
PO Box 391
Redwood City, Ca 94064

Gentlepersons,

As a resident of the Bay Area for the past 31 years, I have seen many changes in our area. These changes have brought controversy and the total affects of these changes are still being learned. This includes the building of the junior college system, including Canada, the Freeway 280. These have given us more opportunities for education and greater mobility, to be certain.

Increasingly, however, Bay Area residents are noticing that every day, any time of day, driving involves heavier and heavier traffic, more noise, and a departure from some of the qualities of this area that make it special.

181 I of course, am concerned with the plans to develop Bair Island, in relation to the quality of living on the Peninsula. I understand that, according to the Environmental Impact Report, that development will add 62,000 more cars per day to this area, and with it subsequent air and noise pollution. It may be argued that it will bring jobs, and needed homes, but on the balance, it again will add to our imbalance of more jobs than our area can support.

I am also concerned that the habitat of marshland life, including endangered species, will be wiped out and disturbed with this development. The Baylands add to the charm of the Bay Area, and provide a necessary environment, and also help us enjoy some of the most pleasant weather in the world. I understand only 20% of the marsh still exists.

Let's preserve and protect what we now have, and not be sorry later, choking in smog and noise pollution.

I am opposed to the Mobil Oil plans to develop Bair Island, and am utilizing this public comment period to make my views known.

Thank you for your time.

Sincerely,



Colleen Casham

CITY of BELMONT

1365 Fifth Avenue
Belmont, California 94002
Telephone: (415) 573-3490
Department of Public Services
110 Sem Lane
Belmont, CA, 94002

Office of: City Engineer.

June 17, 1981.

M E M O

TO: City Planner-Tom Vlastic
FROM: City Engineer-Adel Nepomuceno *N.*
SUBJECT: DEIR SOUTH SHORES CONCEPT PLAN CITY OF
REDWOOD CITY.

Subject Draft EIR indicates severe traffic impacts on the Bayshore Freeway from Ralston Avenue in the north to Whipple Avenue in the south. Shoreway Road is the only developed north-south arterial that parallels the Bayshore Freeway from Ralston Avenue to Holly Street.

182 Impact of the project generated traffic on the peak hour volumes combined with the commercial/industrial/residential developments along Shoreway Road and Redwood Shores should be made a part of the study.

The EIR should discuss and recommend mitigation measures to reduce congestion along Shoreway Road intersections with Marine World Parkway, Cormorant Road and Holly Street.

cc: ✓ Joel Patterson
Planner III, Redwood City

RECEIVED

JUL 12 1981

CITY OF BELMONT
PLANNING DEPARTMENT



LEAGUE OF WOMEN VOTERS OF SOUTH SAN MATEO COUNTY INCORPORATED

THE GATEHOUSE • 555 RAVENSWOOD AVENUE • MENLO PARK, CALIFORNIA 94025

REDWOOD CITY PLANNING COMMISSION, re: South Shore Development

The League of Women Voters has long supported the preservation of open space, improved air quality, traffic control through public transit, and efficient land use. Such environmental concerns must now be considered in conjunction with the increasing need for affordable housing in the county.

In studying the E.I.R. report "South Shores Concept Plan and Technical Reports" by Environmental Impact Planning Corporation, the League of Women Voters of South San Mateo County, based on positions taken at the National, State, Bay Area, and County levels, makes the following recommendations:

183 With an increasing job/housing imbalance in our area the South Shores project proposes 3,723 dwelling units at 2.5 persons per household. This will house 9,307 persons. (E.I.R. Page 175) Employment opportunities would approximate 12,900 persons, (Page 176) which increases an already pressing problem instead of addressing it. Redwood City's General Plan suggests at least one housing unit should be added for every new job added. In the 1975 General Plan it states that population growth has outpaced non residential development with the result that the labor force out numbered the jobs within the city and its immediate area. This is no longer an accurate statement.

184 With the increasing statistics and information on the shortage of affordable housing in government, professional, and public areas the two pages devoted to housing in this E.I.R. seem woefully inadequate.

185 Because of our positions on housing, land use, air quality, and water quality we recommend developing Pond A-12 with primarily multiple family housing consisting of 10 units per acre, with single family dwellings fronting onto both sides of Smith Slough and part of Steinberger Slough. This could provide more than 3000 mixed price dwelling units. Such provision of housing would also be a complement to the proposed increase of jobs in the commercial development of the Redwood City Port facilities and Pete's Harbor.

Restriction of development of housing to only Pond A-12 would obviate many of the problems and solutions (?) in this report.

The developing of the perimeter fronting on Smith Slough of Ponds A-9 and A-11 will open up the remaining area to the problems stated on pages 82 through 86 of the E.I.R. By placing the access road to the housing on Pond A-9 and A-11 in the rear of the homes some type of an adequate protective barrier could be maintained between this road and the balance of Ponds A-9 and A-11. This would mitigate the problems stated on the above mentioned pages of the report.

186 In answer to the statement on the impact of noise from San Carlos Airport we can say that multiple housing, because of cost, primarily has two wage earners who are not home during the day. Night and weekend flight noise can be mitigated by existing known construction methods of soundproofing.

187 The impact of traffic on Highway 101 could be alleviated by running shuttle buses to the Southern Pacific depot and Samtrans at peak employment hours on a 10-15



LEAGUE OF WOMEN VOTERS OF SOUTH SAN MATEO COUNTY

INCORPORATED

THE GATEHOUSE • 555 RAVENSWOOD AVENUE • MENLO PARK, CALIFORNIA 94025

minute schedule. These transportation depots are also within walking, biking, or jogging distance of the development.

Also to be considered is the relationship of marshland to air and water quality.

1. Air Quality

- a. Marshland has the effect of cooling the air, counteracting the inversion layer caused by weather and by population uses---mostly the latter.
- b. Construction on marshland inhibits natural wind flow by "roughening the surface. Wind flow helps to dissipate inversion layer.
- c. Blacktop surfacing heats up the residual wind flow which increases the resultant air inversion layer.
- c. Plants have a capacity to absorb air pollutants.

2. Water Quality

- a. Marsh areas can utilize excess nutrients from sewer effluents in the bay and detoxify pollutants by adsorption. (occurs through decaying of biomass material)

3. Other Ecological Values of Marshland

- a. It is a laboratory for learning basic ecological lessons.
- b. It furnishes 90% of the food for baby fish and shell fish. (San Francisco Bay is the largest and best nursery for fish on the Pacific Coast.)
- c. The marsh is a habitat for wildlife (some threatened species) and also has the potential for ecological parks and open space use.
- d. The biomass (nutrient) production of a marshland is many times greater per acre than any agriculture or forest acreage. (See pages 197-200 of the E.I.R. for feasibility of restoration of the marsh.)

As noted in the E.I.R. (Page 198) the financial feasibility of marsh restoration has not been studied however the E.I.R. (Page 197) does state that, "Such a restoration project would most likely be preceded by public acquisition of the site". Under BCDC regulations a project requiring any filling of the Bay (i.e. construction of Dumbarton Bridge) requires the acquisition of a like area and its donation to a public agency. Thus the ponds excluding A-12 could be held as mitigating lands for such a purpose.

Sincerely,

Ellen Kitamura, President
South San Mateo County League of Women Voters

Kathleen Mahany

Maben Clark

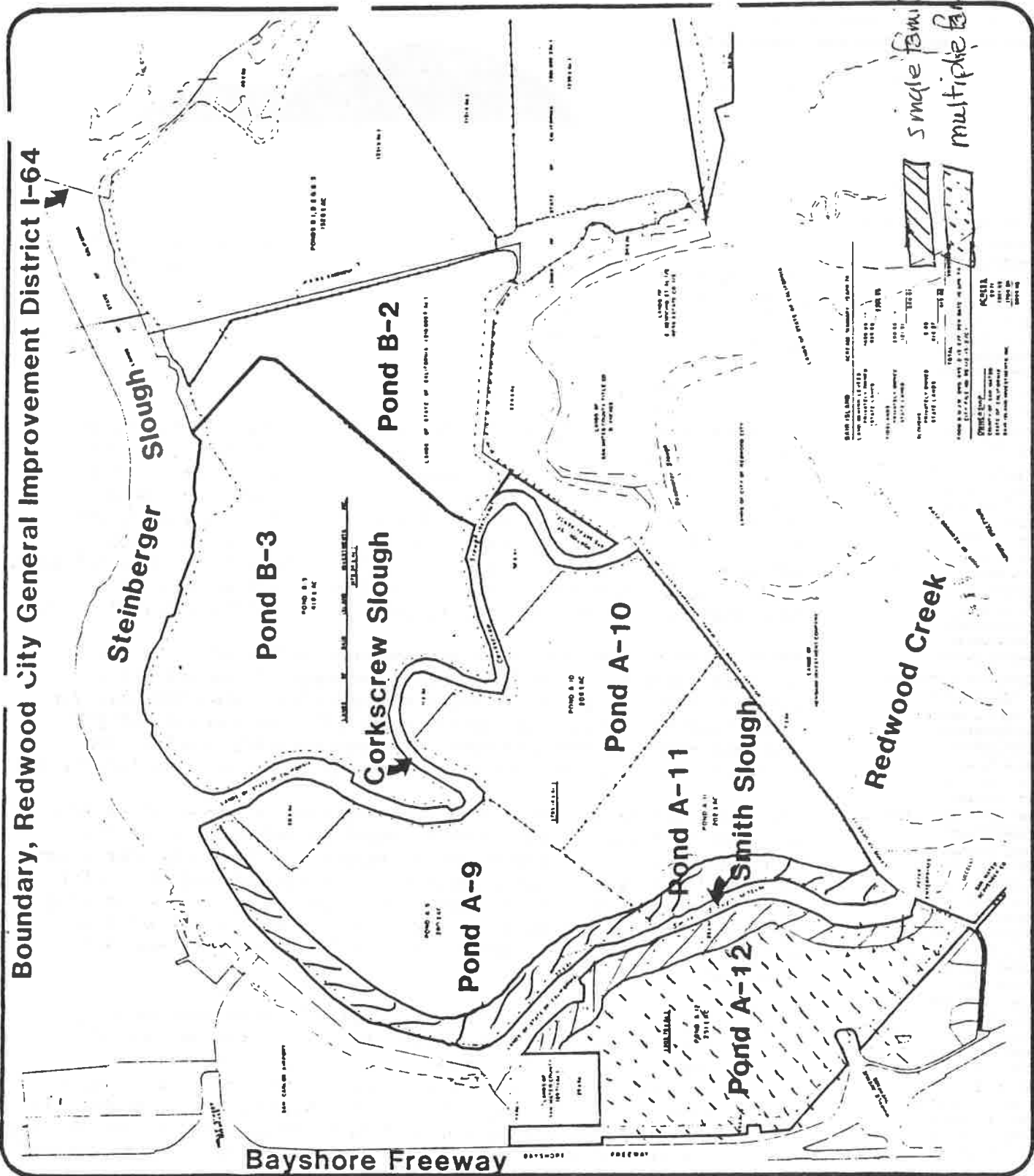
Co-chairpersons, Housing Study

League positions are included with this communication.

c.c. to:

Eugene F. Masciarelli, Project Coordinator &
The Housing and Human Concerns Committee

Boundary, Redwood City General Improvement District I-64



Salt Pond Boundaries

multiple family housing

single family housing

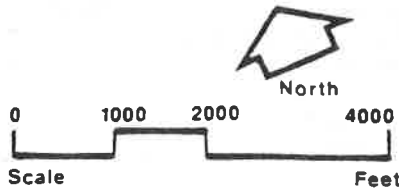
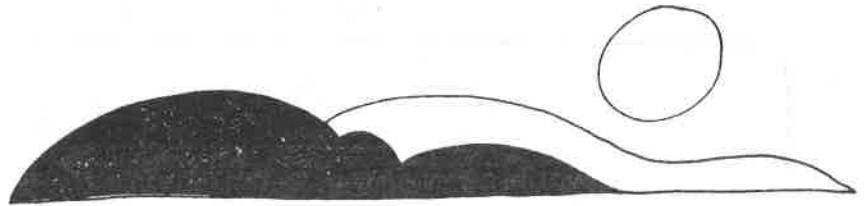


Figure No. 3

COMMITTEE FOR GREEN FOOTHILLS

Peninsula Conservation Center
2253 Park Blvd., Palo Alto, California 94306

Phone: 327-5906 or 328-5313



HONORARY PRESIDENT

Wallace Stegner

PRESIDENT

Bill Leland

VICE PRESIDENTS

Candy Barnett

Betsy Bechtel

Lennie Roberts

Howard Wilshire

SECRETARY

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Allan Newlands

Nils Nilsson

George Norton

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Jon Silver

Frances Spangle

John Stoddard

Georg Treichel

Ruth Troetschler

FOOTHILL COUNCIL FOR

PLANNING RESEARCH

Kathryn Stedman

LEGISLATIVE ADVOCATES

Ann Notthoff

Andy Wordell

COORDINATOR

Nan Weidmann

July 1, 1981

Re: Draft EIR, South Shores
Concept Plan

Planning Commission
City of Redwood City
1917 Middlefield Road
Redwood City, California 94063

Members of the Commission:

The Committee for Green Foothills appreciates the opportunity to comment on the Draft EIR for the South Shores Concept Plan. To introduce ourselves to those members of your Commission who may not be familiar with the Committee for Green Foothills: we are an organization of approximately 800 families in San Mateo County and Santa Clara County concerned about wise land use planning and conservation of significant natural resources in the Midpeninsula. During the eighteen years of the Committee's existence we have been involved in many bayland, foothill, and coastal planning issues.

Other organizations and agencies concerned with specific wildlife and open space issues have addressed segments of the Draft EIR related to their particular areas of expertise. The Committee for Green Foothills wishes to support especially the comments of BCDC, the Department of Fish and Game, Fish and Wildlife Service, the Peninsula Conservation Center, and Save San Francisco Bay Association.

The Draft EIR points out, in several sections, a number of serious problems that would result from approval by Redwood City of the proposed General Plan Amendment and Pezonina. There are some areas, in addition to the concerns about wildlife habitat and Bay quality, that the Draft EIR fails to address adequately, and there are some additional mitigation measures and project alternatives which we believe ought to be included in the final EIR for consideration by your body. These are:

1. The project would require considerably more amendment to the Redwood City General Plan than suggested on page 41 of the Draft EIR. As summarized on pages 39-41, the General Plan requires growth to be channeled in core areas, where community facilities and services would be easily accessible: the Plan requires development to preserve, enhance and restore the natural environment, and subdividers are to be encouraged to set aside land for parks and to encourage preservation and beneficial restoration of natural marshlands. The Plan also says there should be at least one new job for every two new residents. It will be readily apparent from examination of the project proposal that this is not an infill project (as the Draft EIR states on page 34), as it requires the extension of all services from the City (roads, water, electricity,

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sewage); that the developer is merely proposing to subdivide the land and not develop parks; that filling on ponds A-9, 10, 11, and 12 is not restoration of marshland; the proposal does not create a major open space zone but rather converts one; and that the proposed jobs (12,900) would be far larger than the proposed population (3,723). The Draft EIR should be amended to reflect these inconsistencies with Redwood City's adopted General Plan.

2. Regional impacts of the proposed project are not adequately addressed. For example:

189

(a) Although the extremely serious consequences of the additional traffic upon Bayshore Freeway in the area between Holly Avenue and Whipple Avenue are discussed, the Draft EIR does not detail the effect this traffic would have upon the entire Peninsula, including the nearby cities of Menlo Park, San Carlos, Belmont, Atherton, and Palo Alto.

190

(b) Serious questions concerning other proposed projects in the area, such as the Redwood City Harbor and continued buildout of Redwood Shores, that certainly would exacerbate the impacts from the proposed South Shores, are not adequately addressed. As pointed out on page 186, the traffic impacts of full buildout of the east of Bayshore area will increase today's 120,000-137,000 vehicles per day on Bayshore to 292,200 average daily vehicle trips. Since Bayshore is already at capacity, the cumulative impacts of this project plus others in the area will result in an intolerable traffic impact, even with the proposed additional lanes on Bayshore. The City should set priorities for the totality of lands east of Bayshore to avoid the inequities that will result from bad planning. Other impacts of the cumulative development east of Bayshore - such as air quality, water quality, sewage, and jobs-housing ratio - are not addressed.

191

(c) In addition, the effects of trucking the proposed 6½ million yards of fill from one of three possible quarry sites has not been addressed. The Draft EIR should point out some of the problems this would create in the access routes to each of these quarries. The Dumbarton Quarry with its access routes to the new bridge in question, the Route 92/Skyline Boulevard quarry with extremely hazardous traffic on its two-lane road; and the Brisbane-Guadalupe quarry with impacts on Bayshore and access through Brisbane in question need to be addressed. As the Draft EIR points out on page 144, one additional truck would pass a given point on U.S. 101 every minute. Therefore a truck would impact each of the potential quarry access routes likewise.

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(d) Other regional impacts not addressed by the Draft EIR include the area-wide jobs/housing imbalance. Although at this point it appears that Redwood City itself has adequate housing for the number of jobs within its jurisdiction, the City is not an island, and in general there is far more employment within the nearby 6-7 jurisdictions than there is adequate housing for employees. The phasing of the proposed project indicates that the office, research and development, and commercial areas would be built up first; the housing second. This phasing would obviously leave

even more employees with no nearby housing. There is no mention of the need for low and moderate income housing.

193

- (3) We feel that the Draft EIR fails to discuss the economic feasibility of the project adequately. While it is pointed out that there will be a deficit to the City of \$20,000 for the first ten years, there would be hidden costs that would result. One of these would be the probably reduction in build-out in Redwood Shores due to competition from South Shores, and resulting lack of improvement in the tax situation there; another would be the possible failure of the South Shores project to be completed in the estimated ten year period, and consequent failure of anticipated revenues to the City. Costs of maintenance of the public services to be provided are also not included in the Draft EIR.

194

- (4) The Draft EIR fails to mention the impact the project would have on the adopted County Bikeway, which is shown running through Pond A-12. In fact, the City of Redwood City has just received approval for implementing this route with MTC funds, including bridging of two sloughs and paving of the bike path through the center of the proposed development.

195

- (5) The Alternatives to the proposed project suggested by the Draft EIR should be expanded. Alternative B is merely the developer's proposal for the Pond A-12 section of the property, with development of Ponds A-9,10, and 11 removed. In this Alternative the Draft EIR should consider the addition of housing in combination with the office, R&D and marina uses, in varying proportions. The other three ponds could be set aside as mitigation for other development projects around the Bay, or could be restored to marshland by action of this developer.

- (6) Specific comments on the Geotechnical Assessment part of the Draft EIR are attached as a separate analysis.

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In summary, the Committee for Green Foothills believes that the project as proposed is far too large for the site, has far too many adverse impacts, conflicts with far too many adopted plans, and would have an adverse effect on the finances of existing residents of Redwood City. We suggest that additional mitigation would be a requirement that the developer not only set aside Ponds A-9,10, 11, and B-3 for restoration of tidal action, but actually finance the restoration. Inclusion of low-moderate income housing with market rate housing should be constructed by the developer. Subsidy of SamTrans route extension, construction of bus shelters and park-and-ride facilities, and agreement to implement shuttles to the commercial facilities should be included in the mitigation.

We hope that the Commission will seriously consider the considerable adverse impacts identified in the Draft EIR and the additional impacts discussed in this letter and in the letters of the other responding agencies and organizations. Thank you for the opportunity to comment on this document. We support the suggestion of the developer's representative that the Final EIR be published as an integrated document, rather than as an addendum to the Draft. We would appreciate receiving a copy of the Final EIR.

Sincerely,



Howard Wilshire, President

Comments on Geotechnical Assessment

General Remarks

- 197 1. The Redwood Shores and Bair Island areas, though contiguous, are quite different in the geology of their surficial deposits as is immediately evident upon inspection of U.S. Geological Survey Map MF-891, Granular Sediments, San Mateo County. Accordingly, entirely too much reliance is placed upon the soils investigations of Redwood Shores as having direct application to geologic hazards on Bair Island.
- 198 2. Categorical statements are made about low risk levels, for example by liquefaction, when the actual drill data available are very sparse, and even standard penetration data were not obtained. The representation of the types of sediment present in drill holes is in places in direct conflict with MF-891 (especially as regards the distribution of sands at the base of the young bay mud. Furthermore, no indication whatever is given of the reliability or adequacy of the specific drill records used.
- 199 3. Assessment of seismic risks of subsidence, lateral spreading, and submarine sliding are all represented more favorably than can be sustained by the data presented. The past history of dike behavior re the risk of submarine sliding is not relevant considering the proposed load to be added, and the inadequacy of offshore slope-composition data available.
4. The mitigations are largely a loose collection of jargon lacking throughout in specific standards to assure reasonable expectation that a lessening of impact or risk will occur.

Specific Remarks, keyed to text

Appendix D, Geotechnical Assessment

- p.2, Geomorphic processes. Surely human dredging and dike-building are more important processes than rodent burrowing?
- 200 p.4, Logs of all holes on the site should be presented, and their reliability and adequacy assessed. Nos. 1, 10, and 14, as shown in Fig. 2 are not consistent with USGS Map MF-891. Failure to obtain blow counts as well as other engineering properties should have introduced more caution into risk assessments that are dependent on this knowledge.
- p.6, Rodents again but no dredgers
- 201 p.9, 2nd para., 1st sentence is incorrectly stated. There are sands at the contact of young and old bay mud, not just within the old bay mud. The statement (2nd para.) about liquefaction potential seems much too optimistic in light of the data available. Whether "scattered" or not, the sands found in the bore holes are a potential problem that should not be glossed over.
- Third para. First sentence is not relevant as even narrow buried stream channel deposits (that would not "continue across borings" on the present grid) are potentially liquefiable. What "final soils investigation program" is planned?

202 p.9, 7th paragraph (2nd para. under 4.) is incorrect. Large (relative to occupants of the proposed project) slides can and do occur on very low slopes. The risk exists along the entire perimeter of the project.

Mitigations.

203 p.12, Erosion mitigation does not take into account traffic on levees, especially by dirt motorcycles, as is commonplace elsewhere in the Bay area. This causes rapid breakdown of vegetation and serious direct mechanical erosion.

No standards are provided for the amount of surcharge that would be required, where it is needed, or how long it is to be in place. What information is to be sought and how is it to be used in a field observation program?

No assessment is made of the impacts of obtaining the fill materials, where ever they are to come from, or of disposal of the surcharge materials. No standrds are provided for substituting sand drains or drain strips for surcharge preconsolidation, nor is the difference in effectiveness of these procedures assessed.

Slope Stability

204 p.14, Stability of natural slopes under increased load is not addressed. No slope data are provided for perimeter of the project. 7th para. Establishing "conservatively flat slopes" in the fill will not alleviate the problem of an underlying shear failure. The slope that is critical is that of the subsurface unit on which shear failure takes place.

Re controlling heights of fill, what site-specific information is available on shear resistance of the bay mud, and what specific tolerances constitute "sufficiency"?

Seismic

205 p.15, Surely structures within the perimeter levees are also susceptible to instability? Lurching, subsidence, lateral flow, submarine sliding are all likely to affect much more than the levee system. The mitigations for levee failure are reasonable for local failure, but are optimistic in the event of larger scale submarine sliding, which is certainly not out of the question for the slopes involve. What would be the effect of lateral flow on the liquefiable sand within the young bay mud section east of Corkscrew slough? While the risks may be acceptable to the community, a more accurate representation of what they actually are is in order. This assessment is much too reassuring.

Closing

206 p.18. The "extensive studies, soils investigations and analyses" of the Redwood Shores site are not relevant because of the significant differences in surficial geology between the two sites.



MIDPENINSULA REGIONAL OPEN SPACE DISTRICT

375 DISTEL CIRCLE, SUITE D-1, LOS ALTOS, CALIFORNIA 94022

(415) 965-4717

July 2, 1981

Mr. Kenneth Schroeter
Planning Department
City of Redwood City
1017 Middlefield Road
Redwood City, CA

RE: Draft Environmental Impact Report, South Shores Concept Plan

Dear Mr. Schroeter:

I should like to thank the City for providing the MROSD with the opportunity to present our views on the South Shores Draft Environmental Impact Report. We have focused our comments on the relationship of that report to our open space program, which emphasizes open space preservation and public access to these areas.

A primary objective of the District has been to acquire and preserve open space within District boundaries, and to provide public access for low-intensity recreational use. There is a growing demand for attractive natural areas in which to hike, jog, bicycle, and to observe wildlife without the intrusion of motorized vehicles. The need for public trails is especially acute near highly populated urban areas such as Redwood City. This project site contains marshlands and sloughs directly adjacent to a major freeway, offering convenient public access to these unique habitats.

07 We are concerned that planning for public access in the San Mateo County Baylands has not been examined comprehensively as has been done in Santa Clara County. With the completion of the South Bay Trail in Santa Clara County and the Dumbarton Bridge bike pathway, there will undoubtedly be a demand to extend a public trail northward through the project area. Without preliminary planning for trail routes, the project may generate irreparable impacts which will affect future public access to this area.

08 We are also concerned about preserving the integrity of the sloughs in the project area by providing adequate setbacks and buffer zones. The marshes along Corkscrew Slough are extremely valuable wildlife habitat, and it appears inappropriate for single family homes and townhouses to abut directly against them. A 100 foot wide open space corridor south of the slough, as suggested in the DEIR, is most likely not a sufficient buffer zone. Particular attention should be paid to protecting this slough and the ecologically fragile outer island. This could be accomplished through dedication of open space easements.

Herbert A. Grench, *General Manager*


Board of Directors: Katherine Duffy, Barbara Green, Nonette G. Hanko, Richard S. Bishop, Edward G. Shelley, Harry A. Turner, Daniel G. Wendin

Thank you again for the opportunity to respond to this matter. We hope our concerns will be addressed in the Final Environmental Impact Report. If there is further information needed, please don't hesitate to contact me. We look forward to working with you to provide the most beneficial use of Redwood City's open space resources.

Sincerely,

Herbert Grench
General Manager

HG:jc
cc: MROSD Board of Directors


US Department
of Transportation
Urban Mass
Transportation
Administration

Region IX
Albany, California
New York

Two Embarcadero Center
Suite 620
San Francisco, CA 94111

Hawaii

May 13, 1981

Mr. Eugene F. Masciarelli
Project Coordinator
Redwood Shores, Inc.
350 Marine World Parkway
Redwood City, California 94065

Re: Comment on South Shores E.I.R.

Dear Mr. Masciarelli:

Your letter to Mr. William Royer, Regional Representative of the Department of Transportation in Region IX was referred to this office for evaluation and response.

We have reviewed the E.I.R. for the proposed South Shores development as to its possible impacts on transportation. As we discussed on the telephone, the project is a substantial one which would produce some 3700 dwelling units plus several million square feet of commercial and office spaces. A planned unit development of this scale would logically generate substantial trips.

209 While the local streets and access roads seem adequate, the transit service apparently is limited to today's service by SAMTRANS. It seems to us it is important for you to do two things: (1) To review this plan with SAMTRANS to find out what kind and how much expansion of service SAMTRANS could provide and afford once the development is occupied and whether the developers could assist in defraying some of the costs for expanding transit service to the P.U.D. if SAMTRANS cannot extend such service in a timely manner. (2) In light of the Federal concerns about conserving energy, it behooves us all to do what we can to encourage transit over the automobile.

We also suggest your contacting MTC and ABAG who are always concerned about the impact of large scale developments on the region and in particular, on the transportation facilities. They may provide additional comments on your E.I.R.

Sincerely yours,



Stuart Eurman
Director
Office of Planning



United States Department of the Interior

FISH AND WILDLIFE SERVICE
Division of Ecological Services
2800 Cottage Way, Rm. E-2727
Sacramento, California 95825

COPY

July 2, 1981

Ken Schroeter, Director
Planning Department
City of Redwood City
1017 Middlefield Road
Redwood City, California 94063

Subject: Draft Environmental Impact Report: South Shores Concept Plan

Dear Mr. Schroeter:

The Fish and Wildlife Service appreciates the opportunity to comment on the Draft Environmental Impact Report (DEIR) on the South Shores Concept Plan, a proposed development encompassing 1,095 acres of land bounded on the west by the Bayshore Freeway, on the east by Corkscrew Slough, on the north by Steinberger Slough and on the south by Redwood Creek. In this letter, the area described above will be referred to as part of the larger Bair Island complex.

General Comments:

As stated in the DEIR, the Bair Island complex was historically tidal salt marsh, which has undergone extensive modification. Although tidal exchange does not occur over the project area at this time, ponding does take place as rainwater collects on site during winter months. This seasonal regime of inundation has resulted in the maintenance of hydric soil conditions over a significant portion of the total project area. Under the Fish and Wildlife Service wetland classification scheme, the presence of hydric soils is a major indicator of wetland conditions. As further evidence of their wetland condition, water associated birds make extensive use of these ponds as loafing and feeding areas during the winter months. Because of the value of wetlands to our Nation's fish and wildlife resources, the Service generally recommends against proposed developments in such areas unless the projects are water-dependent or for essential public purposes, would not jeopardize the continued existence of endangered species, and would not result in significant adverse impacts which could not be ameliorated. In addition, we generally discourage development in diked, former tidelands which are not now wetlands if such developments would make their restoration less feasible, would adversely affect adjacent wetlands or waterways, or would displace a legitimate water dependent use (such as port development), forcing it into more ecologically sensitive areas. When proposals in wetlands are deemed acceptable under these criteria, the Service further recommends that full compensation be provided for habitat value losses resulting from the project.

Conversely, the Service generally encourages projects which would result in a net gain in fish and wildlife habitat values. Particular encouragement is given to those projects which would alleviate important resource problems (IRP) nationally recognized by the Service. The decline of California's coastal migratory bird populations, the endangered clapper rail and least tern, and Central Valley's wintering waterfowl population (which during drought years migrates to San Francisco Bay), have all been established as IRP's. A primary cause of their decline is loss of coastal wetland habitat. In addition the Service's "Concept Plan for Waterfowl Wintering Habitat Preservation, California Coast" published in 1979 recognized South San Francisco Bay's restorable diked former tidelands as extremely important to waterfowl management. The proposed project site constitutes about 10% of this restorable area. Restoration of tidal action to the area would significantly increase its existing value to wildlife resources as well as provide habitat values for fisheries which are presently lacking.

210

Specific Comments:

211

Page 47. The first paragraph should read "The Resources Agency has adopted a wetlands preservation policy which does not permit authorization or approval of a project that fills or otherwise harms or destroys wetlands unless the project is water-dependent or an essential transportation, water conveyance, or utility project.

212

Page 54, 56, 80, etc. The DEIR briefly mentions short- and long-term impacts associated with project dredging. Maintenance dredging will be required over the life of the project in the proposed marina and in any sloughs tentatively proposed for dredging. The DEIR should address the requirement of a long-term disposal site for the dredged material.

213

Page 68. We agree with the statement in paragraph #1 that the Bair Island complex is one of the most valuable remaining wildlife areas in the South San Francisco Bay Region. The key to wildlife productivity on the outer island is its isolation from human or human-related disturbance. Not only do the tidal channels surrounding the island provide necessary protection, the center island (Ponds A-9, 10 and 11), in its present undeveloped state, also acts as an effective buffer.

214

Page 62 - 64. The DEIR should note that the entire Bair Island complex east and north of the Bayshore Freeway has been recommended for designation as essential habitat in Recovery Plans being prepared for the salt marsh harvest mouse and clapper rail.

215

Page 63. The DEIR should include an additional sighting of a clapper rail by Thomas E. Harvey (January 15, 1981) in salt marsh habitat lying between the Bayshore Freeway and Pond A-12 (referred to as the mainland in the DEIR).

Page 87 - 91. Mitigation. For projects meeting Service criteria for location in wetlands and diked tidelands, the Fish and Wildlife Service recommends compensation for all habitat value losses, both direct and indirect. Should the proposed development be judged acceptable to the Service, wildlife losses would not be adequately compensated by restoration of Pond B-3 to tidal action

and protection of existing salt marsh areas around the South Shores development. In addition, the DEIR presents no feasible measures to reduce the indirect impact of human intrusion on outer Bair Island, including areas maintained exclusively for wildlife by the California Department of Fish and Game and the Service's San Francisco Bay National Wildlife Refuge. Past experience shows that mitigation measures such as belling cats, leashing dogs and controlling rats are largely ineffective in preventing indirect impacts of a development project on a nearby wildlife area.

Summary:

The DEIR adequately assesses the potential for the South Shores project to result in major adverse impacts on wildlife resources of the Bair Island complex. Breeding populations of three endangered species would be detrimentally affected through direct loss of habitat and indirect effects of human or human-related intrusions on breeding grounds. Project construction also would preclude future options to restore the island to tidal marsh.

Because of the potential for major adverse impacts on the valuable wildlife resource of Bair Island, the Fish and Wildlife Service favors selection of Alternative D (Marsh Restoration) over the proposed project or additional alternatives. Elevations within the salt evaporation ponds are appropriate for restoration of productive tidal marsh conditions. With proper contouring and interspersions of wetland and upland habitats, restoration of the project area to tidal action would substantially increase available wildlife and fisheries habitat within South San Francisco Bay, which we believe would result in great overall public benefit.

We appreciate the opportunity to provide comments on the South Shores Concept Plan. These comments are presented as a planning aid and are not intended to replace any formal review that may be required through the regulatory program of the U.S. Army Corps of Engineers.

If you have any questions regarding these comments, please contact Karen Miller of my staff (916) 484-4731.

Sincerely,

James W. Carson
for James J. McKeivitt
Field Supervisor

cc: CE, San Francisco
BCDC, San Francisco
Dir., CDFG, Sacramento
Reg. Mgr., CDFG, Reg. III, Yountville
attn: Ted Wooster
SESO, Sacramento
SFBNWR, Newark
NMFS, Tiburon
Peninsula Conservation Center, Palo Alto
Save SF Bay Association, Berkeley
Redwood Shores, Inc., Redwood City
attn: Eugene Masciarelli
Mid-Peninsula Open Space, Los Altos
National Audubon Society, Tiburon 304

CITY OF SAN CARLOS



Planning Commission

Telephone (415) 593-8011

July 7th, 1981

RECEIVED

JUL 10 1981

CITY OF SAN CARLOS
PLANNING DEPARTMENT

Mr. Ken Schroeter, Planning Director
City of Redwood City,
Middlefield Road and Jefferson Avenue,
Redwood City, CA. 94064

Dear Mr. Schroeter:

The City of San Carlos is submitting the following comments in reference to the "Draft Environmental Impact Report - South Shores Concept Plan and Technical Reports" April 13th, 1981.

The City of San Carlos, a responsible agency, did not receive a Notice of Preparation as specified in the CEQA Guidelines Section 15066. Nor did we receive a copy of the EIR until three (3) days prior to the Planning Commission Public Hearing on the EIR.

The following significant environmental impacts are of concern to the City of San Carlos:

216

1. Proximity to the San Carlos Airport, related hazards and adverse effects on airport operations.
2. Traffic including an identified significant impact on the Holly Street Interchange which may ultimately result in the need for widening Holly Street.

"A computerized traffic assignment model (using a somewhat different diversion curve) found that if the Whipple Interchange is congested, a substantial amount of traffic would be diverted along the Bayshore Freeway frontage road to the Holly/Redwood Shores Parkway Interchange. If this occurs, however, additional capacity would have to be provided at Holly (rather than Whipple) and in addition, more vehicle-miles of travel would be generated by this detour." (Pg. 116)

217

3. A question that must be addressed that is not considered in the EIR is the impact on the drainage outfall of Pulgas Creek and the potential impact on San Carlos' established drainage patterns.

218

4. The proposed mitigation to alleviate traffic problems and improve service quality to South Shore motorists could have a significant impact on San Carlos, "construction trucks carrying fill should use the Holly Street/Redwood Shores Parkway Interchange, rather than the Whipple Interchange. The Holly Interchange has auxiliary merge lanes which would mitigate truck impacts on Bayshore Freeway motorists."

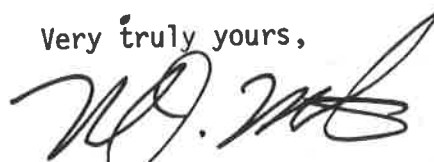
219

Pg. #2

To: Mr. Ken Schroeter, Planning Director

The City of San Carlos received a copy of the San Mateo County comments and we concur. In conclusion, the City of San Carlos does not feel that the subject Draft EIR is adequate at this time.

Very truly yours,

A handwritten signature in black ink, appearing to read "N.J. Martin", written over a faint, illegible typed name.

Neal J. Martin, Director of
Planning

BL:mb



BAY AREA AIR QUALITY MANAGEMENT DISTRICT

July 6, 1981

Redwood City Planning Department
P.O. Box 391
Redwood City, CA 94064

Gentlemen/Ladies:

We are in receipt of the Draft Environmental Impact Report for the South Shores Concept Plan and Technical Reports, dated April 13, 1981.

We find the air quality analysis to be very carefully done and would like to commend you and your consultants on it. Estimates of background carbon monoxide concentrations, however, appear to be too low. A review of the literature, and information from CALTRANS may be used to determine the worst-case expected background number(s).

This is a development with the potential of adding much vehicular traffic and, consequently, degrading air quality. However your analysis predicts no exceedances of air quality standards due to the project. A new assessment of background values might change this conclusion.

We would particularly like to commend the proposed, innovative mitigation measure outlined on page 129 which would make the promise of flexible/staggered work hours a condition of sale of property to be used for office purposes. By moving to lessen peak traffic generation, and thereby alleviate Bayshore Freeway congestion, the negative air quality impact would be softened.

We trust that this recommendation will be implemented by the city for all uses where it is feasible.

Sincerely,

Milton Feldstein
Air Pollution Control Officer

MF:ey

cc: Lu Lynn de Silva, ABAG
Gary Agid, ARB

samTrans

BOARD OF DIRECTORS

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JOHN T. MAURO
General Manager

July 2, 1981

Planning Commission
City of Redwood City
Middlefield & Jefferson Avenues
Redwood City, CA 94063

Re: South Shore Development EIR

Gentlemen:

Our staff has reviewed the South Shore Development EIR and submits the following comments.

Although the EIR covers transportation issues very lightly, staff finds the document adequate. It should be noted that SamTrans has been involved in several discussions with Redwood Shores, Inc., dealing with transit and transportation matters. As we stated to Redwood Shores staff, SamTrans cannot guarantee service until a market exists.

Once it has been determined that there is a potential market, service could be instituted on a trial basis. If ridership grows, the service would remain; if not, the service would be eliminated. Therefore, it would be difficult to recommend costly transportation facilities without knowing the market.

However, a new development should "build-in" flexibility to add transit facilities such as bus pull-outs, passenger loading zones, etc.

One main concern we have is in the development of park and ride facilities adjacent to major interchanges. SamTrans is working closely with Caltrans, San Mateo County and Redwood Shores, Inc., to try and develop such facilities at Ralston/101, Holly/101 and Whipple/101 interchanges.

I hope this information will help you in reviewing the EIR. If you wish additional information, please do not hesitate to call on me.

Sincerely,



Lawrence W. Stueck
Manager of Program Development

LWS:vf

SAN MATEO COUNTY TRANSIT DISTRICT

400 South El Camino Real, Room 400, San Mateo, California 94402 (415) 573-2252

Office of the City Manager

M E M O R A N D U M

TO: Redwood City Planning Commission DATE: July 2, 1981

FROM: Housing & Human Concerns Committee

SUBJECT: South Shores Environmental Impact Report

At a special meeting of the Housing and Human Concerns Committee, held on July 1st, the following statement was adopted.

The South Shores proposal will provide one of the few opportunities in San Mateo County to develop affordable housing. Therefore, the development of housing on some portion of the area is encouraged.

In that affordable housing is a major goal, consideration should be given to greater density in return for a commitment to affordable housing.

222

Because of the significant on-site improvement costs, the City should consider some form of tax exempt financing which would assist in the development of affordable housing.

223

The future demand for rental housing is such that any future entitlements should be conditioned upon the development of some rental housing.

RECEIVED

JUL 6 1981

CITY OF REDWOOD CITY
PLANNING DEPARTMENT



JAMES M. SMITH
SECRETARY

County of San Mateo AVIATION COMMITTEE

INC.

P.O. BOX 661

REDWOOD CITY, CA 94064

(415) 366-1915

Dedicated to the Support of Aviation

July 6, 1981

Honorable Planning Commissioners
City of Redwood City
Redwood City Hall
Redwood City, CA 94063

Dear Commissioners:

Re: Proposed Construction of Dwelling Houses Beneath
Traffic Pattern of San Carlos Airport

This will state the reasons for opposition by the County of San Mateo Aviation Committee to the Commission's granting of authorization for construction of dwelling buildings beneath the traffic pattern of the San Carlos Airport. This Committee is a non-profit, non-partisan, volunteer organization whose purpose is support of aviation as part of the overall county transportation and economic system.

It should be clearly understood that the Committee does not oppose a plan which would allow owners of property near San Carlos Airport to develop that property in a manner compatible with airport operation. Construction of buildings would be considered a compatible use if they were for industrial or business use as opposed to dwelling use.

It is our view that the Environmental Impact Report upon which the pending plan for development is based is defective in a number of respects. First, it is based on information compiled during 1975 and does not take into consideration significant developments since that time. Secondly, it does not take into consideration that San Carlos Airport is a well-established component of San Mateo County industry and which must be allowed to continue functioning in an efficient manner. Third, the Environmental Impact Report refers to "acceptable" noise levels citing CNEL (Community Noise Equivalent Level). It is silent with respect to the more significant SNEL (Single Noise Event Level), which is measurement of noise produced by an individual aircraft on a given flight. This latter type of event has historically been the prime basis for complaints by homeowners who object to aircraft noise, since such single

224

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July 6, 1981

events of interference with personal home enjoyment is of far greater significance than an average-level (CNEL) which is experienced over a 24-hour period.

226

Next, the EIR does not take into consideration the current noise problem that has developed since 1975 at and near the San Francisco Airport and the potential for a similar situation at San Carlos Airport. Clearly, the construction of dwelling buildings beneath the traffic pattern of San Carlos Airport could result in a similar conflict with resultant similar litigation.

227

In referring to "two major regional noise sources", San Carlos Airport and Highway 101, the EIR is silent as to the third source, namely, traffic pattern overflights. This source is situated at a point in space 800 feet above the ground and is a considerable distance from the airport runway.

228

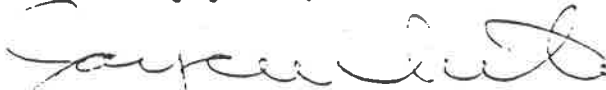
Finally, and perhaps most importantly, the EIR does not address the matter of safety for those persons who would be living beneath the traffic pattern.

We would like to emphasize that our Committee is of the view that, in the public interest, there must be a balancing with private interests. Development of lands in a manner compatible with use of San Carlos Airport is essential to the interests of residents of San Mateo County.

In support of our position, I hand you herewith a petition bearing signatures of 467 users of San Carlos Airport.

In passing, we invite you to contact the Committee if it can be of assistance by way of furnishing technical materials or in any other manner.

Very truly yours,



JAY C. WHITE
Chairman

JCW:ek

RECEIVED

JUL 6 1981

CITY OF SAN MATEO COUNTY
PLANNING DEPARTMENT

RESPONSE TO COMMENTS

Response 1:

The Population and Housing section has been expanded to incorporate more information on housing supply and employment opportunities which would be created by the project.

Response 2:

No land has previously been transferred from the South Shores project for wildlife refuge use. The lands referenced in this comment were donated to the state in response to various other settlements. See Response 34 for a detailed discussion of these donations.

Response 3:

The Population and Housing section has been expanded to include more information on the employment opportunities afforded by the South Shores development.

Response 4:

Comment noted; no response is necessary.

Response 5:

The text on page 7 has been amended to clarify that the potentially restorable salt marsh habitat discussed refers to dry salt evaporation ponds.

Response 6:

This observation has been included as a footnote to the Alternatives section. See also Response 36.

Response 7:

The text on page 11 has been changed to correct this typographical error. It now reads Intersection #4.

Response 8:

At the time of Draft EIR preparation, the City determined that the name Bair Island applied to the portions of the project site between Smith and Corkscrew Sloughs. For historical reasons and because of the association of Bair Island with sensitive wildlife areas, Redwood Shores Inc. petitioned the Redwood City Council to officially designate

Bair Island only as those lands north of Corkscrew Slough. On June 1, 1981, the City Council of Redwood City adopted Minute Order 81-95 making such a designation. References in the EIR text have been changed accordingly. See also Response 63.

Response 9:

The figure provided by the project sponsor illustrating time-phasing of the project has been substituted for Figure No. 5. The South Shores Concept Plan, Figure No. 4, was previously submitted by the project sponsor as the basis for the proposed general plan amendment.

Response 10:

A discussion of the Waterfront Development Plan has been added to the Relationship to Plans section of the EIR.

Response 11:

The EIR has been amended to reflect a more recent ABAG Regional Plan published in 1980.

Response 12:

Comment noted. See expanded treatment of housing and employment issues in Population and Housing section.

Response 13:

The auto park, a development option suggested in the 1977 South Shores General Plan report is no longer a part of the project proposal. The reference to it on page 42 has been deleted.

Response 14:

As discussed in Appendix F of the DEIR, water quality in the sloughs is generally satisfactory but there does exist some localized water quality problems.

Response 15:

Studies pertaining to the Redwood Shores lagoons were reviewed and incorporated in this study. See Water Quality technical appendix for details.

Response 16:

Acreage figures for salt ponds, raised levees and salt marsh found within the project site have been added to the text. As the three other habitats are not included on the site per se, acreage figures are not included, although their presence in adjacent areas is discussed.

Response 17:

See Responses 8 and 63, and text footnote, page 23.

Response 18:

Breaching of levees would eliminate this habitat type in specific locations. The relative habitat value of salt marsh created by levee breaches is much higher than the sparsely vegetated levees. While levee vegetation provides a high-tide refuge for the salt marsh harvest mouse and clapper rail, these species can and, in most areas, do rely solely on a thick cover of pickleweed to cope with high tides. In addition, sculpturing of pond bottoms prior to flooding would create higher elevation habitat suitable for use by these species.

Response 19:

See Response 18.

Response 20:

No least terns were known to have nested in the area that the state has returned to tidal action. The flooded area does, however, increase the food base available to the least terns nesting nearby.

Response 21:

The historic peregrine falcon nesting record is important in illustrating the reason that the South Shores and Bair Island area was and still is a unique biological resource on both a regional and statewide level.

Response 22:

The probability that peregrine falcons hunt in the area during the winter is indicated by known peregrine distribution patterns and the availability of abundant prey species in the project area.

Response 23:

Depending upon the construction method, management and design of the marina some salt marsh vegetation may establish. Without more specific plans, however, the extent to which this would occur is difficult to estimate.

Response 24:

The text has been amended to note that project-generated sedimentation may not be highly significant in comparison to natural processes.

Response 25:

Breaching levees would also temporarily increase sediment load in the waterways. The extent of dredging proposed has been added to the text.

Response 26:

References to dredging Corkscrew Slough have been eliminated. Eutrophication problems are not uncommon in artificially created enclosed bodies of water. The statement is prefaced with "if not properly designed and maintained," implying that proper design and maintenance would reduce the likelihood of eutrophication problems.

Response 27:

Salt marsh is the primary habitat for both the salt marsh harvest mouse and the California clapper rail. Rehabilitation of the salt ponds to salt marsh would greatly increase rather than decrease the amount of habitat available to these two endangered species.

Response 28:

No information is available to indicate that this has been a problem on Bird Island; however, other islands used as breeding areas have experienced problems. Most recently, on July 4, 1981, an accidental fire was started by trespassers on Marin Island near San Rafael. Marin Island supports over 100 night heron, 300 snowy egret and 75 great egret nests as well as various nesting gulls and terns. The fire, which burned only a small part of the island before being brought under control, killed an estimated 100 herons and egrets. Vegetation on Marin Island and upland areas of Bair Island is substantially similar. This would suggest that in addition to the potential for human intrusion on Bair Island, the possibility exists for similar man-caused fires.

Response 29:

See Response 28, above. Coyotes would not be expected in this area, although they are known to be quite tolerant of some urbanization. The reference to coyotes has been deleted.

Response 30:

Although bridging Corkscrew Slough and development of portions of Bair Island are not a part of the South Shores proposal, development of Ponds A-9, 10 and 11 would increase pressure to do so. The South Shores Concept Plan submitted by the project sponsor designates Pond B-3 as a "Study Area for Future Development." Without development of South Shores, and its attendant infrastructure, future development of Pond B-3 would probably not be economically feasible. We consider this indirect effect of the South Shores project one of the most potentially serious impacts on the sensitive wildlife resources of Bair Island.

Response 31:

Text has been amended to clarify that the 940 acres of potentially restorable marsh land is currently dry salt pond.

Response 32:

No least terns are known to nest within the project boundaries proposed for development. The text notes that potential breeding habitat for the least tern is present. However, potential breeding habitat would also be inundated by flooding Pond B-3, although the restored marshland would serve as additional foraging habitat for those breeding populations in adjacent areas.

Response 33:

The text has been amended to delete reference to dredging of Corkscrew Slough.

Response 34:

The 1,210 acres discussed in this comment refers to lands donated, sold or offered for sale in connection with various other projects and agreements. No lands have previously been provided as mitigation for the South Shores project. These 1,210 acres consist of the following:

On Bair Island 801.8 acres of land were donated to the state in 1973. An additional 187 acres consisting of Pond B-2 was turned over to the state as off-site mitigation for the development of a regional shopping center on Redwood Peninsula. This donation is referred to as the Phelps Slough mitigation agreement. On Pond A-12, 29.8 acres were sold through condemnation to San Carlos Airport as an airport clear zone.

Sixty acres on Bair Island are to be given to the state as part of the Bair Island Environmental Study agreement of 1973, although the exact parcels have not yet been agreed upon. On the outer edge of Bair Island 133.1 acres have been designated for inclusion in the San Francisco Bay National Wildlife Refuge, although an agreement has not yet been reached on the transfer.

Response 35:

A footnote has been added to the Alternatives section to indicate that no alternative sites were evaluated because there do not appear to be similarly sized sites in San Mateo County suitable for this type of project. It should be noted, however, that according to the traffic analysis, full build-out of South Shores could preclude full development of other Eastside locations. These other sites could thus be viewed as alternative locations for some of the land uses proposed in the South Shores project.

Response 36:

See Responses 38 and 39.

Response 37:

See Response 35.

Response 38:

The Consultant feels that the trip generation rates used in the study--including the rate of 14 trip-ends per 1,000 square feet (average day) for office development--are not unnecessarily conservative. While the lower rate referenced by the comment (12.0) was derived from a larger number of studies, it was from a national sample. The rates used by the Consultant were based on regional experience (specifically the Bay Area). California trip generation rates are typically higher than the national average for several reasons, including higher incomes, greater auto availability, lower transit service levels, better highways, and so forth. The Consultant has used the 14.0 rate in a number of other sites, including traffic studies in San Rafael and Corte Madera; the rate was approved by the Redwood City Traffic Engineer.

In fairness, it should be noted that trip generation is part art and part science. CalTrans' 12th Progress Report on a Trip End Generation (p. 22) notes a range of values

from 8.8 to 23.6 daily trip-ends/day per 1,000 square feet for commercial office. The weighted average is 15.0, somewhat greater than that used for the South Shores Draft EIR.

While the commentator's survey of traffic generated by the new Fluor Building is interesting, it should be noted that the construction of additional offices, shops and residences on the Eastside will create additional "attractions" for trips produced at offices. Since only a portion of the Eastside is developed at this time, the trip generation rate from Fluor may be depressed relative to what it would be at "build-out."

In any event, many of the traffic conditions noted in the study would improve only one level of service (e.g. from E to D) if the commentator's lower rate were actually to prevail. Since service levels of C (and sometimes D) are used as urban standards, even if the lower rate proves to be more accurate, traffic conditions would still be at or below the generally accepted "standard" in traffic engineering.

Response 39:

The comment is correct; half of the level of service designations should be one level better. Figure 15 has been revised to be consistent with Table 7.

Response 40:

Comment noted; no response is necessary.

Response 41:

Shifting commercial uses on Ponds A-9, A-10, and A-11 to residential land uses has been addressed in the Population and Housing mitigation section.

Response 42:

The focus of the revenue projection in the EIR was on general government revenues. Our review of the Recommended Budget for the City of Redwood City, 1980-81, which was the major source of data for the EIR when it was prepared last year, indicates that virtually no revenue sources of any significance were omitted except for vehicle code fines and County grants for streets, which together account for about 5% of general governmental revenues.

The implication that federal and state grants were omitted is misleading for the following reasons: (1) The report explicitly recognizes revenue from the state in the form

of motor vehicle in-lieu taxes, gasoline tax, and the cigarette tax, which collectively account for nearly 96% of City revenue from the state. (2) Federal funding, exclusive of revenue-sharing, is received through the Community Development Block Grant (CDBG) program. These funds are not a part of general government revenue; in fact, they are specifically targeted for chosen programs. Their amount is not driven solely by population. Their future receipt, in the present fiscal environment, is far from certain (for example, the CETA program has been phased out). (3) The Finance Director of the City of Redwood City has not identified any other significant sources of revenue from the federal government.

Response 43:

The comment that costs associated with new development are less than those associated with servicing older developed areas is probably well taken for certain types of services. However, there are several issues in the comment with which we disagree: (1) The statement that public works represents 35% of the City's expenditures is misleading because more than half these expenditures are funded through the water fund and the sewer fund, enterprise funds comprised of user charges, with no claim upon general government revenues. (2) That fire department expenses would be less for the new development than for existing development is somewhat moot since most of the proposed construction would be wood frame and non-sprinklered. (3) We take issue with the statement that the police department would receive proportionately fewer calls from this development - the density of housing and employment would be significantly greater than elsewhere in Redwood City, with an increased demand for service per acre. (4) The notion that the demand for parking and traffic control services would be proportionately less than the average for the rest of the City does not make a great deal of sense - the project will generate more than 80,000 vehicle trips per average weekday at full buildout (Draft EIR, pg. 109), with several intersections operating at Level of Service E.

The method for projecting costs through average costing, cross-checked by discussions with service heads to establish any marginal costs, certainly has its limitations, such as the effect of density of development on the cost equation per acre, but in our view the methodology employed in this study was reasonably conservative and realistic.

Response 44:

It was not necessary, in this analysis, to make any assumptions regarding the future generation of property taxes by other areas in Redwood City - all costs and

revenues were in 1980 dollars. Of course, to the extent that revenues are constrained by the limits of Proposition 13, expenditures will be constrained and, as noted in the comment, quality of service may decline. It did not appear reasonable to indicate a cost saving for the project based on declining quality of public services. Inherent in the market values assigned for property assessment purposes in the EIR was the notion that the market and hence, assessed, value of newly constructed development at South Shores would exceed the market and assessed values of (older) comparable properties in Redwood City. This is reflected in the per square foot costs assigned to the new development. The comment relating to this issue does not add anything that has not already been included in the evaluation. It is unclear what adjustments could possibly be made in the EIR.

Response 45:

The text has been amended to incorporate this information on clapper rail and salt marsh harvest mouse essential habitat proposals.

Response 46:

Comment noted. The text has been amended to point out that the 100-foot buffer zone and other mitigation measures suggested may not prevent potentially serious impacts to wildlife resources.

Response 47:

The text has been amended to incorporate this correction in BCDC jurisdiction.

Response 48:

The text has been changed to include a more detailed description of BCDC jurisdiction in the project area.

Response 49:

The text has been amended to reflect the comment.

Response 50:

The development time phasing is illustrated in Figure 5 and Table 5 located within the Project Description Section of the EIR.

Response 51:

The EIR has been amended to clarify the consistency of the project to relevant plans including the San Francisco Bay Plan.

Response 52:

The Geotechnical Assessment, technical appendix III, states that "The greatest potential for soil to erode off the site would be during construction..." The extent of erosion and sedimentation will depend on the degree of control exercised. The geotechnical assessment further states: "An erosion control plan, construction schedule and sequence of operations developed prior to construction can provide an effective approach to minimizing soil erosion."

Appendix III elaborates on available methods of control. Additional appropriate measures may also be available. If these methods are correctly employed, erosion and sedimentation during construction are expected to be minimal.

The term "mud wave" is not used in the geotechnical assessment. The reviewer may be referring to the lateral movement of Bay mud under the weight of new fill. This concern comes under the category of Slope Stability. Appendix III discusses design approaches and construction procedures that are available to produce stable slopes. Additional appropriate measures may also be available. If these are followed, lateral displacement of Bay mud will be minimal.

Response 53:

As stated in the DEIR, the timing, character and quantity of stormwater discharges from the site have not yet been established, and slough tidal current flow rates and flushing action are unknown. Because of the lack of these fundamental design data, more detailed plans to control stormwater runoff cannot be developed at this time.

Because the project is only at the concept plan stage, a meaningful erosion control plan cannot be developed. This would more appropriately come after project design parameters have been established. More detailed mitigation measures have been added to the Water Quality section.

Response 54:

All mitigation measures are the Consultant's recommendations, unless noted otherwise. The EIR authors do not have discretionary power for implementing mitigation or recommended future studies. The Redwood City Planning Commission has the authority to require mitigation as a condition of approving the general plan amendment. The text has been amended to indicate that even with the suggested mitigation measures, serious impacts could occur to the wildlife resources.

Response 55:

For discussion of feasibility and effectiveness of traffic mitigation measures, see Responses 100, 156, 157, and 182.

Response 56:

The construction of sewer lines from South Shores across Steinberger Slough to the sewage treatment plant would be within BCDC jurisdiction. The treatment plant is not in BCDC jurisdiction. A number of alternatives for sewer alignment to the SBSA treatment plant should be investigated to determine the most feasible alignment. Such a study, which would include an in-depth geologic analysis, is beyond the scope of this EIR.

Response 57:

The proposed 600-berth marina would be constructed primarily in lands not now subject to tidal actions. However, the entrance to the marina basin would involve breaching off dikes and dredging of a 300-400 foot section of Smith Slough to connect the marina with Redwood Creek. See Response 137 for additional discussion of dredging requirements. For discussion of boating mitigation measures, see Responses 165 and 166.

Response 58:

Additional information has been added to the text on implementation costs for proposed off-site highway improvements. Figure 21A illustrates these improvements for the entire Eastside Area and Table 13A provides preliminary cost estimates. Capacity of the SBSA plant could be increased by expanding the treatment plant. The smallest physical expansion possible would be 6.0 mgd and would cost approximately \$8 million (1980 dollars). Plant expansion to handle the 0.4 mgd generated by the project that exceeds the SBSA treatment plant capacity thus may not be the most feasible method of treating that additional wastewater. Treatment capacity could also be expanded through modification of current plant processes. See also Response 66.

Response 59:

The suggested marsh management and restoration plan would be developed as a condition of project approval. The evaluation of this plan is beyond the scope of the EIR.

Response 60:

Additional discussion of growth-inducing effects on properties adjacent to the site has been added to the Growth Inducement section. Bridging Smith and Steinberger Sloughs and installation of infrastructure on the site would eliminate several of the current constraints to development of those adjacent areas. This would have the effect of increasing development pressures on those areas. Their development could have a number of potentially severe environmental impacts.

Response 61:

A discussion of the tentative procedure for project approval has been included in the Relationship to Local and Regional Plans section.

Response 62:

The Population and Housing section has been expanded to provide more information on the housing impacts of the project.

Response 63:

Pursuant to Redwood City Council Minute Order 81-95 which defines Bair Island as those lands north of Corkscrew Slough, all text references to the South Shores project site as a portion of Bair Island have been removed. See also footnote, page 23 and Response 8.

Response 64:

The noise analysis has been updated to reflect airport noise projections for 1994 and to discuss the importance of single noise events from aircraft. Sound insulation and avigation easements are recommended to protect the airport's present status.

Response 65:

For discussion of impacts on regional highway facilities, see Response 100.

Response 66:

The sewage treatment plant is designed to meet the population capacity of the air basin as determined by EPA. It is possible that EPA would not allocate funds for plant expansion to service a population larger than the basin's projected population capacity. As stated in the EIR, the project sponsor could pay all or part of the improvement costs to accommodate the increased flows generated by South Shores. However, plant expansion for the 0.4 MGD flow that would exceed the limit set by EPA may not be the most economical method to increase plant capacity. Plant capacity could also be increased through modification of current plant processes.

Response 67:

A County bikeway is planned that would traverse Pond A-12 involving construction of two bridges over sloughs. This bikeway is being incorporated into the project design. The final designs for automobile bridges have not been submitted. Preliminary design criteria call for two lanes with pedestrian sidewalks and no bicycle lanes (Appendix B of the DEIR). Given the current need to encourage the use of bicycles as an alternative mode of transportation the City has indicated that the bridge design should allow for their safe use by bicyclists. It should be noted, however, that with the additional traffic on Whipple Avenue, this route will become less desirable for bicyclists.

Provision of public transit to the site is a recommended mitigation measure. Shuttle bus service to downtown Redwood City and the Southern Pacific train station is also recommended.

Response 68:

The Eastside Transportation Network Study, upon which the EIR traffic assessment is based, takes into consideration regional trends. The effect of these regional traffic sources, such as Dumbarton Bridge traffic, is incorporated into the mitigation suggestions. For additional discussion of impacts on regional highway facilities, see Response 100.

Response 69:

The South Shores EIR has been prepared to conform to the California Environmental Quality Act and guidelines as amended January 1, 1981.

Response 70:

Comment noted; no response is necessary.

Response 71:

Comment noted; no response is necessary.

Response 72:

The Site Location and Setting section provides only a brief overview of the major characteristics of the site. Detailed examinations, including discussion of the site's regional significance, are included where appropriate within each major section. In particular, the Vegetation and Wildlife section discusses the regional significance of the site to wildlife. The Relationship to Local and Regional Plans section addresses the project with respect to regional and statewide agency mandates. The Population and Housing section has been revised to include more discussion of the regional housing situation. Discussion of the site's regional significance and regional impacts of the project are also included in the traffic, noise, air quality, and energy sections.

Response 73:

The project is currently at a conceptual design stage. The present detail of the project does not allow detailed erosion control plans or seismic design criteria to be established. These plans would only be meaningful when specific development proposals within the project area are suggested.

Response 74:

Those further studies recommended by the Consultant are beyond the scope of the EIR. If desired by the City they would be required as a condition to permitting the project.

Response 75:

See Response 53 for discussion of limitations to the analysis of water quality impacts. The Water Quality section has been revised to incorporate more detailed mitigation measures.

Response 76:

Feasibility of treatment plant expansion would be determined by reports funded by government sources.

Response 77:

The text has been amended to clarify that the relative value of the drained salt evaporation ponds is low in comparison to other habitat types such as salt marsh and vegetated levees. As pointed out later in the text the habitat value of these ponds was also much higher during their operation.

Response 78:

No known least tern breeding habitat is proposed for development. Rather, because of its physical similarity with the area used by the Bair Island breeding colony, it must be considered potential breeding habitat. The more serious impact to the least tern would be possible intrusion into the breeding colony by dogs or people. See also Response 115.

Response 79:

The text notes that the effect of this loss of open space on the area's residents would depend upon the aesthetic inclination of the observer. Those familiar with the site at present may consider this restriction of views to be an adverse impact while others would not be affected by the change.

Response 80:

As noted in the text, on the basis of the analysis performed for this study and for the more comprehensive Eastside Transportation Network Study, build-out of the Eastside Area (the area east of the Bayshore Freeway, north of Marsh Road and south of Foster City) cannot be accommodated without major traffic capacity increases. Implementation of these major increases is not considered feasible in the planning horizon of this study, thus, full build-out of the area is not considered feasible. If the South Shores project is fully developed, other proposed or potential projects in the area would consequently have to be reduced in size.

Response 81:

The text has been amended to supply additional information on the cost of proposed traffic mitigations and the distribution of their cost burden. See also Response 98.

Response 82:

The text has been amended to clarify the role of the San Mateo County Airport Land Use Commission.

Response 83:

The noise analysis has been updated to reflect the current ALUC noise contours.

Response 84:

The Noise section has been revised to use the ALUC criteria rather than those of the state. Single-event noise impacts have also been added to the analysis.

Response 85: Avigation easements are recommended as a mitigation measure to protect the airport from possible legal action. All potential homeowners should be notified of the possible noise impacts before purchasing their homes.

Response 86:

The Land Use section of the report has been expanded in response to this comment.

Response 87:

Comment noted. Solar evaporation pond use for energy generation is a very new science; its feasibility for this project would be best dealt with by an engineering consultant.

Response 88:

While the sewer system would have to be engineered to take into account the special circumstances mentioned, there is no reason to believe that this would not be feasible. Development of the engineering design to meet these requirements is, however, beyond the scope of this EIR.

Response 89:

Adequate water resources are available to service general growth on the peninsula. The major source of peninsula water is the San Francisco Water District's Hetch Hetchy Aqueduct system. In the event of a severe drought, such as occurred in 1976-1977, water rationing may be necessary. However, it should be noted that the San Francisco water system is connected with federal and state storage systems in the Central Valley, providing a back-up source of water even in the event of a prolonged drought.

Response 90:

The Population and Housing section has been expanded to provide additional information on affordable housing and possible ways to institute such housing within the project.

Response 91:

The text has been amended in both the Vegetation and Wildlife and Recreation sections to add a mitigation measure recommending increased refuge patrols. The cost of these patrols could be borne partially or completely by the project sponsor.

Response 92:

The actual amount of additional goods and services required for the proposed project would be considered secondary impacts and cannot be detailed. In order to do so would require an economic model that specifies actual multiplier effects over a period of projected completion of the phases of the project. Such a model does not exist, moreover, the actual number of employees and residents is speculative and subject to a variety of economic variables which are not quantifiable.

The actual increase in the demand for moderate income housing in the City is not possible to calculate. The actual number of employees, the salaries, the economic conditions in the next decade which may affect the demand all are conjectural, and would influence the demand for housing.

No units are allocated by the project sponsors for moderate income families.

Response 93:

Other large projects along the San Mateo County waterfront that are currently planned or under construction are referenced in the Cumulative Impacts Section.

Response 94:

As noted in the DEIR, marsh restoration of the project site is biologically possible although cost would vary depending upon the substrate modifications necessary in the individual ponds. Public acquisition would most likely precede a restoration alternative, although to date no public agencies have expressed an interest in taking on

this project. Thus, while the alternative is theoretically feasible financially, the lack of a project sponsor to implement it constitutes a major financial constraint.

Response 95:

Note changes to the Population and Housing section.

Response 96:

The techniques are listed in Population and Housing section mitigation measures.

Response 97:

Additional information has been added to the text to discuss the implementation costs for proposed highway improvements. Figure 21A illustrates these improvements for the entire Eastside Area and Table 13A provides preliminary cost estimates.

The Consultant does not have the authority to assign cost distribution for these improvements, rather, these decisions would be made by the City of Redwood City in establishing conditions to the General Plan Amendment and permitting process.

Response 98:

The comment is correct -- to a degree -- in stating that the implementation of improvements and mitigation measures is "up in the air." The Consultant has strived to provide information upon which decisions can be made, without making those decisions. The project sponsor, in theory at least, could be required to bear all or none of the costs of the improvements. As noted in Response 97, the decision as to who would bear the cost of improvements would be made by the City in conditioning the General Plan Amendment, and in conjunction with responsible agencies such as CalTrans.

Response 99:

For discussion of cost apportionment of mitigations, see Responses 97 and 98. With respect to staggered work hours, Figure 13 shows there still is considerable capacity left from 3-4 PM (based on 1977 counts, the most recent available). Staggered or flexible working hours would improve the traffic situation. They will not "solve" the traffic problems, if by "solve" means that service levels will be in the C or D range during the peak 60 minutes. Each of the proposed mitigation measures contributes something toward improving a situation which would otherwise be worse.

Response 100:

Most of the significant traffic volumes would be experienced by the regional highway facilities near South Shores. These highways include El Camino, Woodside Road, U.S. 101, and associated interchanges. While it would be desirable to do a regional traffic analysis, such was not within the scope nor budget of the study. It is worth noting that the majority of traffic impact would occur within ten miles of South Shores, based on BATSC and MTC data. This includes an area from Palo Alto to Burlingame.

Traffic service levels in the area west of the Bayshore Freeway are examined in the Eastside Transportation Network Study (see page 47 of that document in particular).

Response 101:

The assignment of specific cost responsibility would be made in negotiations between the City and the project sponsor. The project sponsor has indicated a general willingness to finance capacity expansion related to South Shores project needs.

Response 102:

Note changes to the Population and Housing section.

Response 103:

The discussion of habitat types has been amended to more fully clarify which types are found within the project boundaries and which are on adjacent areas. Acreages for each habitat within the project area are given. The vegetation map (Figure 6) has been redrawn to more explicitly denote the location of levees and delineate the project boundaries. It is now entitled Wildlife Habitat Map.

Response 104

Discussion of growth-inducing impacts on Bair Island proper are of significance in the evaluation of potential impacts to wildlife. Bridging Corkscrew Slough and development of Pond B-3, which is designated by the project sponsor as "Study Area for Future Development," could be one of the greatest impacts on wildlife resources in the area.

Response 105:

The total acreage for salt ponds, levees and salt marsh on the project site is given on page 47. Nine-hundred sixteen acres of land is behind dikes with an additional 23

acres of levees. Thus the correct figure for potentially restorable salt marsh should be 916 acres. The 71 acres of marsh refers only to the three bends in Corkscrew Slough. The total amount of marsh is approximately 157 acres.

Response 106:

As noted in the comment this misinterpretation is not likely; however, the text has been amended to clarify that each individual sighting does not necessarily correspond to different individuals.

Response 107:

The text has been amended to clarify the relationship of the white tail kites' nests due to the lack of predators on Bair Island.

Response 108:

1. The text has been amended to read "locational data."
2. This description accurately portrays the vegetation character of the area.
3. The text has been amended on page 61 to more clearly link the process of erosion with surface runoff.
4. The text has been amended on page 61 to provide a "logical referent" for the word "change."
5. "Young growth stages" refers to the "species of commercially valuable fish" discussed earlier in the sentence.
6. "Haul-out area" is a descriptive term generally understood by readers without a detailed knowledge of marine mammals.
7. "Decimate" not only means to reduce in number by ten percent, but also "to destroy a great number or proportion of" (Random House Dictionary of the English Language). The word is therefore properly used and accurately portrays the situation discussed.
8. The text has been amended on page 62 to delete the word generalized.

Response 109:

The text has been amended to note that the salt marsh harvest mouse is also listed as endangered by the California Fish and Game Commission.

Response 110:

See Response 103.

Response 111:

Clapper rails have been sited year-round in Elkhorn Slough in very low numbers. Although breeding is suspected it has not actually been verified in recent years.

Response 112:

The text has been amended to include this information. See also Response 109.

Response 113:

The text has been amended to clarify that no upland habitat is found within the actual South Shores project boundaries.

Response 114:

The text has been amended to note that the California least tern is also listed as endangered by the California Fish and Game Commission.

Response 115:

Available evidence indicates that these statements are correct. The early dispersal (i.e., abandonment) which took place at the Alameda Naval Air Station is attributed with causing the increased usage of the Bair Island site.¹ Information on the 1981 breeding season has been added to the report.

Response 116:

The location of breeding bird colonies and rare and endangered species has been added to the Wildlife Habitat Map.

Response 117:

The text has been amended to indicate that the peregrine falcon is also a state-listed endangered species.

Response 118:

The text in the Vegetation and Wildlife section has been amended to include only water quality information directly relevant to impacts on the biological community.

¹Roy Lowe, Wildlife Biologist, San Francisco National Wildlife Refuge, personal communication, August 6, 1981.

Response 119:

The reference to salt marsh harvest mouse predation by dogs has been deleted. See Response 29 for discussion of coyotes.

Response 120:

The impacts of noise on marsh species are not well documented in spite of the example the project sponsor's consultant provides. The potential for noise impacts, we feel, does exist.

Response 121:

The recommendation has been changed to allow for other types of fences. For purposes of buffering the slough, a fence taller than 6 feet would be preferable.

Response 122:

This additional mitigation measure has been incorporated into the text.

Response 123:

Comment noted. The text has been amended to emphasize that even with the suggested mitigation measure, project impacts on wildlife resources are potentially severe.

Response 124:

The comment misinterprets the current state of the 940 acres. This acreage is drained evaporation pond that is potentially restorable marshland.

Response 125:

The DEIR recommends that a water quality sampling program be established to determine the water quality baseline. The sampling program should continue through construction and build-out to ascertain the impact of the project on water quality and the efficacy of mitigation measures. Additional mitigation measures to alleviate water quality impacts have been incorporated into the text.

Response 126:

The potential problems and hazards mentioned in the report should be viewed in the context of the measures which are available for mitigating, avoiding or accommodating the potential hazards.

Many of the specific questions in this comment are dealt with in the full Geotechnical Assessment, Appendix D. Page 17 of that Appendix states "prospective residents and users of the project should have ample opportunity to review appropriate project information, so that persons may judge on an individual basis whether the expected risks are acceptable to them."

Many of the "known design concepts" are given in the section on Mitigation Measures, pages 11 to 18 of Appendix D and in the references cited there. These measures are not necessarily exhaustive. Textbooks, the professional literature and other publications in structural, geotechnical, earthquake and environmental engineering geology discuss solutions for the geotechnical problems associated with this project.

Methods of maintaining stable slopes under placement of new fills are mentioned in the section on Slope Stability on pages 14 and 15 of Appendix D. Stability depends on the shear strength of the subsurface soils. The salinity of the underlying clay is not expected to be appreciably altered. The soils are submerged in the Bay and conditions necessary for leaching salt from the clays are not evident. Furthermore, not all clays exhibit sensitivity in changes in salt content. The question could be given further consideration during design.

While the salinity of the project site provides a difficult environment for landscaping, this can be successfully overcome through the use of soil amendments. The top layer of site fill would be from non-marine sources, reducing the salinity of the surface layer to acceptable levels.

Response 127:

The DEIR notes that widening of U.S. 101 is not in CalTran's Five-Year program. The consultant feels that widening should occur before build-out (1990-1995), or else the scale and intensity of development should be reduced.

The cost of widening the Bayshore Freeway to a 10-lane highway from the Dumbarton Bridge to the San Mateo Bridge will be approximately \$41.5 million. The issue of cost distribution is not specifically addressed in the EIR. This would be negotiated between the project sponsor, the City and CalTrans.

Response 128:

Comment noted; no response is necessary.

Response 129:

Comment noted. The text has been changed to reflect the more stringent ALUC noise/land use compatibility criteria.

Response 130:

The airport safety issue has been added to the discussion in the Land Use section of the report.

Response 131:

Night lighting problems have been added to the discussion of airport safety in the Land Use Section. Height restrictions were not discussed because the project design has taken them into account.

Response 132:

Noise insulation is suggested in the revised Noise section; such insulation should be adequate to reduce intrusion of single-noise events from aircraft to an acceptable level, normally defined as 45 dBA. Avigation easements are also suggested as a mitigation measure. However, noise in exterior portions of residential areas, such as yards, would remain objectionable to many residents.

Response 133:

Note changes to the Population and Housing section.

Response 134:

Note changes to the Population and Housing section.

Response 135:

Consistency of the development with the Housing Element has been incorporated into the text and can be found in the Relationship to Local and Regional Plans section.

Response 136:

The EIR is not a feasibility study. Mitigation measures indicated can aid in ameliorating some of the housing impacts. There are documents cited in the EIR that will assist the reader in examining some of the pros and cons of the mitigation measures suggested in the EIR.

Response 137:

Approximately 300,000 cubic yards of material would be excavated for the tidal marina basin. This assumes a dredging depth of 12 feet below mean low lowwater. A 400-

foot section of Smith Slough would be dredged to link the marina with Redwood Creek. Short-term and long-term dredge disposal is a consideration in project design. The material dredged during marina construction could be used by the project for salt pond fill and/or levee improvements. After 1990, however, the project would not be able to use this material and other methods of dredge disposal would be required.

Marinas in the area experience variable rates of sedimentation, which can be as high as 1 foot per year.¹ Because of the marina's proposed location away from the main Redwood Creek current, sedimentation probably would not be that severe, however.² Maintenance dredging would probably be required at 10-year intervals.³ The quantity of material necessary to remove during these maintenance operations is unknown at this time.

The disposal site for these maintenance dredge spoils is unresolved. Land disposal sites would be suitable only if they are an upland area above the historic marsh margin. The closest designated Army Corps deep water disposal site is at Alcatraz Island. Consideration should be given to use of dredge spoils in conditioning salt pond substrate in preparation for salt marsh restoration projects.

Pond B-3, recommended for restoration as mitigation for development of South Shores, would be a possible recipient. Since spoils could be incorporated into the development area until 1990, material would be available for this use only after that date. This may conflict with the salt marsh restoration time schedule. It would also not solve the long-term disposal needs of the project.

Response 138:

Restoration of Pond B-3 to marshland is a recommended mitigation measure only. The Redwood City Planning Commission is responsible for deciding whether to make this mitigation a condition of the general plan amendment. The restoration of this pond is

¹Pat Brown, Wharfinger, Port of Redwood City, personal communication, August 7, 1981.

²Bill Dixon, Construction and Operation Division, U.S. Army Corps of Engineers, personal communication, August 27, 1981.

³ibid.

suggested by the EIR authors in part to prevent the wildlife impacts that would be associated with bridging Corkscrew Slough and future urban development of the pond. See also Section IV.D., page 86, for discussion of potential impacts of development of Pond B-3.

Response 139:

In Appendix E, page 3, paragraph 3.5 (I), line 13, the term in parentheses NGVD should be changed to read MLLW. Redwood City vertical datum, elevation 100.00, is 4.25 feet above MLLW, according to an NOAA field study conducted in 1974 and 1975 at Wharf Number 5 in the Redwood City Port.

Response 140:

The titles on the left axis of Appendix E, Figures 3.4 and 3.5 should read "Tide Elevation in Feet Above MLLW".

Response 141:

The Project Sponsor, South Shores, Inc., has prepared responses to each of the questions:

- " Managerial, professional technical, support, personal service and specialized skill employment."
- " \$12,000 to \$100,000 annual compensation in 1981 dollars."
- "Approximately 4,500 dwelling units. This is due to the preponderance of two income households and the fact that some of the employment opportunities will be taken up by persons already residing close by. This was the case with the Fluor Corporation which was the first major employer to locate at Redwood Shores. The average housing room mix will be 2 bedrooms, 2 baths with varied amenities with each unit ranging from \$120,000 to \$350,000 in 1981 dollars."
- " Over one third of the employees will be either transferring or relocating from sites nearby. Again Fluor Corporaton is an example of an employer that had been located in scattered based facilities. They chose to consolidate operations in one new large building at Redwood Shores. Chemectrics Corporation had also planned to relocate from scattered leased facilities in this general area to a new building at Redwood Shores (defective cement caused such delays in occupying their building, they were forced to move elsewhere). The first phase of Wilson & Gates office complex at Redwood Shores will be occupied by corporate tenants that are consolidating existing operations and providing for some expansion. The shortage of office space in the Bay Area is well known and vacated space is soon filled."

- " South Shores with its predominantly high density will be one of the more affordable housing areas in San Mateo county. The predominantly low density developments in the east bay will not be competitive because urban service costs are becoming just as high in the east bay as here. Therefore significant increases in cross bay traffic are not likely because the high density dwelling units at South Shores will compete favorably with lower density east bay housing."

Response 142:

See Response 141.

Response 143:

Note changes in Population and Housing section mitigation measures.

Response 144:

The Population and Housing section has been expanded to provide additional information on the local and regional housing situation. Recommendations are included on the implementation of affordable housing within the project.

Response 145:

The text of the Land Use section has been modified in response to this comment.

Response 146:

The text of both the Noise and Land Use sections has been modified in response to this comment.

Response 147:

The text of both the Noise and Land Use sections has been modified in response to this comment.

Response 148:

Comment noted. The text in the Noise section has been changed to use ALUC noise compatibility criteria and to discuss single noise event effects on outdoor areas.

Response 149:

The issue of easements has been added to the discussion in both the Noise and Land Use sections of the report. The status of the airport as a previous land use could be

protected by avigation easements although the implementation of such easments would require careful negotiations.

Response 150:

Note changes to Population and Housing section.

Response 151:

See Response 150.

Response 152:

It should be noted that when the Draft EIR was prepared in 1980, the Barlet-Wells study of July 1980 was the latest study available. We have discussed the question of bonding with Mr. Ference, the Director of Finance of Redwood City. Mr. Ference indicated that although the City Council has moved in the direction of not permitting any additional bonds, this is not official City policy. The text noted that the most likely possibility was that capital improvements would be financed through a facilities charge, and this still appears likely to be the case. "Bonding," in that context, was introduced as a possibility for overcoming a short-term funding gap, a period during which the facilities charge would not generate a sufficient revenue. Mr. Ference has indicated that in addition to or as a substitute for General Obligation bonds, a higher facilities fee or sub-district bonds may be used to cover the shortfall.

Response 153:

The construction schedule and time phasing for the project was provided by the project sponsor. The discrepancy between the phasing information provided for the Bartel-Wells Report and for this EIR is the responsibility of South Shores, Inc and Redwood Shores, Inc.

Response 154:

The Population and Housing section has been expanded to provide more detail on the local and regional housing situation and the project's impacts on this situation.

Response 155:

The Eastside Transportation Network Study recommends a new highway east of the freeway which would also connect South Shores directly to the Dumbarton Bridge. Considerable new residential development is occurring in the southeast bay, and many workers seeking affordable housing may choose to commute over the Dumbarton Bridge.

Response 156:

The impacts of the specific mitigation measures are quantified in Section VII of the Eastside Transportation Network Study Summary Report. The timing of measures per se was not developed; it was our belief that many measures (flextime, parking fees) should be required as each new development was added. In addition, schedules for large projects often have a way of slipping, and the timing effects should more appropriately be addressed in the specific project EIRs.

The Eastside Study also recommends an interagency study of traffic problems affecting several cities up and down the mid-Peninsula area.

Response 157:

The impacts referred to have been evaluated as part of the Eastside Study (see Section VII of that document). Many of the mitigation measures are operationally oriented (e.g. flextime), and do not require physical facilities. The situation without mitigation measures is difficult to address because demand would far exceed capacity during peak periods. Traffic planning tools for assessing such situations are not well developed.

Response 158:

We agree that these measures have applicability to the proposed project; they are included in the Traffic and Transportation mitigation measures suggested in the EIR.

Response 159:

The DEIR notes that widening of U.S. 101 is not in CalTrans' Five-Year program. The Consultant feels that widening should occur before build-out (1990-1995), or else the scale and intensity of development should be reduced.

Response 160:

See Response 155.

Response 161:

See Response 156.

Response 162:

Both our work and that by Barton-Aschman attempts to minimize conflicts between the new arterials and interchange ramp operations on U.S. 101. This is shown in the Highway Improvement Map added to the EIR (Figure 21A).

Response 163:

As shown on Figure 21A, added to the text, the arterial parallel to and east of U.S. 101 would extend at least to Marine World Parkway on the north. Extension beyond that would require taking existing residential property in Foster City.

Response 164:

The text has been amended to reflect the results of the study cited. References to adverse impacts on the biological community resulting from boat-related gasoline and oil products have been deleted.

Response 165:

Comment noted. The EIR Consultant still feels that in order to protect sensitive wildlife values along Corkscrew Slough and on Bair Island, the slough should be closed to recreational boating at least during Summer months when breeding activity is greatest. Measures to buffer the marsh areas along the slough and the outer island from human activity associated with the development could be rendered relatively ineffectual if recreational boating access to the ecological reserve area continues.

Response 166:

The Public Services and Utilities section has been amended to discuss the speed limit and patrol units in the area, and the effect that the marina might have upon them.

Response 167:

The text has been changed to incorporate this comment.

Response 168:

In response to this comment, the Subdivision Map Act is discussed in the Relationship to Local and Regional Plans Section.

Response 169:

These typographical errors have been corrected in the text.

Response 170:

See Response 139.

Response 171:

The levee cross section shown in Appendix B was used to develop an approximate estimate of the quantity of fill material required for levee reconstruction. The actual levee section used will need to be more specifically detailed during project site design.

Response 172:

The text has been amended in response to this comment.

Response 173:

Relevant plans and policies regarding housing are included in the Relationship to Local and Regional Plans section, and the revised Population and Housing section.

Response 174:

Because of rapid dilution of emissions and the dispersed nature of traffic, very few indirect sources result in a measurable effect on air quality monitors downwind. Nevertheless, the project is a major automobile attractor which increases regional air pollutant emissions at a time when major reductions in emissions are needed to reach the national ambient air quality standards in the South Bay.

Response 175:

The Population and Housing section has been expanded and now includes the percentage increase in housing County-wide that this project would represent. The site represents an open space situation that cannot be meaningfully compared with the total amount of open space under protection in San Mateo County. This total contains a wide variety of open space types that do not relate to the specific bayside nature of the South Shores site.

Response 176:

See Response 145.

Response 177:

The text in the Land Use section has been modified in response to this comment.

Response 178:

The text has been modified to reflect noise projections for 1994. Further, the compatibility criteria have been changed to reflect the ALUC's more stringent standards. The mitigation section now recommends sound insulation and avigation easements.

Response 179:

Notice of the May 19, 1981 public hearing on the South Shores EIR was published in the San Mateo Times, April 18, 1981. CEQA allows the lead agency to devise its own method of public notice noting only that "notice shall be given of all public hearings in a timely manner... given in the same form and time as notice for other regularly conducted public hearings of the public agency" (CEQA guidelines) 15165 (c)).

Response 180:

The legal case that is the basis for the unresolved jurisdiction over the project site is discussed in the Relationship to Plans section under Jurisdictional Agencies.

Response 181:

The Population and Housing section has been expanded to provide more information on the project's impact on the job/housing imbalance.

Response 182:

The levels of service for intersections of Shoreway Road and other streets have been estimated as :

Redwood Shore Parkway/Holly	'E'
Proposed Harbor over-crossing	'D'
Marine World Parkway	'B'

during the PM peak hour (4:30-5:30) with somewhat less than build-out conditions on the Eastside. The mitigation which has been proposed (see comment #156) applies to Shoreway Road in particular because of the heavy concentration of office development in this area. Most of the mitigation measures are aimed at reducing negative impacts of the highly-peaked office traffic.

Response 183:

The statement from the 1975 General Plan which is no longer accurate has been deleted from the text. Additional discussion of the relationship between the labor force and jobs is found in the Population and Housing section.

Response 184:

The Population and Housing section has been expanded to provide more information on affordable housing and the housing issue in general.

Response 185:

The Airport Land Use Commission does not recommend residential construction within the 60 CNEL zone. Figure 24 illustrates these zones superimposed on the project site. The development of Pond A-12 with the commentor's suggested density of residential housing would not be possible due to noise conflicts. For discussion of other housing-oriented alternatives, see Response 41.

Response 186:

As discussed in the Noise section, the Airport Land Use Commission has guidelines defining permissible noise levels for residential use. While sound insulation is recommended as a mitigation measure this is only feasible in zones below 60 CNEL. Further, there are no known methods for minimizing the effect of overhead noise generated by aircraft in outdoor use areas.

Response 187:

The use of shuttle buses to alleviate traffic impacts is included in the traffic mitigation measures.

Response 188:

Urban services are currently available adjacent to the project site at Pete's Harbor and along the eastern border. The project is therefore considered infill as defined by the Governor's Urban Strategy Program. The discussion of consistency of the project to the Redwood City General Plan has been expanded. It should be noted that the South Shores Concept Plan includes 23.2 acres for parks, 91.9 acres for lagoons, and 200 acres for roads and open space. The anticipated population would be 9,307 and proposed dwelling units would be 3,723.

Response 189:

See Response 100 for discussion of regional traffic impacts.

Response 190:

The Eastside Transportation Network Study assessed the effect of full buildout on the local and regional traffic facilities in the area. This study concluded that full buildout would not be possible without major capacity increases - increases that may not take place within the planning horizon of that study. Because of this, the total amount of

development on the Eastside may be limited. The comment correctly notes that capacity allocations for this area should be made on the basis of areawide planning, not solely on a "first come, first serve" basis. The cumulative impacts of other possible developments on the Eastside were not incorporated into other sections of the report because little information presently exists on these possible projects.

Response 191:

There is no denying that the induced truck traffic could have potentially significant and negative consequences in the area of excavation. However, such impacts are universally considered to be outside the scope of a conceptual EIR such as this. These impacts are more appropriately addressed in environmental documents relating to the operation of particular quarries rather than projects purchasing fill from these quarries. It is also worth noting that a certain amount of fill required would be generated at the project site through excavation of lagoons and dredging the proposed marina.

Response 192:

Note changes to Population and Housing section.

Response 193:

The comment mixes statements regarding economic feasibility with fiscal issues. Regarding market issues, the comment does not indicate in what ways the evaluation of the feasibility of this project was inadequate, i.e. whether the proposed elements can be absorbed over a reasonable time period.

Regarding fiscal issues, the statement that the costs of maintenance of the public services to be provided were not included in the DEIR is not correct - the DEIR provides a cost/revenue evaluation in which service costs are identified and quantified over a 10-year period and at full build-out.

Since the DEIR concludes that the project will probably, on balance, have a minimal fiscal impact on Redwood City (annual service costs about equal to revenues from the project), it is not clear that a less rapid build-out of South Shores would be detrimental to the cost/revenue balance, particularly as no front-end capital costs would be funded by the City. The report does, however, consider the impact on the homeowner in Redwood Shores and South Shores in respect to bond service if the build-out of

Redwood Shores or South Shores were substantially delayed (Appendix G, page 16) due to any number of factors, including that mentioned in the comment.

Response 194:

The text in the Traffic and Transportation section has been changed to include a discussion of the adopted County Bikeway. Development of Pond A-12 would displace that part of the bikeway constructed atop the levee parallel to the Bayshore Freeway. An additional mitigation measure is included on page 128 recommending that the project sponsor grant a relocatable easement for the bikeway. This would provide for its reconstruction through Pond A-12 in an alignment agreeable to Redwood City staff.

Response 195:

The revised Population and Housing section discusses the possibility for reallocating land uses within the project to achieve more housing and reduce the imbalance in jobs to housing created by the project. Serious constraints to increased housing on Pond A-12 are created by airport noise generation. Thus, the amount of housing possible to provide in a Pond A-12 alternative is limited to those areas outside of the 60 CNEL zone (see Figure 24).

Response 196:

The revised Population and Housing section discusses the possibility of reallocating land uses within the project to achieve more housing and reduce the imbalance in jobs to housing created by the project. Serious constraints to increased housing in Pond A-12 are created by airport noise generation. Thus, the amount of housing possible in a Pond A-12 alternative is limited to those areas outside of the 60 CNEL zone (see Figure 24).

Response 197:

Major geologic hazards are much less a function of the surficial deposits than of the soil and rock formations and properties of the subsurface strata. The underlying deposits and strata between sites are geologically very similar, and information, experiences and reports pertaining to Redwood Shores appear to have relevance to gaining a good general understanding of geotechnical behavior that may be expected at South Shores. In addition, 14 borings were made on the South Shores site which provide a significant amount of information on which to make adequate assessments for the purpose of the EIR.

U.S. Geologic Survey Map MF-891, Granular Sediments, San Mateo County, is an extrapolation of a relatively few borings in the project area. At the 14 borehole locations on the South Shores site, the drill records would supersede the more broadly based classification of the USGS map. The drilling results were reported by the firm of Dames & Moore, a qualified firm in geotechnical engineering and earth sciences. The logs of borings are contained in Reference 1 of Appendix D.

While standard penetration test data would have been desirable, they are not a necessity at this point in project evaluation. As stated in the closing statement of the assessment, "...the final designs and specifications must be site-specific and structure-specific requiring additional soils investigations, laboratory testing programs and the continued engagement of qualified...geotechnical engineering services". Determining the reliability or adequacy of the specific drill records is beyond the scope of this study.

Response 198:

See Response 197.

Response 199:

See Response 197.

Response 200:

See Response 197.

Response 201:

Regarding Page 9 of the Geotechnical Assessment, Appendix D, 2nd paragraph, first sentence: the sentence is correct. Further, page 2 of the Appendix, paragraph 7 clearly recognized that a granular alluvium (sand) exists between the younger and older bay muds. The third paragraph of page 9 is in reference to this sand between the layers. The first sentence of this paragraph is also relevant and correct. The reviewer may have misinterpreted it to mean that only layers that continue across borings are potentially liquefiable.

In addition to paragraphs 4 and 5 on page 9, attention is called to references 5 and 6, Reports by the Seismic Advisory Board of Redwood City. These reports were written for the General Improvement District No. 1-64 which includes the South Shores site. Pages 8, 9 and 29A to 32A of Reference 6 are relevant to ground stability. The first

sentence on page 8 states: "It was concluded in the 1965 Report of Seismic Investigation that no general problem of semisically-triggered, massive landsliding exists within the Redwood Shore area, and this conclusion is here reaffirmed."

On page 15, Reference 16, it is stated: "During a maximal event, ground failure such as lurching, cracking, and differential subsurface soil compaction could occur on a small scale at several places in the site area, but the magnitude and extent of failure are not likely to impose greater hazard or damage to ordinary structures here than in other communities of the San Francisco Bay area. No significant risk from extensive slide failure is judged to exist for the Redwood Shores area."

The question of describing the final soils investigation program for the project is not in the scope of this study.

Response 202:

See Response 201.

Response 203:

The general plan for South Shores shows an internal roadway system for traffic which does not use the levees. The concern for the erosion consequences of dirt motorcycles is properly expressed; such use currently takes place on Pond A-12 levees to the detriment of the levees. Motorcycle traffic on levees should be prohibited on the site both at present and during project operation.

The amount, location and period of surcharge, additional information to be sought and the specifics of a field observation program are normally resolved during the final design stages. The same is true regarding the use of sand drains or drain strips.

The origin of fill material and the method of surcharge disposal is not known at this time. It is not in our scope to designate borrow sources or methods of disposal. When these become known, their potential impacts and related mitigating measures should be addressed. For discussion of dredge spoil disposal see Response 137.

Response 204:

Perimeter slope information is included in the Levee Special Report, Appendix B of the DEIR. Providing additional slope data is beyond the scope of this study. Flattening

slopes does reduce overturning movements and applied stresses relative to potential shear failure planes. A limited amount of site-specific information on the shear resistance of the Bay mud is listed on the boring logs prepared by Dames & Moore.

Response 205:

See Response 201.

Response 206:

See Response 197.

Response 207:

See Response 194 for discussion of the adopted County bikeway with respect to the project.

Response 208:

Comment noted. The text has been amended to point out that the 100-foot buffer zone and other mitigation measures suggested may not prevent these wildlife areas from being impacted.

Response 209:

Comment noted; no response is necessary.

Response 210

The information that the project site represents about 10% of the potentially restorable diked former tideland in South San Francisco Bay is included in the text.

Response 211:

This typographical error has been corrected.

Response 212:

See Response 137 for discussion of long-term dredging requirements of the project.

Response 213:

The text has been amended to note that the entire project area has been recommended for designation as essential habitat for the salt marsh harvest mouse and California clapper rail.

Response 214:

This additional clapper rail sighting has been incorporated into the text .

Response 215:

Comment noted. In the absence of potential human disturbance from the project, the habitat value of Bair Island would be increased through restoration of Pond B-3 and probably more than compensate for the loss in habitat value of 915 acres of evaporation pond. However, given the potential for human disturbance in areas adjacent to the development the consultant recognizes that the mitigation measures proposed may be inadequate to completely protect these areas and compensate for loss of habitat values. The text has been amended to reflect this.

Response 216:

Refer to the revised Land Use and Noise sections of the report, and to Responses 224-228.

Response 217:

The DEIR notes that widening of U.S. 101 is not in CalTrans's Five-Year program. The Consultant feels that widening should occur before buildout (1990-1995), or else the scale and intensity of development should be reduced.

The cost of widening the Bayshore freeway to a 10-lane highway from the Dumbarton Bridge to the San Mateo Bridge would be approximately \$41.5 million. The issue of cost distribution is not specifically addressed in the DEIR. This would be negotiated between the project sponsor, the City and CalTrans.

Response 218:

The discharge of stormwater flows from the South Shores site could be timed in such a manner as to minimize the impact on San Carlos' drainage pattern. The lack of design data such as slough current patterns, project discharge and San Carlos' drainage patterns makes a more definite determination impossible at this stage. These issues would need to be addressed during later project design stages.

Response 219:

The impacts of construction vehicles in San Carlos should be limited to the Holly/101 interchange. The newly configured Holly-Redwood Shores/101 interchange would permit trucks to reach the South Shores area without using San Carlos streets, provided a construction road is built parallel and to the east of the Bayshore Freeway. Such a road is recommended as a permanent addition to the highway system (East Bayshore Expressway), so this would seem to be the logical access to the development. If this access road is not completed prior to the start of project construction, access to the site would be via Whipple and would not affect San Carlos streets.

Response 220:

The background-level estimation procedure of the EPA's Hotspot method¹ using estimated year 1995 County-wide emissions of 315 tons/day, a County area of 1,162 kilometers, a 50 meter mixing depth, 1 meter per second and a 60 kilometer city size yields a background level of 3.5 ppm under adverse conditions.

Response 221:

We have recommended park-and-ride facilities as a mitigation measure. We concur with the comment that land for such facilities should be set aside, although the sites should be located in such a way as to not interfere with the traffic operations at the interchanges. Developer dedication of land for such facilities would be desirable. We suggest that SamTrans, the project sponsor, and CalTrans work together to develop mutually agreeable sites for the park-and-ride facilities.

Response 222:

Note changes to the Population and Housing section. An option available to the City is to condition future entitlements for residential development upon the allocation of some rental housing.

Response 223:

See Response 222.

¹U.S. Environmental Protection Agency, Carbon Monoxide Hot Spot Guidelines, EPA-45013-78-033, August 1978.

Response 224:

The data were, as noted, acquired in 1975. However, projections for airport use through 1994 were used for the Noise section; these projections assume 340,000 operations per day, a level which has already been reached. Hence, use of these data is justified.

The issue of prior land use was dealt with by proposing the use of easements.

CNELs are important because they represent intermittent, significant increases over ambient levels. The lower the average sound level, the greater the impact. The Noise section was revised to consider this.

Response 225:

See Response 224.

Response 226:

The Noise section proposes that aviation easements be used to prevent such litigation.

Response 227:

Traffic pattern overflights are included in the discussion of airport noise and potential land use conflicts.

Response 228:

The Land Use section has been modified to include a discussion of safety related to airport operations.

