FINAL

MISSION BAY SUBSEQUENT ENVIRONMENTAL IMPACT REPORT

CITY AND COUNTY OF SAN FRANCISCO PLANNING DEPARTMENT • SAN FRANCISCO REDEVELOPMENT AGENCY

PLANNING DEPARTMENT FILE NO. 96.771E
SAN FRANCISCO REDEVELOPMENT AGENCY CASE NO. ER 919-97
STATE CLEARINGHOUSE NO. 97092068

DRAFT SEIR PUBLICATION DATE: APRIL 11, 1998 • DRAFT SEIR PUBLIC HEARING DATE: MAY 12, 1998
DRAFT SEIR PUBLIC COMMENT PERIOD: APRIL 11, 1998 TO JUNE 9, 1998
FINAL SEIR CERTIFICATION DATE: SEPTEMBER 17, 1998

VOLUME IV: APPENDICES

SOURCE: San Francisco Redevelopment Agency

- COMMERCIAL INDUSTRIAL
- COMMERCIAL INDUSTRIAL / RETAIL
- MISSION BAY NORTH RETAIL
- MISSION BAY RESIDENTIAL
- MISSION BAY OPEN SPACE (allows recreation-serving retail building east of Terry A. Francois Blvd.)
- HOTEL
- UCSF (includes City school site)
- ADDITIONAL BAYFRONT OPEN SPACE (PORT PROPERTY)
- MISSION BAY PUBLIC FACILITIES
- PROPOSED BOUNDARIES OF MISSION BAY REDEVELOPMENT AREAS

COMBINATION OF PROJECT FEATURES AND VARIANTS AS ADOPTED

SEE INSIDE BACK COVER FOR THE LAND USE PROGRAM ANALYZED AS THE PROJECT IN THE DRAFT EIR

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City and County of San Francisco Planning Department ◆ San Francisco Redevelopment Agency

Planning Department File No. 96.771E
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Draft SEIR Publication Date: April 11, 1998
Draft SEIR Public Hearing Date: May 12, 1998
Draft SEIR Public Comment Period: April 11, 1998 to June 9, 1998
Final SEIR Certification Date: September 17, 1998

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● Indicates material that is new or has been revised since publication of the Draft SEIR.

This report has been prepared on post-consumer recycled paper.

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APPENDICES

A. INITIAL STUDY

PLANNING DEPARTMENT
City and County of San Francisco 1660 Mission Street San Francisco, CA 94103-2414

(415) 558-6378 PLANNING COMMISSION FAX: 558-6409 ADMINISTRATION FAX: 558-6426 CURRENT PLANNING/ZONING FAX: 558-6409 LONG RANGE PLANNING FAX: 558-6426

NOTICE OF PREPARATION OF A DRAFT ENVIRONMENTAL IMPACT REPORT

DATE: September 19, 1997

TO: Responsible and Trustee Agencies

FROM: Planning Department
City and County of San Francisco
Office of Environmental Review
1660 Mission Street
San Francisco, CA 94103-2414

and San Francisco Redevelopment Agency
770 Golden Gate Avenue
San Francisco, CA 94012

RE: Notice of Preparation of a Draft Subsequent Environmental Impact Report

The City and County of San Francisco and the San Francisco Redevelopment Agency will be joint Lead Agencies and will prepare an Environmental Impact Report for the following project:

96.771E: MISSION BAY REDEVELOPMENT PLANS
(SFRA Case No. ER 919-97)

Proposed establishment of two Redevelopment Areas (Mission Bay North and Mission Bay South) and adoption of two Redevelopment Plans and associated documents and actions to develop an urban mixed-use community consisting primarily of residential, commercial-industrial, retail, educational (a major new University of California at San Francisco campus) and open space uses, together with supporting infrastructure (including new streets), community facilities and other public improvements, in an approximately 303-acre area located in the eastern central portion of San Francisco. An expanded description of the project, and a list of the potential environmental effects are included in the attached materials.

We need to know the views of your agency as to the scope and content of the environmental information which is germane to your agency's statutory responsibilities in connection with the proposed project. Your agency may need to use the EIR when considering a permit or other approval for the project.

Due to the time limits mandated by State law, your response must be sent at the earliest possible date but no later than 30 days after receipt of this notice. Please send your response to Paul Deutsch [(415) 558-6383] at the San Francisco Planning Department address shown above. Please include the name of a contact person in your agency.

Hillary E. Gitelman Date
Environmental Review Officer

Stanley Muraoka, EIR Program Administrator Date
San Francisco Redevelopment Agency

PLANNING DEPARTMENT

City and County of San Francisco 1660 Mission Street San Francisco, CA 94103-2414

(415) 558-6378 PLANNING COMMISSION FAX: 558-6409 ADMINISTRATION FAX: 558-6426 CURRENT PLANNING/ZONING FAX: 558-6409 LONG RANGE PLANNING FAX: 558-6426

NOTICE THAT AN ENVIRONMENTAL IMPACT REPORT IS DETERMINED TO BE REQUIRED

DATE OF THIS NOTICE: **September 20, 1997**

LEAD AGENCY: Planning Department-City & County of San Francisco
1660 Mission Street, 4th Floor
San Francisco, CA 94103

AGENCY CONTACT PERSON: Paul Deutsch
Telephone: (415) 558-6383

PROJECT TITLE: 96.771E - Mission Bay Redevelopment Plans
SPONSOR: San Francisco Redevelopment Agency, SFRA Case No. ER 919-97
PROJECT CONTACT PERSON: Stanley Muraoka, (415) 749-2577

PROJECT ADDRESS: Approximately 303 acres, generally bounded by Townsend and King Streets on the north, Seventh and Pennsylvania Streets on the west, Mariposa Street on the south, and Terry A. Francois Boulevard (formerly China Basin Street) and Third Street on the east.

ASSESSORS BLOCK & LOT: Various
CITY AND COUNTY: San Francisco

PROJECT DESCRIPTION: Proposed establishment of two Redevelopment Areas (Mission Bay North and Mission Bay South) and adoption of two Redevelopment Plans and associated documents and actions to develop an urban mixed-use community consisting primarily of residential, commercial, light industrial, educational (a major new University of California at San Francisco campus) and open space uses, together with supporting infrastructure (including new streets), community facilities and other public improvements. Refer to attached materials for more details.

THIS PROJECT MAY HAVE A SIGNIFICANT EFFECT ON THE ENVIRONMENT AND AN ENVIRONMENTAL IMPACT REPORT IS REQUIRED. This determination is based upon the criteria of the Guidelines of the State Secretary for Resources, Sections 15064 (Determining Significant Effect), 15065 (Mandatory Findings of Sigificance). The Environmental Impact Report will meet the requirements of the California Environmental Quality Act (CEQA). Potential environmental effects of the proposed project to be evaluated in the EIR are listed in the attached materials.

Deadline for filing of an Appeal of this Determination to the City Planning Commission: October 10, 1997. An appeal requires: (1) a letter specifying the grounds for the appeal, and (2) a $209 filing fee.

The public is invited to comment on the scope of the EIR. Written comments must be received by October 24, 1997 to ensure consideration in preparing the Draft EIR, and should be mailed to Paul Deutsch, San Francisco Planning Department, 1660 Mission Street, San Francisco, CA 94103.

Paul J. Deutsch/for
Hillary E. Gitelman
Environmental Review Officer

96.771E: MISSION BAY REDEVELOPMENT PLANS SUBSEQUENT ENVIRONMENTAL IMPACT REPORT (SFRA Case No. ER 919-97)

PROJECT DESCRIPTION: The proposed project consists of a proposed new development plan for the Mission Bay area, approximately 303 acres generally south of Townsend Street, east of Seventh Street and I-280 freeway, and north of Mariposa Street (Refer to Figure 1, Project Location). The plan calls for about 6,090 housing units north and south of China Basin Channel; about 1.5 million sq. ft. of retail space; a major new University of California San Francisco (UCSF) campus on about 44.7 acres north of 16th Street, to include up to 2,650,000 sq. ft. of instruction, research and development, administrative and support space; about 5,557,000 sq. ft. of research and development/light manufacturing/office space surrounding the campus to its west, south and east; a 500 room hotel between Third and Fourth Streets south of China Basin Channel; and about 45 acres of open space. The plan also would develop supporting infrastructure (including new streets), community facilities, and other public improvements. Refer to Figure 2, Proposed Land Use Development Program.

To implement the plan, two Redevelopment Areas would be created and two Redevelopment Plans adopted: Mission Bay North and Mission Bay South, divided by China Basin Channel. Each Plan would have a companion Design for Development document, which would essentially constitute zoning and design standards for each Plan area. Project sponsors are the San Francisco Redevelopment Agency for the Redevelopment Plans and Catellus Development Corporation (the primary landowner) for the development proposal.

The site is located about one mile south of downtown San Francisco, and is mostly a large former railyard now occupied by low intensity industrial/warehousing uses, with many vacant or underutilized areas. The site consists primarily of Bay fill.

ENVIRONMENTAL IMPACT REPORT: A previous Environmental Impact Report (Case No. 86.505E, SCH No. 86070113, certified August 23, 1990) was prepared for a prior proposed development program that was ultimately adopted as the Mission Bay Area Plan, an Element of the San Francisco General Plan, and implementing zoning. Development under the Mission Bay Area Plan and zoning was never realized and a different development program is now being proposed.

Because the changes proposed for development of the Mission Bay area are substantial and could involve new or more severe significant environmental effects, a subsequent EIR (SEIR) will be prepared pursuant to CEQA Guidelines Section 15162. An **Initial Study** has been prepared which describes the project in more detail, evaluates whether sufficient environmental analysis was done in the 1990 EIR to adequately evaluate the environmental consequences of the currently proposed project, and which identifies those environmental issues that will require further study in the SEIR. The Initial Study is available at the Planning Department Public Information Counter, 1660 Mission Street, San Francisco, first floor.

The SEIR will be a program EIR pursuant to CEQA Guidelines Section 15168, and a redevelopment plan EIR pursuant to CEQA Section 21090 and CEQA Guidelines Section 15180. A program EIR is an EIR prepared for a series of actions that can be characterized as one large project, related geographically and in connection with issuance of rules, regulations, plans, and

other general criteria to govern the conduct of a continuing program.

The SEIR will analyze impacts based on 100% buildout of the Project Area by year 2015. Although 100% buildout is not expected to occur by this time, this conservative assumption will ensure that impacts are not understated.

ENVIRONMENTAL ISSUES: The Initial Study proposes that environmental effects related to the following topics will be analyzed in the SEIR due to changes in the project and/or changes in circumstances since the 1990 EIR: compatibility with existing zoning, plans, and public policies; land use; visual quality; population; transportation; noise; air quality; community services and utilities except those listed below (i.e., fire protection, police protection, public health services, recreation and parks, schools, solid waste disposal, water supply, sewers and wastewater treatment, power supply, and telecommunications will be covered); biotic resources associated with China Basin Channel;seismic hazards; tsunami and seiche hazards; water quality; hazardous materials and hazardous wastes; and the potential architectural/historic resource of Fire Station 30.

The Initial Study has proposed that the following topics were adequately covered in the 1990 EIR and will be summarized but not covered in detail in the SEIR: construction noise; shadows; wind; child care, library, ambulance, and street maintenance services; vegetation and wildlife, except that associated with China Basin Channel; topographical changes; ground settlement; inundation and flooding; construction dewatering; energy; cultural resources; and architectural/historic resources except for Fire Station 30.

ALTERNATIVES: The SEIR will analyze three Alternatives to the proposed project:

1. No Project (a brief discussion of a "no project, no change" alternative in which the project area remains as it is through the analysis year of 2015, and a more detailed analysis of project area partial buildout under existing zoning according to Association of Bay Area Governments (ABAG) Projections '96);

2. Adoption of Mission Bay North Redevelopment Plan, no change in existing zoning/plans for Mission Bay south of China Basin Channel (Buildout of Mission Bay north of China Basin Channel according to the proposed project, plus partial buildout south of the Channel under existing zoning according to ABAG Projections '96).

3. Reduced Development (similar to Alternative B from the 1990 EIR -- mostly housing, retail and open space uses, with limited amounts of office and research/development activities).

For further information concerning **environmental review** of the Mission Bay project, contact Paul Deutsch of the San Francisco Planning Department at (415) 558-6383. For further information concerning the **Mission Bay project and process**, contact David Prowler, Office of the Mayor, (415) 554-7940. The Initial Study is available at the Planning Department Public Information Counter, 1660 Mission Street, San Francisco, first floor.

MISSION BAY SUBSEQUENT EIR
INITIAL STUDY

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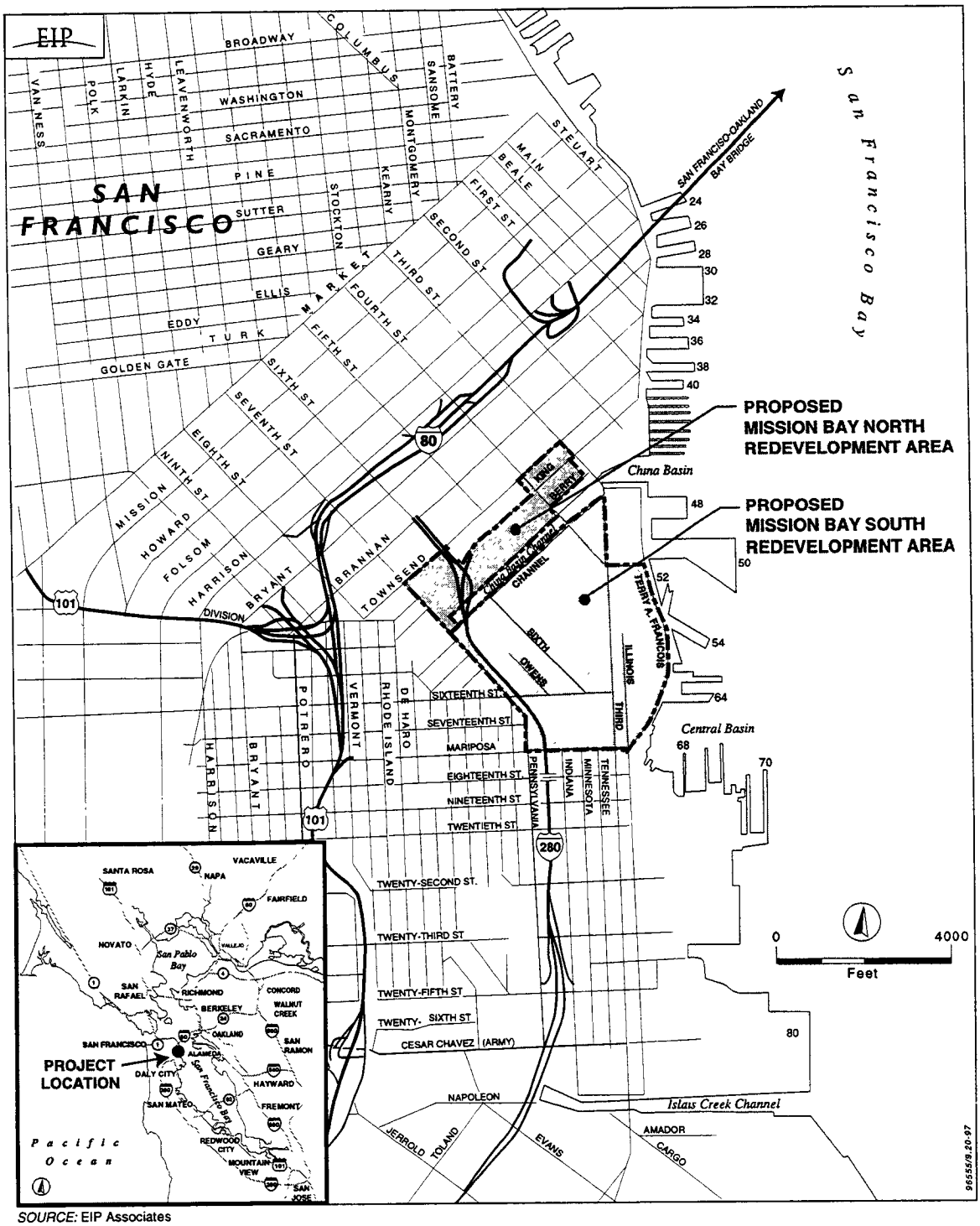
I. INTRODUCTION

The proposed Mission Bay North and Mission Bay South Redevelopment Plans would permit development of an urban mixed-use community consisting of primarily residential, commercial, industrial, retail, educational (a new UCSF site) and open space uses, including major new infrastructure and public facilities. The project would be located near the eastern shoreline of the City and County of San Francisco, California (the City), about one mile south of the City's downtown financial district. The Mission Bay Project Area (Project Area) comprises an approximately 303-acre area north and south of China Basin Channel, generally bounded by Townsend or King Streets on the north, Seventh and Pennsylvania Streets on the west, Mariposa Street on the south, and Terry A. Francois Boulevard (formerly China Basin Street) and Third Street on the east. Figure 1 shows the location of Mission Bay in the San Francisco Bay Area and within the City. The project consists of two proposed Redevelopment Plans: Mission Bay North and Mission Bay South.

In the late 1980's, the City prepared an Environmental Impact Report pursuant to the California Environmental Quality Act analyzing several development alternatives for Mission Bay. The *Mission Bay Final Environmental Impact Report* (1990 FEIR) was certified in August 1990.[1]

A specific plan and zoning based on one of the alternatives evaluated in the 1990 FEIR were ultimately adopted, and a development agreement was approved between the City and the

1. City and County of San Francisco, Department of City Planning, *Mission Bay Final Environmental Impact Report* (Planning Department File No. 86.505E, State Clearinghouse No. 86070113), certified August 23, 1990.



SOURCE: EIP Associates

MISSION BAY SEIR INITIAL STUDY

FIGURE 1 PROJECT LOCATION

dominant landowner to implement the plan. Market conditions changed, and the project was never begun. In April 1996, the development agreement was terminated. In 1996 and 1997, Catellus Development Corporation (Catellus), the owner of most of the land in the Project Area, and the City reached conceptual agreements on a land use development program for the Project Area, subject to obtaining the necessary governmental approvals and requirements of CEQA and any modifications as a result of the environmental review process. The University of California San Francisco (UCSF) decided in 1997 to locate its major new campus site (Major New Site, herein referred to as the "UCSF site") in Mission Bay, thus playing a pivotal role in the land uses proposed for the area south of China Basin Channel. The new UCSF site is expected to attract to Mission Bay South biotechnology and medical research firms interested in close interaction with UCSF. The conceptual agreements will be embodied in the proposed Redevelopment Plans for Mission Bay North and Mission Bay South.

The proposed project requires environmental review under the California Environmental Quality Act (CEQA). The Planning Department and the San Francisco Redevelopment Agency are co-lead agencies under CEQA for the project. Because of substantial changes proposed in the Mission Bay project, and substantial changes in the larger setting and context, a Subsequent Environmental Impact Report (Subsequent EIR or SEIR), that builds upon the analysis performed in the 1990 FEIR will be prepared.

Pursuant to State CEQA Guidelines Section 15063(b)(1)(c), this Initial Study evaluates which of the current project's effects were adequately examined in the 1990 FEIR to identify those environmental issues which will require further study in the SEIR. Pursuant to CEQA Section 21061, the Initial Study and SEIR will use and reference, to the extent possible, information contained in the 1990 FEIR. The information from the 1990 FEIR that is incorporated by reference in this Initial Study is summarized in the relevant sections.

II. PROJECT DESCRIPTION

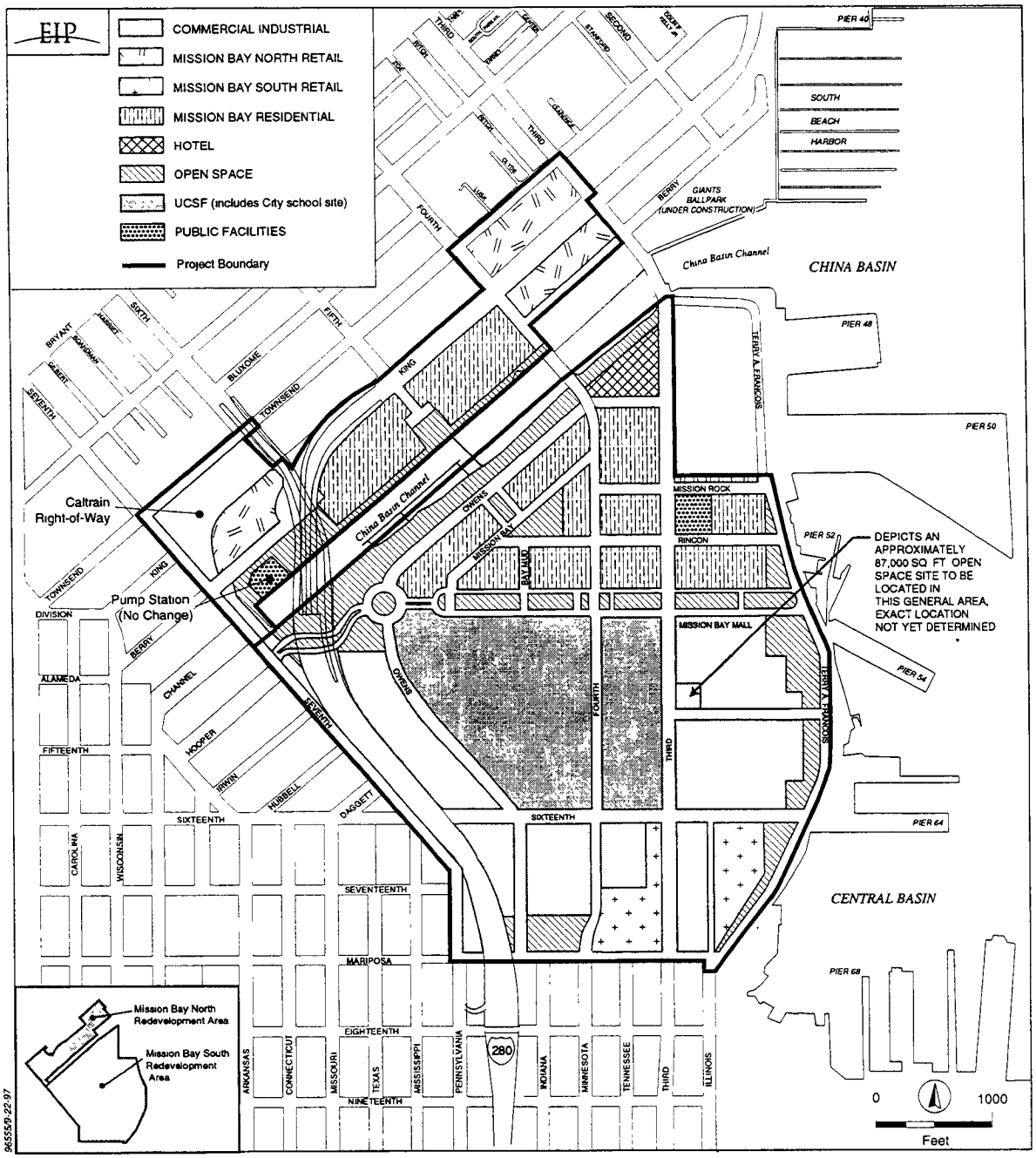
The approximately 303-acre Mission Bay Project Area would be developed into an urban mixed-use community consisting of primarily residential, commercial, industrial, retail, educational, and open space uses. The "project" for the Mission Bay Subsequent EIR includes this land use development program as provided for in the proposed Mission Bay North Redevelopment Plan and the Mission Bay South Redevelopment Plan shown in Figure 2; new streets, infrastructure, other public improvements, and community facilities; conforming amendments to the San Francisco General Plan and other land use plans; and conforming amendments to the City Planning Code. Included in each of the two Redevelopment Plans are design guidelines, called Design for Development documents. The Redevelopment Plans and Design for Development documents would comprise the permitted land uses and primary development controls for the Project Area.

Figure 2 illustrates the proposed land use development program and the new street pattern. The project includes 5,557,000 gross square feet (gross sq. ft.) of commercial industrial uses, 2,650,000 gross sq. ft. of UCSF site uses, about 6,090 residential units, 805,000 gross sq. ft. of city-serving retail,[2] 445,000 gross sq. ft. of entertainment-oriented retail, 257,000 gross sq. ft. of neighborhood-serving retail, 500 hotel rooms, community facilities and about 49 acres of open space.

North of the China Basin Channel (the "Channel"), about 222,000 gross sq. ft. of city-serving retail would be developed on the west. Approximately 3,000 residential units would border the north side of the Channel,[3] along with about 56,000 gross sq. ft. of neighborhood-

2. "City-serving" retail is retail that draws customers from the entire City, as compared to "neighborhood-serving" retail that primarily draws customers only from the immediate neighborhood.

3. Of the 3,000 dwelling units north of Channel, 20% would be affordable units. Of the 3,090 dwelling units south of the Channel, the Redevelopment Agency would select nonprofit developers to build approximately 1,100 affordable units on approximately 12.2 acres of land dedicated to the Agency by Catellus. "Affordable units" are dwelling units with rents or purchase prices affordable to a household whose income is no greater than 80% of the median income for households in San Francisco (Article 25 of the California Code of Regulations Section 6932).



SOURCE: Catellus Development Corporation, Johnson Fain Partners, KCA Engineers

MISSION BAY SEIR INITIAL STUDY

FIGURE 2 PROPOSED LAND USE DEVELOPMENT PROGRAM

serving retail. Up to 389,000 gross sq. ft. of entertainment-oriented commercial uses would be located across Third Street from the approved San Francisco Giants Ballpark.

South of the Channel, approximately 3,090 residential units would border the south side of the Channel and extend across Third Street. A 500-room hotel and up to 56,000 gross sq. ft. of entertainment-oriented commercial uses would be located alongside the Channel adjacent to Third and Fourth Streets. Commercial industrial uses consisting of research and development, light industrial, and office uses would primarily form the western, southern and eastern border of the Project Area. There would be up to 5.56 million gross sq. ft. of such uses. Up to 583,000 gross sq. ft. of city-serving retail would be developed south of 16th Street, both east and west of Third Street. Within and around the residential and commercial industrial areas, there would be up to 201,000 gross square feet (gross sq. ft.) of neighborhood-serving retail.

Located in the center of the Project Area would be the major new campus site identified in the 1996 Long Range Development Plan (UCSF LRDP), adopted by The Regents of the University of California in January 1997. The approximately 43-acre UCSF site would provide up to 2,650,000 gross sq. ft. of space.[4]

The UCSF site would be focused largely on research and development activities which in turn are expected to attract research and development firms, such as biotechnology, semiconductor, computer, or other types of research and development operations; multi-media, and/or software companies; light manufacturing; and office uses.

4. The campus would include up to 2,650,000 gross sq. ft. of instruction, research, and administrative space at full build-out, exclusive of parking. UCSF plans to build approximately 160,000 gross sq. ft. of classroom space, 1,220,000 gross sq. ft. of research space, and 1,270,000 gross sq. ft. of "support" space. The research space would include laboratories. There would be no "clinical" space, meaning no hospital, clinics, or doctors' offices for seeing patients. UCSF, *University of California San Francisco Long Range Development Plan: Science and Health for the 21st Century*, January 1997, p. 170.

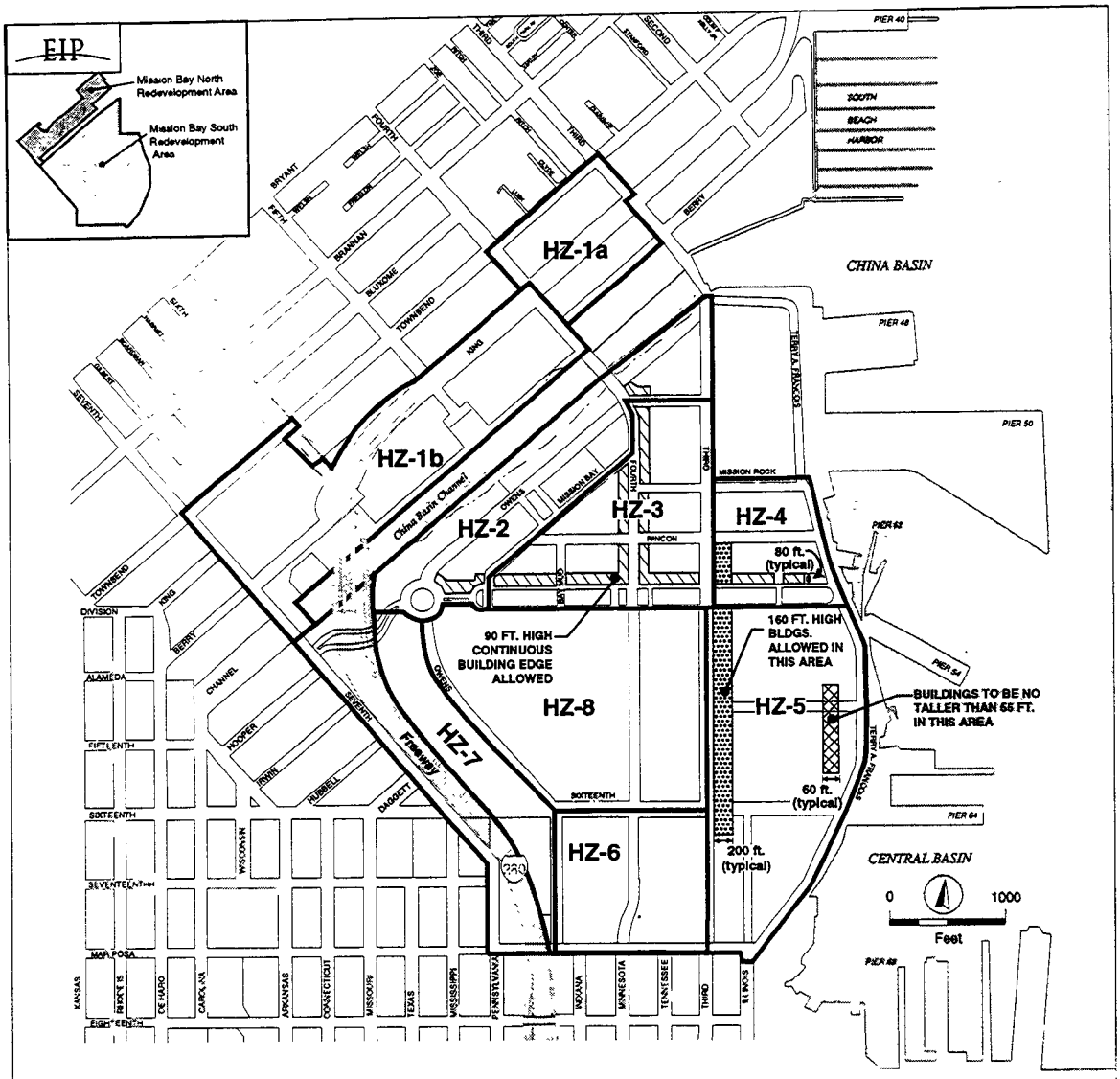
There would be a variety of open space areas both north and south of the Channel, a possible pedestrian bridge across the China Basin Channel at Fifth Street, a site for a public school, and a site for police and fire stations. The existing Channel Street Pump Station at the western end of the China Basin Channel would be retained. The Caltrain terminal at Fourth and Townsend Streets and the Mission Creek Marina in China Basin Channel are outside the Project Area and are not part of the project.

Temporary and interim uses would be permitted throughout the Project Area pending ultimate buildout with development program uses.

Height limits for the Project Area would be established by height zones adopted as part of the proposed Redevelopment Plans and Design for Development documents. Figure 3 shows the proposed height zones. Most of the height zones provide a basic height maximum, but allow a portion of the developable land area to be built to a higher limit. For example, one of the two height zones nearest to the Bay, HZ-4, has a basic maximum height limit for the entire developable land area within the zone of 65 feet, but a height limit of 160 feet along Third Street south of the police and fire station site, and a height limit of 90 feet along the proposed Mission Bay Mall. The other height zone near the Bay, HZ-5, has a basic maximum of 90 feet, with 7% of the developable land area allowed to rise to 160 feet, and a strip adjacent to the open space limited to 55 feet. In Height Zone 7 next to I-280, 80% of the developable land area would have a height limit of 90 feet, and 20% of the developable area would have a height limit of 160 feet.

The UCSF LRDP contains an analysis of building heights; however, because UCSF has not yet established siting and design details such as building heights for the UCSF site, the UCSF LRDP analysis is somewhat generalized. For purposes of conservative analysis, it is assumed that building heights will be similar to adjacent Mission Bay height zones, with selected buildings up to 160 feet in height.

Catellus would convey approximately 1.26 acres adjacent to the old Fire Station 30 building to the City for police and fire stations within Mission Bay South.



SOURCE: Catellus Corporation, Johnson Fain Partners

MISSION BAY SEIR INITIAL STUDY

FIGURE 3 HEIGHT ZONE DIAGRAM

Catellus would convey approximately 2.2 acres to the City for possible construction of a public school. The site would be located within the approximately 43-acre UCSF site area and would be available to the San Francisco Unified School District.

The project would include approximately 43 acres of four different types of open space: linear parks, parks, neighborhood parks, and small open spaces. Linear parks would be built along the edges of China Basin Channel, along Terry A. Francois Blvd., and along an east-west axis in roughly the center of the Mission Bay South Redevelopment Area (referred to as the "Mission Bay Mall"). Parks would feature formal sporting facilities, such as tennis courts, volleyball courts, and jogging and bicycling paths. Neighborhood parks would provide areas for children's play, walking, and sitting. There would be various other small open spaces, such as "pocket parks," courtyards, podiums, alleys, and arcades. The UCSF site would contain about eight acres of plazas, walkways, and sporting facilities which would be accessible to the surrounding community.

Table 1 summarizes the land uses proposed in the Mission Bay project.

The existing street pattern would be changed, although Third Street, 16th Street, and the lower portion of Owens Street would remain in substantially their current alignment. Owens Street would be extended south to Mariposa Street and north to a roundabout and then northeast along the southern Channel edge to Fourth Street, replacing Channel Street. Berry Street would be closed between Fourth and Sixth Streets, except for driveway access to residential buildings, and it would be replaced by housing and a pedestrian mall. Fourth Street would be realigned south of the Channel; Fourth Street would no longer intersect with Third Street, but would run south parallel to Third Street, ending at Mariposa Street opposite Minnesota Street's intersection with Mariposa Street. A series of new east-west streets would be created, as shown on Figure 2.

TABLE 1
MISSION BAY LAND USE DEVELOPMENT

	Mission Bay North Redevelopment Area	Mission Bay South Redevelopment Area	Grand Total /a/
Size (acres)	65	238	303
Residential (dwelling units)	3,000	3,090	6,090 /b/
Commercial Industrial (gross sq. ft.)	0	5,557,000	5,557,000
UCSF site (gross sq. ft.)	0	2,650,000	2,650,000
City-Serving Retail (gross sq. ft.)	222,000	583,000	805,000
Entertainment-Oriented Retail (gross sq. ft.)	389,000	56,000	445,000
Hotel (rooms)	0	500	500
Neighborhood-Serving Retail (gross sq. ft.)	56,000	201,000	257,000
Public Open Space (acres)	7	41	49 /c/

Notes:

a. The conceptual agreements between the City and Catellus do not cover portions of the proposed Redevelopment Areas not owned by Catellus. The components of the proposed development program summarized in the Grand Total that are not on land owned by Catellus consist of 90 dwelling units along Third Street, 310,000 gross sq. ft. of city-serving retail on the Castle Metals site, and 250,000 gross sq. ft. of city-serving retail on the Esprit site.

b. Of the 3,000 dwelling units north of the Channel, 20% would be affordable units. Of the 3,090 dwelling units south of the Channel, the Redevelopment Agency would select nonprofit developers to build up to 1,100 affordable units. "Affordable units" are defined as dwelling units with rents or purchase prices affordable to a household whose income is no greater than 80% of the median income for households in San Francisco (Article 25 of the California Code of Regulations Section 6932).

c. Totals may not add due to rounding.

Source: Catellus Development Corporation and San Francisco Redevelopment Agency.

The Caltrain terminal and tracks would remain in place. Regarding other rail access, the Port of San Francisco and Catellus have developed a plan for the termination and relocation of rail access through the Project Area. The plan is designed to preserve flexibility for

development while maintaining rail access to Port properties. It provides that existing rail access to Pier 80 will be terminated only when a new rail lead is established and also accommodates the relocation of rail access to Piers 48 and 50 outside of developable parcels in the Project Area. For the purposes of this Initial Study and SEIR, it is assumed that the rail access would be relocated along 16th Street. The project also includes relocation of the existing Seventh Street rail crossing near Hooper Street.

Although not part of the Mission Bay project, the MUNI Third Street Light Rail extension now being planned would be located along Fourth and Third Streets through the Project Area.

To provide a pedestrian link between the northern and southern sides of the Channel, in addition to the existing Peter Maloney and Lefty O'Doul Bridges, the project, subject to obtaining required approvals, may include a pedestrian bridge approximately in alignment with Fifth Street. The bridge would allow boat traffic underneath.

The project would also construct infrastructure improvements to serve the increased urbanization of the Project Area, including sewers, drainage systems, water lines, and utility connections.

III. ENVIRONMENTAL EVALUATION CHECKLIST DISCUSSION

This section summarizes issues which may be significant and therefore warrant further analysis in the SEIR, as well as those issues which require no additional analysis.

The *Mission Bay Subsequent EIR* will incorporate information, as appropriate, from EIRs that have been previously published, particularly the *Mission Bay Final EIR* (Planning Department File No. 86.505E, State Clearinghouse No. 86070113), certified August 23, 1990 (1990 FEIR); the *University of California San Francisco Long Range Development Plan FEIR* (State

Clearinghouse No. 95123032), certified in January 1997 (UCSF LRDP FEIR); and the *San Francisco Giants Ballpark at China Basin Final EIR* (Planning Department File No. 96.176E, State Clearinghouse No. 96102056), certified June 26, 1997 (Giants Ballpark FEIR). As discussed in Section I, Introduction, above, the 1990 FEIR evaluates the impacts of potential development in Mission Bay.[5] The UCSF LRDP FEIR evaluates the impacts of potential development of a new UCSF site at three potential sites, one of which is Mission Bay. The Giants Ballpark FEIR evaluates a 42,000-seat ballpark and other facilities soon to be under construction adjacent to Mission Bay.

When information from the above EIRs is presented in the *Mission Bay Subsequent EIR*, it will be incorporated by reference with a summary, pursuant to CEQA, Sections 21061 and 21100 (see also State CEQA Guidelines, Section 15150). Those reference documents are available for public review at the Planning Department, Office of Environmental Review, 1660 Mission Street, San Francisco.

A. EFFECTS FOUND TO BE POTENTIALLY SIGNIFICANT

This initial evaluation has determined that the new proposed project could have a number of potentially significant environmental effects that warrant analysis in the SEIR. Effects or issues proposed for analysis include: changes in existing land use, public views from Potrero Hill and other locations, increases in traffic congestion and transit use, increases in traffic noise, increased air pollutant emissions, increased demand for public utilities and services, potential impacts on vegetation and wildlife along China Basin Channel, seismic hazards, inundation hazards from tsunami or seiche, potential water quality effects from construction activities and from storm water runoff, and hazardous materials and hazardous wastes. The

5. The 325-acre project area discussed in the 1990 FEIR differs from the 303-acre Mission Bay Project Area. The 1990 FEIR's project area boundaries included China Basin Channel and land owned by the Port of San Francisco east of Third Street and north of Mission Rock Street, whereas the current Mission Bay Project Area does not include the Channel or this land. Mission Rock Street would be realigned. The 1990 FEIR project area boundary did not include the Castle Metals site at Mariposa and Third Streets, whereas the current Mission Bay Project Area includes this site.

SEIR will also consider whether the project could affect the balance of jobs and housing, or induce growth outside the Project Area.

B. EFFECTS ADEQUATELY COVERED OR FOUND NOT TO BE SIGNIFICANT

The following potential impacts have been determined in this Initial Study, as discussed in detail in Section IV, Environmental Evaluation Checklist, to be either insignificant, mitigated through measures already included in the project, or adequately covered in previous environmental documentation, and therefore do not require further analysis in the SEIR.

Construction Noise. Construction noise was previously examined in the 1990 FEIR, and the impact of the proposed project would not substantially differ from that already analyzed. Compliance with the San Francisco Noise Ordinance would mitigate potential impacts. All development activity, including UCSF, would comply with the San Francisco Noise Ordinance.

Shadows. Although the proposed project involves higher buildings (160 ft. maximum) than those proposed and analyzed in the 1990 FEIR (110 ft. maximum), a preliminary analysis of proposed building height limits indicates shadows would not reach parks operated by the San Francisco Recreation and Park Department. Therefore, under significance criteria relating to Section 295 of the City Planning Code as approved by the voters in 1984, there would be no significant impacts associated with shadows. With respect to shadows within the Project Area, the Redevelopment Agency documents would require analysis of potential shadow on existing and proposed open spaces during the building design and review process. Shadows on China Basin Channel and along the Bay shore, including Agua Vista Park, may increase; however, there would be no significant effects on plants and animals in or near the Channel.

Wind. Although the proposed project involves higher building height limits (160 ft. maximum) than those proposed and analyzed in the 1990 FEIR (110 ft. maximum), the qualitative wind analysis in the 1990 FEIR adequately evaluates the project. Detailed design

information is not yet available for specific buildings so no further study can be undertaken at this time. The Redevelopment Agency documents would require analysis and mitigation of any hazardous wind effects during the building design and review process.

Community Services and Utilities. Provision of child care services in response to project demand at this time is not expected to result in any direct or indirect environmental impacts, and the City Planning Code section pertaining to child care services is not applicable to Redevelopment Areas; therefore, child care needs no further analysis. Library services do not require further analysis because citywide library resources are now greater than at the time of the 1990 FEIR analysis, which concluded library resources would be sufficient for the larger population studied in the 1990 FEIR. Street maintenance services would be provided by the City, following acceptance by the City of new public streets in the Project Area, and would require no further study.

Emergency medical service was provided by the San Francisco Department of Public Health, as described in the 1990 FEIR, until July 1997, when the responsibility was shifted to the San Francisco Fire Department. As noted in the 1990 FEIR, development in the Mission Bay Project Area would likely create a demand for additional paramedic staff, but would not result in a demand for additional buildings housing emergency medical facilities, and therefore would not cause any direct or indirect physical environmental impacts. Therefore, ambulance service needs no further analysis.

Vegetation and Wildlife. No endangered, threatened, or rare plant or animal species are present within upland areas of the Project Area, outside the China Basin Channel. The Project Area supports no native upland vegetation. No significant impacts on vegetation or wildlife would occur in the Project Area outside the China Basin Channel. Therefore no further study of biotic resources outside the Channel area is necessary. The SEIR will evaluate potential effects on biotic resources in the Channel area.

Geologic Hazards. There are no known unique geologic features in the Project Area. Proposed construction would cover most of the ground surface with new structures, paving, or landscaping. New fills as deep as 2.5 feet would be added to low spots in the Project Area, but would cause no substantial change in the essentially flat character of the area's topography. Regarding settlement hazard, most of the proposed buildings would be built on piles, and a variety of methods of reducing settlement hazards in areas not supported by piles would be used. The nature of the geologic deposits, and the issues of topography and settlement will not require further discussion in the SEIR.

Water. Flooding issues for development in Mission Bay were adequately addressed in the 1990 FEIR and will not be further analyzed in the SEIR. Mitigation measures proposed in the 1990 FEIR have been included here to address flooding. Regarding disposal of groundwater extracted for construction (dewatering), the City would require pre-treatment, if necessary, prior to disposal in the sewer system; therefore, no further discussion is needed in the SEIR.

Energy. As discussed in the 1990 FEIR, buildings in Mission Bay would be required by law to comply with either the prescriptive or performance requirements of Title 24 Energy Conservation Standards. Compliance with Title 24 would be enforced by the San Francisco Department of Building Inspection, through the building permit review process. Such compliance would mean that the project would not use energy in a wasteful manner.

Energy consumption estimates for the proposed project are similar to those provided in the 1990 FEIR for Alternative A.[6] No significant impacts were shown as a result of information in the 1990 FEIR; a review of that information and updated calculations do not show new significant environmental effects from the proposed project. Therefore, the topic will not be discussed further in the SEIR.

6. 1990 FEIR, Volume Two, VI.H.2, p. VI.H.12.

Cultural Resources. The 1990 FEIR thoroughly evaluated the cultural resources of the Project Area, including the Castle Metals site, which was outside the prior project boundaries. The cultural resources analysis showed no significant impacts that could not be mitigated through the imposition of standard mitigation measures. The mitigation measures proposed in the 1990 FEIR have been updated to reflect changes in law and practice. This topic will not be discussed further in the SEIR.

IV. ENVIRONMENTAL EVALUATION CHECKLIST

This section uses the standard city environmental checklist to discuss the SEIR's planned approach to issues identified for further analysis and to fully consider issues which require no further analysis. Mitigation measures related to issues that will not be discussed further in the SEIR are also presented.

A. COMPATIBILITY WITH EXISTING ZONING AND PLANS

	Yes	No	Discussed Below	To be Analyzed In SEIR
1. Discuss any variances, special authorizations, changes proposed to the City Planning Code or Zoning Map, if applicable.	X	___	X	X
*2. Discuss any conflicts with any other adopted environmental plans and goals of the City or Region, if applicable.	X	___	X	X

* Derived from State EIR Guidelines, Appendix G, normally significant effect.

The proposed project consists of the adoption of two Redevelopment Plans and associated Design for Development documents, and the establishment of two Redevelopment Project Areas. It would require amendments to the *San Francisco General Plan* and the City Planning Code,

including the rescission of Article 9 (Mission Bay Districts) of the City Planning Code. Relevant City and County of San Francisco land use plans include, but are not limited to: the *San Francisco General Plan* (by Element), the *Central Waterfront Plan*, the *Northeastern Waterfront Plan*, the *Rincon Point-South Beach Redevelopment Plan*, and the existing *Mission Bay Plan.* Conformance of the project with the eight Priority Policies in Section 101.1 of the City Planning Code will be evaluated. The SEIR will also discuss the relationship of the project to, and compliance with, BCDC's *San Francisco Bay Plan* and *San Francisco Waterfront Special Area Plan* (which designates the Port Priority Use Area), the Port of San Francisco's *Conceptual Maritime Master Plan for the Southern Waterfront* and the *Waterfront Land Use Plan*, the Metropolitan Transportation Commission's (MTC) Transportation Improvement Program, and MTC's and BCDC's *San Francisco Bay Area Seaport Plan.*

The SEIR will: 1) describe the two proposed Redevelopment Plans and Design for Development documents for Mission Bay North and Mission Bay South; 2) describe proposed amendments to the *San Francisco General Plan* and changes to any other plans; 3) discuss how the proposed Redevelopment Plans, Design for Development documents, and amendments to other plans would change the land use policies associated with existing land use plans; and 4) evaluate compatibility of the project with existing (unmodified) policies.

B. ENVIRONMENTAL EFFECTS - Could the project:

	Yes	No	Discussed Below	To be Analyzed In SEIR
1. Land Use				
*a. Disrupt or divide the physical arrangement of an established community?	___	X	X	___
b. Have any substantial impact upon the existing character of the vicinity?	X	___	X	X

* Derived from State EIR Guidelines, Appendix G, normally significant effect.

As described in the Land Use, Business Activity, and Employment section of the 1990 FEIR,[7] the Project Area is, for the most part, an underutilized industrial area occupied by interim use warehouses, truck yards, and other land-intensive uses; there is no established residential community. As project development proceeds, almost all existing buildings would be removed. The proposed project would constitute a dramatic change in the types and intensity of land use, introducing multi-family residential, hotel, retail, office, research and development, industrial, and commercial uses to the Project Area. It would include a new UCSF site.

The SEIR will discuss the compatibility of project land uses with nearby residential, commercial, industrial, and recreational uses, and effects that may result from the changes in land use and the related intensification of use of the Project Area. Build-out of the Project Area could encourage or change the nature of development in surrounding areas; these growth-inducing impacts will be analyzed in a separate section of the SEIR.

Mitigation measures will be included for any significant environmental impacts related to land use or growth inducement that are identified in the analysis.

		Yes	No	Discussed Below	To be Analyzed In SEIR
2.	Visual Quality				
*a.	Have a substantial, demonstrable negative aesthetic effect?	X	___	X	X
b.	Substantially degrade or obstruct any scenic view or vista now observed from public areas?	X	___	X	X

7. 1990 FEIR, Volume Two, pp. VI.B.2 - VI.B.13.

		Yes	No	Discussed Below	To be Analyzed In SEIR
c.	Generate obtrusive light or glare substantially impacting other properties?	X	___	X	X

* Derived from State EIR Guidelines, Appendix G, normally significant effect.

As discussed in the Architectural Resources and Urban Design section of the 1990 FEIR,[8] the existing Project Area is largely vacant or occupied by low-rise structures. It is largely flat. The area is highly visible from Potrero Hill and I-280. The proposed project would change the visual character of the area, redeveloping the entire site. It would introduce buildings in some areas up to 160 feet in height, about 50 feet taller than any evaluated in the 1990 FEIR. Project buildings could obstruct existing views of the Bay or downtown San Francisco from areas surrounding and within the Project Area.

The SEIR will include an analysis with photographs of important visual features and views of the Project Area. The analysis will describe the change in visual character including height, bulk, and building scale of development associated with build-out of the proposed Redevelopment Plans. Photomontages will illustrate the change in visual character on public views to the Bay from Potrero Hill, I-280, and other locations.

The SEIR will also discuss the potential impacts from additional lighting from new building and parking structures constructed in the Project Area, and impacts on the project from night lighting at the approved San Francisco Giants ballpark, adjacent to the Project Area.

Mitigation measures will be included for any significant environmental impacts related to visual quality identified in the analysis.

8. 1990 FEIR, Volume Two, pp. VI.I.5-VI.I.17.

		Yes	No	Discussed Below	To be Analyzed In SEIR
3.	Population				
*a.	Induce substantial growth or concentration of population?	X	___	X	X
*b.	Displace a large number of people (involving either housing or employment)?	X	___	X	X
c.	Create a substantial demand for additional housing in San Francisco, or substantially reduce the housing supply?	X	___	X	X

* Derived from State EIR Guidelines, Appendix G, normally significant effect.

The 1990 FEIR described the types of employment in the Project Area in the mid-1980s; the most prevalent jobs were related to trucking and delivery.[9] A land use and employment survey was conducted in June 1997, revealing that there are approximately 1,600 jobs currently in the Project Area.[10] The majority of jobs are still related to trucking and warehousing operations.

Based on preliminary estimates, the project would accommodate approximately 11,000 new residents in 6,090 housing units, and 21,000 new jobs not related to the UCSF site, plus 9,100 UCSF employees (of which 8,100 would be net new jobs).[11] This would be an increase of 1.5% over San Francisco's existing resident population of 778,000, an increase of

9. 1990 FEIR, Volume Two, pp. VI.B.38-VI.B.40.

10. Hausrath Economics Group, Land Use Statistics for EIR Project Description, July 21, 1997.

11. a) Preliminary estimates, Hausrath Economics Group, Draft Table 5, Proposed Project, Memorandum from Sally Nielsen, Hausrath Economics Group, to William F. Dietrich, EIP Associates, August 7, 1997.

b) UCSF employment is from the *UCSF Long Range Development Plan Environmental Impact Report* (SCH No. 95123032), Impact 12N-2, p. 516.

1.8% over the current housing stock of 335,000 dwelling units, and an increase of 3.8% over current citywide employment of 548,000 jobs.[12] If all of this development were built and occupied by 2015, the Mission Bay Project Area would contain 1.3%, 1.7%, and 4.5% of San Francisco's total population, housing, and employment, respectively, projected for the year 2015.[13]

There are no existing residential units in the Project Area that would be displaced by the proposed project. Project-related development would gradually displace existing businesses and employees. If applicable, relocation assistance would be provided under the California State Redevelopment Law as contained in the California State Health and Safety Code, Section 33300 et seq.

The proposed project would also create construction employment for the construction labor market serving San Francisco.

For the purposes of project description and general information, the SEIR will assess the project's impact on population, housing, employment, and business activity, including the potential to induce growth outside the Project Area. The SEIR will discuss direct housing, resident employment (permanent and construction), and business activities that the proposed project would create, and their relationship to projected growth for San Francisco. This discussion will also describe new business opportunities and identify existing businesses in the Project Area that might be accommodated in the new development.

12. a) San Francisco's 1997 population and housing stock estimates are from the California State Department of Finance, Demographic Research Unit, Report E-5, May 1997 (estimates as of January 1, 1997).

    b) The 1997 employment estimate was calculated based on a straight-line interpolation between projections for years 1995 and 2000 in the Association of Bay Area Governments, *Projections '96*, December 1995, p. 205.

13. Association of Bay Area Governments (ABAG), *Projections '96*, as modified by Keyser Marston Associates for the San Francisco Redevelopment Agency's *San Francisco Cumulative Growth Study*, August 27, 1997.

The SEIR will assess the implications of the proposed project for increased housing supply and housing demand in San Francisco. Indirect and induced population, housing, household, and employment growth stimulated by the proposed project and its relationship to projected growth for San Francisco will be analyzed. The SEIR will discuss changes in surrounding areas that might result in terms of future development patterns, housing market conditions, and levels of business activity and employment. Such "Nearby Areas" include Potrero Hill, Showplace Square/North Potrero Hill, Inner Mission, Central Bayfront/Bayview-Hunters Point, Port property east of the Project Area and in the Channel, Lower Potrero Hill, South of Market (including South Beach), and other parts of Downtown.

		Yes	No	Discussed Below	To be Analyzed In SEIR
4.	Transportation/Circulation				
*a.	Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system?	X	___	X	X
b.	Interfere with existing transportation systems, causing substantial alterations to circulation patterns or major traffic hazards?	X	___	X	X
c.	Cause a substantial increase in transit demand which cannot be accommodated by existing or proposed transit capacity?	X	___	X	X
d.	Cause a substantial increase in parking demand which cannot be accommodated by existing parking facilities?	X	___	X	X

* Derived from State EIR Guidelines, Appendix G, normally significant effect.

The proposed development in the Project Area would increase traffic on local streets and freeways in and near the Project Area, as would the alternatives analyzed in the 1990 FEIR. However, the types and amounts of uses proposed are different from those analyzed in the 1990 FEIR, and new information about trip generation rates is available based on the Citywide Travel Behavior Survey conducted by the San Francisco Planning Department, the San Francisco Public Utilities Commission, and the County Transportation Authority in 1992. In addition, more recent growth forecasts have been prepared by the Association of Bay Area Governments and by city agencies that affect future cumulative transportation analyses. New streets and a new street pattern are proposed to be created in the Project Area, changing the circulation pattern compared both to the existing street pattern and to street patterns shown and analyzed in the 1990 FEIR. The project would also increase the demand for and use of regional and citywide transit services. The Third Street Light Rail Project, currently under consideration by the San Francisco Municipal Railway, is proposed to use streets in the Mission Bay Project Area on an alignment different from that assumed for an extended MUNI Metro in the 1990 FEIR. Based on these changes, a new transportation analysis will be provided in the SEIR to assess potential impacts caused by the proposed project.

The SEIR will include analysis and discussion of the project's potential traffic impacts in the afternoon (p.m.) peak hour on local intersections in the transportation study area and on regional freeways and at freeway entrances. The SEIR will assess effects on local and regional transit systems of planned development in the area. Traffic and transit analyses will be carried out for existing-plus-project conditions and for cumulative growth in the year 2015 including the proposed project, using the Metropolitan Transportation Commission (MTC) travel demand model. The MTC model will be adjusted to include a cumulative growth scenario established by the Planning Department and the Redevelopment Agency. This growth will account for population and employment increases in the region, the City, and in Nearby Areas, and will include new employment at the San Francisco Giants ballpark across Third Street from the Mission Bay North area. Travel from games and other events at the ballpark would not occur on a daily basis, unlike commute-related travel; in the Giants

Ballpark FEIR[14] game and event travel was assumed to occur for the most part either before (for weekday afternoon games) or after (for weeknight games) the afternoon peak period. Therefore, game and event travel will be discussed in the SEIR but will not be included in the quantified cumulative transportation analysis for the Mission Bay project.

Existing parking conditions will be described for the Project Area. The SEIR will analyze parking demand in relation to general amounts of parking expected as part of the land use plans for Mission Bay North and Mission Bay South. The SEIR will also evaluate pedestrian and bicycle effects, and loading and delivery issues. Changes in rail freight access and general construction transportation issues will be discussed.

Mitigation measures will be included for any significant environmental impacts related to transportation identified in the analysis.

		Yes	No	Discussed Below	To be Analyzed In SEIR
5.	Noise				
*a.	Increase substantially the ambient noise levels for adjoining areas?	X	___	X	X
b.	Violate Title 24 Noise Insulation Standards, if applicable?	___	X	X	___
c.	Be substantially impacted by existing noise levels?	X	___	X	X

* Derived from State EIR Guidelines, Appendix G, normally significant effect.

14. City and County of San Francisco, Planning Department, *San Francisco Giants Ballpark at China Basin Channel Final EIR*, State Clearinghouse No. 96102056, Planning Department File No. 96.176E, certified June 26, 1997.

The proposed project would cause an increase in traffic volumes in and near the Project Area, with a concomitant increase in ambient noise levels near streets carrying more cars. The 1990 FEIR described existing noise levels and analyzed potential increases due to increases in traffic volumes on local streets in and near Mission Bay.[15] Proposed street and circulation patterns are different from those analyzed in the 1990 FEIR. Traffic volumes and associated noise effects will be recalculated for the SEIR. The proposed project includes new land uses, such as a UCSF site, and does not relocate the Caltrain terminal, which would be adjacent to proposed housing. Therefore, the effects of noise sources on sensitive receptors will be reevaluated in the SEIR.

In addition to the evaluation of potential noise sources and impacts that would be created by the project, existing and future noise sources in the Project Area will be evaluated for potential impacts on the proposed project's new sensitive receptors. These noise sources include: Caltrain trains; the proposed MUNI Metro Third Street Light Rail Project (now planned for Third and Fourth Streets in the Mission Bay Project Area, rather than King Street to Seventh Street as analyzed in the 1990 FEIR); crowd and concert noise from the approved San Francisco Giants ballpark; and the drawbridges across China Basin Channel. Proposed sensitive receptors include a school, UCSF classrooms, and a church.

Mitigation measures will be included for any significant envrionmental impacts identified in the analysis.

Other noise topics were adequately covered in the 1990 FEIR, as summarized below.

Title 24 Noise Requirements

The project's housing would be subject to the noise insulation requirements of Title 24 of the California Code of Regulations. Therefore, noise insulation would be provided in those

15. 1990 FEIR, Volume Two, pp. VI.G.1 - VI.G.27.

buildings, and no violations of Title 24 are expected. The SEIR will not contain further discussion on this topic.

Building Mechanical Noise

The proposed project would include research and development (R&D) and other light industrial uses which could produce operational noise from building mechanical equipment. These operations are subject to the City Noise Ordinance, Article 29 of the San Francisco Police Code. Compliance with Article 29, Section 2909, would minimize any noise increases from these operations. Although the University of California is not subject to the City's local Noise Ordinance, UCSF's site would be developed under the same standards as outlined in Article 29. To minimize building mechanical noise and other operational noise, the UCSF LRDP FEIR provides under Mitigation Measure 12.E.1-2, that operational noise from UCSF sources will not exceed noise levels set forth in local ordinances for adjacent areas based on their use. Based on this agreement, UCSF would comply with the City Noise Ordinance and therefore would not have a significant impact from building mechanical noise or operation noise. Therefore, the noise generated by mechanical equipment on buildings in the Project Area will not be discussed further in the SEIR.

Construction Noise

Construction activities from the project would potentially include: pile driving, excavation and hauling, erection, and finishing. Construction activities would be temporary and intermittent in any given area and would occur at different times in different portions of the Project Area. No phasing plan is proposed at this time. Noise from construction activities is expected to be similar to the impacts addressed in the 1990 FEIR, pp. VI.G.11 - VI.G.16; no major new information about construction noise has come to light since that FEIR was certified. As explained in the 1990 FEIR, pile-driving noise could be heard as far away as Rincon Hill to the north, Howard Street to the northwest, US 101 to the west, and about 23rd Street to the south. Beyond those areas, pile driving would not be heard above

background noise. The repetitive nature of the noise and the accompanying vibrations from this activity would be disruptive and annoying to residents. During pile driving, indoor noise levels in residential buildings in the Mission Bay Project Area and immediately adjacent residential areas would probably reach 64 dBA L_{eq}[16] with the windows closed and 89 dBA L_{eq} with the windows open, which could interfere with conversation. Such intrusive events would be annoying and would disrupt normal daytime activities for receptors within 100 feet of the pile driver, if indoors with windows open, and up to 800 feet away if outdoors.

During pile driving, houseboat residents and pleasure craft users of the Channel could be exposed to outdoor noise levels up to 93 dBA L_{eq}. Noise levels within these boats would probably exceed 73 dBA L_{eq} due to their relatively light construction. Noise levels of that magnitude would be annoying and may produce physiological effects, such as change in motor coordination, if exposure occurs for extended periods. In addition, houseboat residents and pleasure craft users of the Channel would be exposed to outdoor noise levels up to 77 dBA L_{eq} from excavation and finishing phases of construction activities. This estimate is based on the assumption that construction would be underway about 200 feet from housing, with no intervening obstructions. Interior noise levels could reach 67 dBA L_{eq} with open windows. Noise levels this high would make conversation difficult.

There are three basic approaches to reducing noise impacts: reduce the sound level at the source, provide the receiver with shielding, and alter the path of sound transmission. The 1990 FEIR discussed several means of reducing construction noise. While these methods were discussed under the mitigation section of the 1990 FEIR,[17] the measures included there

16. Definitions: dB: Decibel is a logarithmic unit used to describe sound energy intensity.

dBA: "A-weighted" Decibel is the most commonly used environmental noise measurement. A-weighted decibel measurements de-emphasize the very low and very high frequency components of sound, similar to the responses of the human ear.

L_{eq}: The Equivalent Energy Level associated with sound energy measured over a period of time.

17. 1990 FEIR, Volume Two, Measures G.1 and G.2, pp. VI.G.30 and VI.G.31.

describe means of complying with the San Francisco Noise Ordinance (Article 29, San Francisco Police Code). Compliance with the Noise Ordinance is required by law and would reduce any significant impacts to a less than significant level.

Construction activities would be expected to occur in the Mission Bay Project Area for many years, during which some residential buildings would be completed and occupied. New residents would experience similar effects to those described in the 1990 FEIR due to construction noise. Table VI.G.3 in the 1990 FEIR (p. VI.G.12) provides representative examples of typical construction noise from the groups of construction equipment generally in use during various stages of construction, and the distances from the construction site to reduce noise to ambient levels. Concurrent construction activities at more than one location would either increase the overall noise levels by about 3 dBA if the construction sites were very close to one another, or would expand the area affected by construction noise if the sites were widely separated in the Project Area. Construction at sites near the Project Area, such as for the Giants ballpark across Third Street from Mission Bay North, occurring concurrently with construction at sites within the Project Area would temporarily increase the overall noise levels in the immediate vicinity of construction activities, as the noise intensity would be greater with a larger number of noise sources.

Based on the above analysis and information from the 1990 FEIR, no further discussion of construction noise will be presented in the SEIR.

Other Noise Sources

Noise from crowds attending baseball games or events at Pacific Bell Park has been fully analyzed in the Giants Ballpark FEIR.[18] Two sites within the Mission Bay Project Area were analyzed in the Giants Ballpark FEIR, one just west of Third Street at Townsend Street

18. City and County of San Francisco, Planning Department, *San Francisco Giants Ballpark at China Basin FEIR*, SCH No. 96102056, file no. 96.176E, certified June 26, 1997, pp. IV.239 - IV.242 and IV.251 - IV.256.

(adjacent to the existing recreational vehicle park), and another on Berry Street between Third and Fourth Streets. At most residential locations near the ballpark, including the two sites within the Project Area, average hourly noise levels from crowds at the ballpark would not exceed existing ambient noise levels from traffic and other urban sources, although crowd noise would be noticed by listeners in upper-story apartments near the ballpark and in outdoor areas, because the sound has a different quality than traffic noise. At upper-story apartments across from and facing the ballpark (at about 100 to 130 feet above street level) crowd noise would noticeably increase average hourly noise levels, by about 3 to 4 decibels above existing levels. Some listeners could find cheering noises and crowd noise annoying; others might enjoy hearing crowds and occasional cheers from the ballpark. Crowds leaving the ballpark after night games (generally around 10:30 - 11:00 p.m.) would also be a source of noise for those in lower-level apartments facing streets leading to parking lots and garages and leading to local transit stops. The Giants Ballpark FEIR concludes that because of the limited increase in noise levels due to crowd noise, the limited duration and frequency of ball game and other large-crowd events at the ballpark, and because of the urban setting of the ballpark, crowd noise would not be considered a significant impact. Based on this conclusion, and because the Giants Ballpark FEIR analyzed crowd noise effects on sites in the Mission Bay Project Area closest to the ballpark site, no further analysis of this topic is necessary in the Mission Bay SEIR.

As noted in the Giants Ballpark FEIR, concerts would be distinctly noticeable in nearby parks, including South Beach Park adjacent to the east of the ballpark, and might discourage some users, but could attract others interested in listening to the music.[19] The project's proposed open space on the south edge of China Basin Channel between Third and Fourth Streets is expected to experience similar concert noise levels, and could attract some interested in hearing a concert while others may be discouraged from using the open space during concerts. The houseboat docking area would be shielded from ballpark concert noise

19. City and County of San Francisco, Planning Department, *San Francisco Giants Ballpark at China Basin FEIR,* SCH No. 96102056, file no. 96.176E, certified June 26, 1997, p. 259.

by the China Basin Landing Buildings.[20] The proposed open space adjacent to the houseboat area, along the south edge of the Channel west of Fourth Street, would also be shielded by these buildings; while concert noise from the amplified music would be noticeable because it is different from the usual urban background noise, it would not cause substantial increases over ambient noise levels at this location. Open space in the Mission Bay Project Area at greater distances from the ballpark would experience lower levels of concert noise. Based on this information, ballpark crowd noise effects on proposed new open space in the Mission Bay Project Area will not require further analysis in the SEIR.

		Yes	No	Discussed Below	To be Analyzed In SEIR
6.	Air Quality/Climate				
*a.	Violate any ambient air quality standard or contribute substantially to an existing or projected air quality violation?	X	___	X	X
*b.	Expose sensitive receptors to substantial pollutant concentrations?	X	___	X	X
c.	Permeate its vicinity with objectionable odors?	X	___	___	X
d.	Alter wind, moisture or temperature (including sun shading effects) so as to substantially affect public areas, or change the climate either in the community or region?	X	___	X	___

* Derived from State EIR Guidelines, Appendix G, normally significant effect.

20. City and County of San Francisco, Planning Department, *San Francisco Giants Ballpark at China Basin Summary of Comments and Responses*, SCH No. 96102056, file no. 96.176E, certified June 26, 1997, p. C&R.533.

Air Quality

During construction, air quality would potentially be affected by two forms of emissions related to construction: fugitive dust emissions, and heavy equipment emissions from the combustion of diesel fuel. The combustion of diesel produces emissions of nitrogen oxides (NO_x), carbon monoxide (CO), sulfur dioxide (SO_2), hydrocarbons (HC), and particulate matter with a diameter of less than 10 microns (PM_{10}). The primary pollutant of concern is the component of fugitive dust which is PM_{10}. The impacts of fugitive dust emissions will be assessed in the SEIR and addressed in terms of effective control measures.

Potential air quality impacts from the proposed project could occur due to increased traffic. Emissions will be calculated and compared to the Bay Area Air Quality Management District's (BAAQMD) significance thresholds for regional impacts. Of particular concern are carbon monoxide emissions and the possibility of exceeding carbon monoxide standards at congested intersections and nearby sensitive receptors. The impact of vehicular carbon monoxide emissions on local ambient levels will be assessed in the SEIR. Carbon monoxide concentrations will be estimated for existing, future-without-project, and future-with-project conditions. The results of the analysis will be compared to state and federal ambient air quality standards to evaluate impacts.

Three aspects of the project could produce emissions of toxic air contaminants (TACs): 1) excavation and aeration of contaminated soils, 2) UCSF laboratory and teaching activities, and 3) research and development (R&D) and light manufacturing operations. First, excavation and aeration of contaminated soils may release volatile compounds. Second, the TAC emissions associated with the UCSF laboratory and teaching will be addressed qualitatively in the SEIR based on data from the 1989 Radian Corporation study of toxic air contaminants at the UCSF Parnassas Heights campus and other studies. Third, the R&D and light manufacturing facilities proposed for the site have potential TAC emissions. These emissions will be assessed and discussed qualitatively in terms of human health risk in the SEIR.

The research and development and light manufacturing uses would potentially cause some objectionable odors due to the wide variety of chemicals and products that would be used in the daily operations. In addition to the potential odors from the research and development and light manufacturing, the Channel Street Pump Station would potentially expose future residents to objectionable odors. These odor emissions would be regulated by the BAAQMD. The effect of these odors on new residences and residences in the surrounding area will be evaluated and qualitatively discussed in the SEIR.

Shadows

The 1990 FEIR evaluated shadow effects and found that buildings in Mission Bay would not shade public parks outside the Project Area under the jurisdiction of the San Francisco Recreation and Park Department. Project buildings would shade open space proposed within Mission Bay, to varying degrees. Because the now proposed Mission Bay project would allow, at some locations, taller buildings than were evaluated in the 1990 FEIR, different shadow effects could occur.

The Sunlight Ordinance, Section 295 of the City Planning Code, was adopted in response to Proposition K (passed November 1984) to protect certain public open spaces from shadowing by new structures during the period between one hour after sunrise and one hour before sunset, year round. Section 295 restricts new shadow upon public spaces under the jurisdiction of the Recreation and Park Department by any structure exceeding 40 feet unless the City Planning Commission, in consultation with the Recreation and Park Commission, finds the impact to be insignificant. However, development in Mission Bay under a Redevelopment Plan would not be formally be subject to Section 295.

The closest open space areas in the project vicinity that are under the jurisdiction of the San Francisco Recreation and Park Department are South Park and Jackson Playground. South Park is in the center of the block bounded by Second, Third, Bryant and Brannan Streets, and is about 1,000 feet northeast of the Third and Townsend corner of the Project Area.

Jackson Park Playground is bounded by 17th Street on the north, Arkansas Street on the east, Carolina Street on the west, and Mariposa Street on the south and is located about one-half mile southwest of the Project Area. Two other public parks near Mission Bay, South Beach Park at The Embarcadero near King Street and Agua Vista Park, on the waterfront on Terry A. Francois Boulevard north of Mariposa Street, are under the jurisdiction of the San Francisco Redevelopment Agency and Port of San Francisco, respectively.

The extent and duration of shadows cast by buildings developed in Mission Bay would depend on the actual design, bulk, height, lot placement, and coverage of each individual structure. A shadow analysis was performed to generally evaluate whether any new buildings in Mission Bay could potentially shade any public open space under the jurisdiction of the San Francisco Recreation and Park Department. Generalized building massing for each land use and the maximum proposed height zones were used to estimate the maximum shading potential. The analysis consisted of a range of shadow scenarios throughout the year. The analysis illustrates the range of shadow effects throughout the day, from one hour after sunrise to about one hour before sunset (the time periods covered by Section 295). The shortest shadows occur in June and the longest in December.[21]

Based on the shadow analysis performed for this Initial Study, Mission Bay buildings would not shade any open space areas under the jurisdiction of the San Francisco Recreation and Park Department at any time. Thus, there would be no significant shadow impacts resulting from the project.

Mission Bay buildings would not shade South Beach Park, an existing open space under SFRA jurisdiction. Agua Vista Park, a one-half-acre waterfront park on Terry A. Francois Boulevard south of Pier 64, under Port of San Francisco jurisdiction, would be shaded in late spring and early summer at approximately one hour before sunset. Mission Bay buildings would shade open space areas proposed within the Project Area. There are seven main open

21. The shadow study is available for public review at the Planning Department, 1660 Mission Street.

space areas proposed as part of the Mission Bay project. Figure 2 shows the location of the larger proposed open space areas. The largest open space areas would be near the waterfront of the Bay on the eastern boundary of the Project Area, along the south edge of China Basin Channel, and along the "Mission Bay Mall". The mall is a proposed pedestrian-oriented open space, flanked by roadways, that would extend from the Owens Street roundabout to Terry A. Francois Boulevard.

The longest shadows occur during December. On December 21st at 10 a.m., shadows could affect open space at the north and south sides of China Basin and open space on the mall area. During midday, shadows could affect the open space on the south side of the China Basin Channel, the Mission Bay Mall, and a small portion of the Channel. At approximately 3:45 p.m., about one hour before sunset, most of the mall open space area would be shaded and the "waterfall open space area" would be partially shaded.

In June, the shortest shadow periods occur. Potential shadow effects are limited to mid-morning to mid-afternoon periods. During this time period, shadows generally would not affect China Basin Channel, the Mission Bay Mall, or waterfront open space areas. However, during the late afternoon period at about 5 p.m., shadows could cover open space areas on the north side of China Basin Channel and part of the waterfront open space.

The shadow effects on open space areas within Mission Bay would not be considered significant since the open spaces are not within the jurisdiction of the San Francisco Recreation and Park Department. The Redevelopment Agency documents would require the study of shadow effects of new development on existing and proposed open space areas.

Shading of China Basin Channel would not significantly affect vegetation or wildlife in or near the Channel. Existing salt marsh vegetation is dormant during the winter when shading effects are greatest. Wildlife would not be expected to be affected by shading in the Channel.

Wind

In order to provide a comfortable wind environment for people in San Francisco, the City established specific comfort criteria to be used in the evaluation of proposed buildings in certain areas of the City. The City Planning Code specifically outlines these criteria for the Downtown Commercial (C-3) District and each of the Rincon Hill, Van Ness Avenue, and South of Market areas [Sections 148, 249.1(a)(3), 243(c)(8), 263.11(c)]. There are no specific wind comfort or wind hazard criteria in the City Planning Code that would apply to Mission Bay. The 1990 FEIR evaluated wind effects, and concluded that proposed buildings 100 feet or higher could generate pedestrian-level wind effects. The FEIR concluded that buildings up to 110 feet would not be expected to generate hazardous winds, defined in City Planning Code Section 148 as an hourly average of 26 mph for more than any single hour of the year.

Large structures can affect street-level wind conditions. Wind conditions partly determine pedestrian comfort on sidewalks and in other public areas. In developed areas, buildings typically about 100 feet or more in height can redirect wind flows around buildings and divert winds downward to street level, which can result in increased wind speed and turbulence at street level. However, possible increases in wind speed depends on the heights, configurations, and orientations of surrounding buildings and streets.

Prevailing winds in and near the downtown area, including Mission Bay, are from the northwest, west-northwest, west, and west-southwest. The extent and magnitude of wind effects of new buildings in Mission Bay would depend on the actual design, height, bulk and placement of each specific structure in relationship to adjacent buildings, streets and open space areas. Proposed height zones for the Mission Bay project range from 65 feet to 160 feet. The Design for Development proposes a 75% lot coverage limit above a 25-foot height, but does not require setbacks at that height. Since further building design characteristics have not yet been determined at this stage in project development, wind studies cannot be conducted for any building exceeding the 100 ft. level analyzed in the 1990 FEIR.

Mitigation Measures

The following mitigation measure is required to ensure that any potentially significant wind effects resulting from the project are identified, evaluated and mitigated. While the standards of City Planning Code Section 148 do not apply to the project, its standards provide an appropriate methodology and criterion for the analysis of wind effects.

As discussed in the 1990 FEIR, Mitigation Measure I.10, on p. VI.I.74, the developer shall be required to retain a qualified wind consultant to review specific designs for buildings 100 feet or more in height for potential wind effects. The evaluation would focus on the potential for generation of hazardous wind and would evaluate the need for windbreak features or further detailed wind-tunnel studies of the proposed structures. The results of this review would provide a basis for design modifications prior to construction to eliminate exceedances of the hazard criterion.

UCSF would also agree to prepare a wind analysis for buildings over 100 feet, and would incorporate design features as necessary to eliminate hazardous wind criteria exceedances.

		Yes	No	Discussed Below	To be Analyzed In SEIR
7.	Utilities/Public Services				
*a.	Breach published national, state or local standards relating to solid waste or litter control?	___	X	X	___
*b.	Extend a sewer trunk line with capacity to serve new development?	X	___	X	X
c.	Substantially increase demand for schools, recreation or other public facilities?	X	___	X	X

		Yes	No	Discussed Below	To be Analyzed In SEIR
d.	Require major expansion of power, water, or communications facilities?	X	___	X	X

* Derived from State EIR Guidelines, Appendix G, normally significant effect.

Overview

The 1990 FEIR analyzed community services and utilities, including fire protection, police protection, schools, recreation and parks, libraries, public health, water supply, sewers and wastewater treatment, solid waste, and streets. It was found that Alternatives A and B would result in the need for additional fire and police personnel, equipment, and building space; would require new schools; and would not meet demand created by residents and employees for open space.[22] In addition, measures were included to address public health, water supply, sewerage, and solid waste concerns, even though no significant impacts were expected in these areas.[23]

The currently proposed project has fewer planned dwelling units and more projected employees than were evaluated in the 1990 FEIR. The proposed project is closest in size to Alternative A, with about 6,000 planned dwelling units and about 30,000 projected employees for the proposed project, compared to 7,700 planned dwelling units and 25,000 projected employees for Alternative A.[24,25] Therefore, the proposed project would be

22. 1990 FEIR, Volume One, p. II.37.

23. 1990 FEIR, Volume One, p. II.41.

24. Preliminary estimates, Hausrath Economics Group, Draft Table, Proposed Project, July 16, 1997. UCSF employment estimate from *UCSF Long Range Development Plan Environmental Impact Report* (SCH No. 95123032), Impact 12N-2, p. 516.

25. 1990 FEIR, Volume One, pp. II.7, II.18.

expected to add to the demand for community services and utilities to a similar extent as estimated for Alternative A in the 1990 FEIR.

Since the 1990 FEIR, providers of various services have made changes in the way community services are provided and built or have changed facilities. These changes will be discussed where applicable in the SEIR. Also, aspects of the project that would accommodate the provision of community services and utilities will be analyzed. In addition, proposed infrastructure that is part of the project will be analyzed.

As discussed in the 1990 FEIR, development of the Mission Bay Project Area would add to demand for some community services and utilities, and may necessitate the construction of new facilities, the impact of which will be discussed in the applicable section of the SEIR. In other cases, impacts would be primarily social and economic, and therefore are not considered environmental impacts subject to the provisions of CEQA.[26]

Community Services and Utilities in SEIR

Community services and utilities that will be discussed in more detail in the SEIR, as their provision may result in environmental impacts, include fire protection, police protection, public health services, recreation and parks, schools, solid waste disposal, water supply, sewers and wastewater treatment, power supply, and telecommunications.

Fire and police protection will be discussed in the SEIR in terms of current resources, demand generated by the proposed project, and the resulting impact on each department's ability to provide services.

26. See Goleta Union School District v. The Regents of the University of California, 36 Cal. App. 4th 1121 (1995).

Public health services will be analyzed taking into account Department of Public Health reorganization that has occurred since the study was done for the 1990 FEIR. The current level of demand, impact of the proposed project, and facilities available to meet that demand will be discussed.

Recreation and parks will be discussed with respect to existing open space in the surrounding area, impact of the proposed project on the amount and type of open space available, and whether the proposed open space meets resident and employee demand for recreation and parks.

The existing capacity in nearby schools, demand generated by the proposed project, and subsequent impact on the San Francisco Unified School District will be analyzed in the SEIR. This analysis will be done taking into account changes in school enrollment and district enrollment projections, the impact of new laws limiting class size for Kindergarten through third grade on the District's ability to accommodate new students, and changes in the availability of surplus space in schools and classrooms for new students. A school site is proposed as part of the project.

Solid waste generation and disposal will be discussed in the SEIR. Projections for total solid waste generation will be analyzed for the proposed project. These demands will be compared to the 1990 FEIR's analysis taking into account the effects of San Francisco's Source Reduction and Recycling Element.

The SEIR will discuss water supply in terms of demand generated by the proposed project. Current and planned infrastructure for low-pressure, high-pressure, and reclaimed water systems will be described.

The impact of the proposed project on sewers and wastewater treatment capacity will be discussed in the SEIR. The proposed project includes two options for collection systems that would separate stormwater and sanitary sewer flows, which will be discussed. Average dry

weather flow and average wet weather flow will be examined. The potential for increases in system wet weather overflows due to the project will be discussed.

The Community Services and Utilities section of the SEIR will include an analysis of power supply for the proposed Project Area, including whether additional major gas distribution lines, electric transmission lines, a new substation, or major substation improvements would be needed to accommodate demand generated by the proposed project.

The SEIR will include a description of how telecommunications services would be provided to new development in Mission Bay and whether demand would necessitate any major new facilities, such as a switching station.

Mitigation measures will be included for any significant environmental impacts related to public services identified in the analysis.

Child Care

In the 1990 FEIR, child care was discussed for informational purposes only.[27] It was determined that there would be an increase in the need for child care services due to the projected increases in student and pre-school population combined with increasing numbers of working parents.[28] The 1990 FEIR discussed the San Francisco requirement in Section 314 of the City Planning Code, legislated as part of the adoption of the *Downtown Plan*, which requires the provision of child care facilities or payment of an in-lieu fee for office and hotel development projects in the C-3 Districts north of Mission Bay.[29] This is not applicable to the proposed project because such requirements do not apply in Redevelopment Areas. While there would be an increase in demand for child care services due to the

27. 1990 FEIR, Volume Two, p. VI.D.51a.

28. 1990 FEIR, Volume Two, p. VI.D.51a.

29. 1990 FEIR, Volume Two, p. VI.D.51a.

addition of new households, some of which would include families, this would not be considered an environmental impact subject to the provisions of CEQA, because the need for such services is a socioeconomic issue.[30]

Emergency Medical Service

In the 1990 FEIR, emergency medical service was described as part of Public Health Services, as it was provided by the San Francisco Department of Public Health. In 1997, emergency ambulance service was shifted to the San Francisco Fire Department. The Mission Bay Project Area remains in Zone 6 and would be served both by the paramedic ambulance at Fire Station 1 at Third and Howard Streets or Fire Station 17 at 1295 Shafter Avenue, and by Fire Department emergency medical technician firefighters from Station 8 at 36 Bluxome Street or Station 25 at Third Street and Cargo Way.[31] The City's ambulance fleet has increased from 14 to 26 vehicles since 1986, when information was obtained for the 1990 FEIR. Development in the Mission Bay area would increase the number of calls for ambulance service, as indicated in the 1990 FEIR. Service demand could increase the number of paramedics needed to provide for this additional development. As explained for Child Care Services, above, increased demand for ambulance service and the need to provide increased staffing for the Fire Department's ambulance fleet is a socioeconomic issue in that it would require the expenditure of additional City funds but would not require construction of additional physical facilities, and therefore would not be considered an environmental impact subject to CEQA review.

30. The State Court of Appeal decision published for San Franciscans for Reasonable Growth et al. v. City and County of San Francisco [209 Cal. App. 1502, 1516 (1989)] upheld the City's determination that child care issues are not a physical environmental impact that require analysis in CEQA documents.

31. Captain Russ McCallion, Section Chief, San Francisco Fire Department, Division of Emergency Medical Services, written communication to EIP Associates, August 8, 1997.

Libraries

The 1990 FEIR discussed impacts on library services in terms of demand generated by the various alternatives under consideration and available library resources to meet that demand. The nearest branch library to the proposed project site is the Potrero Branch Library. The 1990 FEIR determined that this branch along with the Main Library would be sufficient at that time to provide for any increase in demand generated by the project.[32]

The proposed project would generate less demand than Alternatives A and B discussed in the 1990 FEIR, due to fewer planned dwelling units. Also, at the time the 1990 FEIR was prepared, the San Francisco Library's plan was to consolidate neighborhood services into larger and fewer branches. There are now more library resources than in 1990 due to the passage of Proposition E in June 1994, and the completion of the new Main Library. Proposition E requires the City to maintain funding for the Library Department at a level no lower than that for the 1992-93 fiscal year, and to keep open a main library and 26 branch libraries for a minimum number of hours each week. Since demand from the proposed project would be less than that assessed for the earlier project, and since resources are greater now than anticipated in the 1990 FEIR, existing facilities would be sufficient to meet the demand of the proposed project. Therefore, the proposed project would not need additional library facilities, and libraries will not be analyzed further in the SEIR.

Streets and Street Maintenance

As discussed in the 1990 FEIR, development of the Mission Bay Project Area would include the construction of new streets and improvements to existing streets within the Project Area.[33] The average expected life-span of new streets to be constructed as part of the proposed project would be about 20 years after which rehabilitation (either resurfacing or full

32. 1990 FEIR, Volume Two, p. VI.D.92.

33. 1990 FEIR, Volume Two, pp. VI.D.112 - VI.D.113.

reconstruction) would be needed.[34] Construction and improvements would be completed in accordance with required standards applicable throughout the City. Once completed to standards acceptable to the City, public streets would be dedicated to the City, and the City would then become responsible for ongoing maintenance of the streets and street improvements, as is the case for most streets in the City.[35] Potential effects on services resulting from new streets and improvements to existing streets will not be discussed further in the SEIR.

The 1990 FEIR addresses the increased use of off-site streets surrounding the Project Area and the potential for increased, unusual, accelerated deterioration and associated maintenance.[36] In particular, truck traffic during construction is mentioned as a possible cause of increased need for street maintenance of off-site streets. The 1990 FEIR suggests analysis of these streets would be required to determine the need for street reconstruction in support of the project.[37] No mitigation measure was suggested, and no further analysis is needed. The issue of off-site street maintenance will not be discussed in the SEIR.

		Yes	No	Discussed Below	To be Analyzed In SEIR
8.	Biology				
*a.	Substantially affect a rare or endangered species of animal or plant, or the habitat of the species?	___	X	X	X

34. Fred W. DeJarlais, Vice President, KCA Engineers, Inc., telephone conversation, July 15, 1997.

35. Certain larger streets in the Project Area would include land dedicated to driveway access for parking and loading areas, to utility corridors, and to view corridors. These areas will be called "private streets" in the SEIR, and may include private landscaped or paved areas.

36. 1990 FEIR, Volume Two, p. VI.D.113.

37. 1990 FEIR, Volume Two, p. VI.D.113.

		Yes	No	Discussed Below	To be Analyzed In SEIR
*b.	Substantially diminish habitat for fish, wildlife or plants, or interfere substantially with the movement of any resident or migratory fish or wildlife species?	X	___	X	X
c.	Require removal of substantial numbers of mature, scenic trees?	___	X	___	___

* Derived from State EIR Guidelines, Appendix G, normally significant effect.

Historically, the land underlying the Mission Bay Project Area was a shallow, salt marsh-dominated, wide-mouthed embayment covering approximately 260 acres of San Francisco Bay. The present-day Channel, encompassing approximately 12 acres, is the last remnant of the original Mission Bay. It is an un-lined, degraded waterway approximately 200 feet wide and 3,400 feet long, with concrete rubber rip-rap and earthen banks. The Mission Bay Project Area includes approximately 6,200 linear feet of Channel edge.

Aquatic Habitats and Water-Dependent Wildlife

Aquatic habitats and associated wildlife in the China Basin Channel include open water habitat, supporting fish, and bottom muds, supporting benthic invertebrates. A narrow fringe of pickleweed (an indicator of northern salt marsh wetland habitat) occurs along the Channel. All of these habitats support waterbirds.

The water-dependent species (invertebrates, fish, birds, and marine mammals) present in the Channel are common to the margins of San Francisco and San Pablo Bays. They will be described in more detail (based on benthic sampling, fish trawling, and bird surveys performed in 1997) in the Vegetation and Wildlife Section of the SEIR. The SEIR analysis will focus on potential impacts on aquatic species and habitats. These impacts include loss of

wetland habitat (which will be quantified by square footage), increased human activity, and water quality effects.

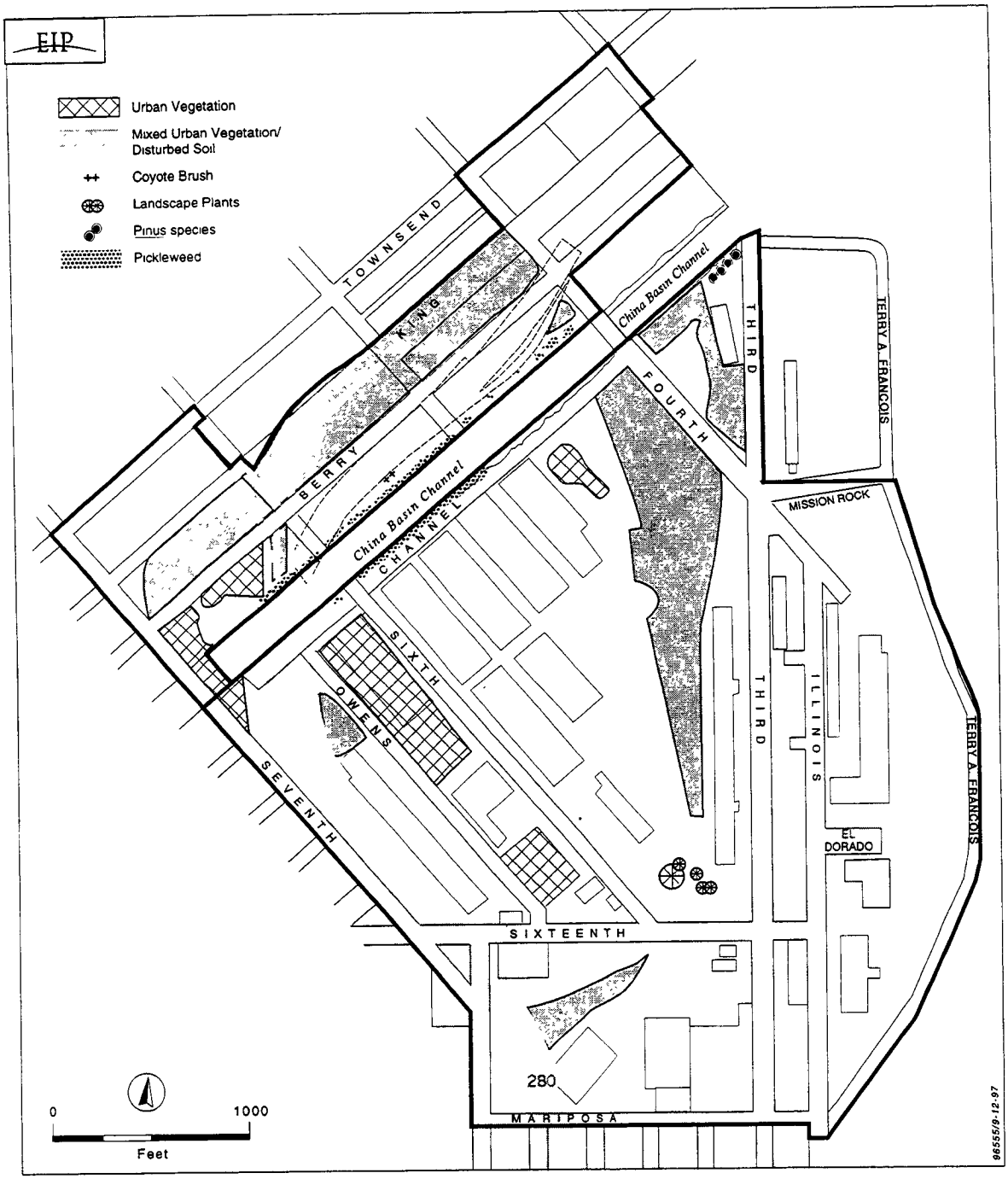
Mitigation measures will be included for any significant environmental impacts related to natural resources of China Basin Channel identified in the analysis.

Upland Vegetation

There is no native upland vegetation in the Project Area (see Figure 4). On the south shore near the middle reach of China Basin Channel, non-native iceplant (*Carpobrotus* sp.) is encroaching on the narrow strip of salt marsh vegetation which fringes the Channel. The upper Channel banks are vegetated with ruderal (weedy) non-native annual grasses and forbs, including slender wild oat (*Avena barbata*), sweet fennel (*Foeniculum vulgare*), bristly ox-tongue (*Picris echioides*), prickly lettuce (*Lactuca serriola*), and horseweed (*Conyza* sp.).

The upland or landward portion of Mission Bay North is heavily disturbed and supports virtually no vegetation. The ruderal vegetation occurring in Mission Bay North is similar to that observed in Mission Bay South. The upland portion of Mission Bay South is mostly disturbed and sparsely vegetated. Non-native upland annual grasses and forbs include slender wild oat, sweet fennel, bristly ox-tongue, horseweed and rough cat's-ear (*Hypochaeris radicata*). These ruderal species are commonly found in disturbed urban areas throughout the Bay Area.

Ornamental plantings occur along the Channel around the Channel Street Pump Station at the west end of the Channel, at the houseboat community on the south side of the Channel, and along the boardwalk of the China Basin Building between Third and Fourth Streets. None of these plantings includes mature heritage or specimen trees. Landscape trees occurring on the south portion of Mission Bay South include cypress (*Cupressus* sp.), pine (*Pinus* sp.), and acacia (*Acacia* sp.). In the vicinity of the Mission Creek Marina, Friends of the Urban



SOURCE: EIP Associates

MISSION BAY SEIR INITIAL STUDY

FIGURE 4 EXISTING HABITATS

Forest have planted trees, and a community garden has been established on the south bank of the Channel. No substantial numbers of mature, scenic trees occur in the Project Area.

No federal- or state-listed threatened, endangered, or rare plant species are known to occur in the proposed Project Area.[38,39] No sensitive plant species would be expected to occur because of its long history of disturbance and human occupation; none were observed on the Project Area in surveys conducted for the 1990 FEIR,[40] none were observed during field surveys conducted by EIP Associates, Inc. in June 1994 for the proposed UCSF LRDP-Mission Bay Site FEIR,[41] and none were observed during surveys conducted by EIP Associates over five days in June 1997 for this Initial Study.

There is no potentially significant vegetation in the upland areas of Mission Bay. This issue will not be discussed further in the SEIR.

Wildlife in Upland Areas

The urban nature of the Project Area and lack of terrestrial vegetation for food and cover severely limit the value of the upland portions of the Project Area to wildlife. Upland ruderal and ornamental vegetation in Mission Bay South provides limited low-quality foraging habitat for seed- and insect-eating land birds, small- to medium-sized rodents, and raptors, which may prey upon the rodents and smaller birds. Less than one-third (31%) of the bird species observed in the Mission Bay Project Area are primarily upland species. Non-native plants are of less forage value to native bird species because native species of

38. California Department of Fish and Game - Natural Diversity Data Base, Sacramento, California. Data for the San Francisco North quadrangle purchased March 18, 1997.

39. 1990 FEIR, Volume Two, pp. VI.M.1 - VI.M.3.

40. 1990 FEIR Volume Two, p. VI.M.1.

41. University of California, San Francisco, *UCSF Long Range Development Plan Environmental Impact Report*, SCH No. 95123032, January 1997.

animals are most efficiently adapted through evolution to utilize native plant species. The scarcity of trees and shrubs of substantial size in the Project Area limits perching and nesting sites for landbirds. During summer bird surveys conducted by EIP Associates in June 1997, three songbird nests were observed in landscape trees planted adjacent to the upper third of the south bank of the Channel, and a nest of a hooded oriole was observed in a palm tree on the north side of the Channel between Third and Fourth Streets.

Black-tailed jackrabbits were reported to occur on a portion of the South of Channel area in the early 1980's before the vegetative cover was removed. Numerous Norway rats (*Rattus norvegicus*) and black rats (*Rattus rattus*) were observed in rip-rap on the north and south banks of the Channel and in abandoned buildings during EIP surveys in June 1997.

No rare, threatened or endangered upland animal species would be expected to occur in such a highly urbanized and disturbed environment, with the possible exception of bats. Because bats may occupy abandoned buildings in urban settings, EIP biologists conducted a survey of abandoned or little-used buildings on the Mission Bay Project Area that would be demolished prior to development. The results of the surveys showed that no bats occur in the Project Area. The project would therefore have no adverse impacts on special-status upland wildlife species. No further discussion of this topic is necessary.

		Yes	No	Discussed Below	To be Analyzed In SEIR
9.	Geology/Topography				
*a.	Expose people or structures to major geologic hazards (slides, subsidence, erosion and liquefaction)?	X	___	X	X
b.	Change substantially the topography or any unique geologic or physical features of the site?	___	X	X	___

* Derived from State EIR Guidelines, Appendix G, normally significant effect.

Geology Overview

The Mission Bay Project Area is adjacent to San Francisco Bay and is separated into north and south portions by China Basin Channel. The area's geologic characteristics are described in the Geology & Seismicity section of the 1990 FEIR.[42] The 1990 FEIR addressed the issues of potential geologic hazards in the Mission Bay Project Area, and provided measures specifically formulated to reduce those hazards. Implementation of the mitigation measures has been superseded, for the most part, by the 1995 San Francisco Building Code and the 1997 Community Safety Element of the City's *General Plan*.[43] Hazards of seismicity and inundation by tsunami or seiche will be discussed in the SEIR. The nature of the geologic deposits, and the issues of topography and settlement are discussed below. Further discussion will not be needed in the SEIR. There are no known unique geologic features in the Project Area.

Tsunami and Seiche[44,45]

Although the Project Area is relatively close to sea level, historical records (including those from the 1906 earthquake) indicate little likelihood of inundation by tsunami or seiche.[46] Because portions of the proposed project area would be below the level of inundation predicted by the U.S. Army Corps of Engineers' computer models (7.7 feet above mean sea

42. 1990 FEIR, Volume One, Chapter II, and Volume Two, Chapter VI.K.

43. City and County of San Francisco, *Community Safety, An Element of the General Plan of the City and County of San Francisco*, adopted by Resolution 7241 of the San Francisco Planning Commission, September 12, 1994, 25 pages, 7 maps (various scales).

44. Tsunami: a sea wave produced by any large scale, short-duration disruption of the ocean floor, principally by a shallow submarine earthquake, but also by sumarine earth movement, subsidence, or volcanic eruption.

45. Seiche: a standing-wave oscillation of the surface of water in an enclosed or semi-enclosed basin (such as a lake, bay, or harbor) that is initiated by landslides, earthquakes, or other geologic phenomena, and continues after cessation of the originating force.

46. 1990 FEIR, Volume Two, p. VI.K.15.

level (-0.8 feet San Francisco City Datum) for the 100-year tsunami event)[47] and could include excavation for basements below the level of inundation, tsunami and seiche hazards and available techniques for reducing them will be discussed in the SEIR.

Seismic Hazards

The Mission Bay Project Area is subject to earthquake-induced hazards, such as groundshaking and liquefaction. The Project Area is in a Liquefaction Hazard Zone as defined by the State of California *Seismic Hazard Zones Map* for the City and County of San Francisco.[48] Consequently, San Francisco requires that all new development in the Project Area be preceded by special site-specific investigations to determine the type and degree of hazards present, the appropriate engineering designs to ameliorate the hazards, and the appropriateness of increasing the human population in a Liquefaction Hazard Zone.[49]

The 1990 FEIR addressed the issues of potential seismic hazards in the Mission Bay Project Area, and provided measures specifically formulated to reduce those hazards.[50] Although implementation of the mitigation measures has been superseded, for the most part, by the 1995 San Francisco Building Code and the 1997 Community Safety Element of the City's *General Plan*,[51] certain hazard reduction techniques applicable to the seismically induced

47. Garcia, A.W., and J. R. Houston, *Type 16 Flood Insurance Study: Tsunami Predictions for Monterey and San Francisco Bays and Puget Sound*, U.S. Army Corps of Engineers Technical Report H-75-17, Hydraulics Laboratory, U.S. Army Engineers Waterways Experiment Station, Vicksburg, Mississippi, November 1975, pp. 4-6, and Figure 56.

48. California Division of Mines and Geology, *State of California Seismic Hazard Zones Map, South Half of the San Francisco North and Part of the Oakland West Quadrangles*, March 1, 1997, scale 1:24,000.

49. City and County of San Francisco, *Community Safety, An Element of the General Plan of the City and County of San Francisco*, adopted by Resolution 7241 of the San Francisco Planning Commission, September 12, 1994, 25 pages, 7 maps (various scales).

50. 1990 FEIR, Volume Two, pp. VIII.3 - VIII.4.

51. City and County of San Francisco, *Community Safety, An Element of the General Plan of the City and County of San Francisco*, adopted by Resolution 7241 of the San Francisco Planning Commission, September 12, 1994, 25 pages, 7 maps (various scales).

groundshaking, liquefaction and settlement conditions in the Project Area are not specifically covered in the City's codes or policies. Because of the general concern for public safety in the Mission Bay Project Area, seismic hazards and available techniques for reducing them will be discussed in the SEIR.

Mitigation measures will be included for any significant environmental impacts identified in the analysis.

Topography

Filling, grading, and construction have created an area that has a nearly level to slightly undulating surface sloping very gently toward China Basin Channel, and is about 8 to 12 feet above mean sea level (0 to +4 feet San Francisco City Datum).[52] Proposed construction in the Project Area would cover most of the ground surface with new structures, paving, or landscaping. Between 1 and 1.5 feet of new fill would be added in low spots east of Third Street to ensure that ground elevations in the Project Area would be above the influence of groundwater, storm waves, and sea level rise, and to provide positive slopes for drainage and sewage systems. As much as 2.5 feet of new fill would be added for these purposes in the central area of Mission Bay South. The total amount of new fill would be about 300,000 cubic yards.[53] The additional fill would cause no substantial change in the essentially flat character of the area's topography. The use of minor amounts of fill for these purposes, as included in the currently proposed project, would serve the functions of the mitigation measure (L.15) added to the previous project by the 1990 FEIR.[54] This issue will not be analyzed further in the SEIR.

52. 1990 FEIR, Volume Two, p. VI.K.1. San Francisco City Datum is 8.66 feet above mean sea level datum.

53. Fred W. DeJarlais, Vice President, KCA Engineers, Inc., telephone conversation, August 28, 1997.

54. 1990 FEIR, Volume Two, p. VI.L.39.

Settlement Potential

The site contains artificial fill, most of it unengineered, placed in Mission Bay during the general filling of Bay-side areas in San Francisco between 1850 and about 1915. The fill is distributed irregularly across the site and, because of its diverse origins, is widely variable in its density, compaction, shrink-and-swell potential, and corrosivity characteristics. Geotechnical investigations in 1995 by Treadwell & Rollo, Inc. indicate the fill generally is between 10 and 20 feet thick in Mission Bay North, although there are notable exceptions. Near the corner of King and Seventh Streets the fill is 4 feet thick. Less than one block away, near the corner of Townsend and Sixth Streets, the fill is 30 feet thick. At the north end of the Lefty O'Doul Bridge it is 50 feet thick. In Mission Bay South, fill thickness ranges from less than 5 feet to more than 45 feet, being mostly between 10 and 20 feet. Along the south edge of China Basin Channel, the fill is as much as 46 feet thick. Near the center of the proposed UCSF site the fill is between 5 and 15 feet thick. The artificial fill is not suitable as foundation support for large or heavy structures because it is subject to settlement. The weight of a structure founded on the fill would cause compression or shifting of the fill, thus causing the structure to sink (settle), which, in turn, could damage the foundations, floor slabs, or frame of the structure.[55]

Below the fill is 2 to 152 feet of soft, compressible, water-saturated, silty clay known as Bay Mud.[56] Geotechnical investigations in 1995 by Treadwell & Rollo, Inc. indicate less than 10 feet of Bay Mud underlies the southern edge of Mission Bay South and the northern corner of Mission Bay North. The Bay Mud thickens to more than 100 feet toward the center of the

55. Treadwell & Rollo, Inc., Environmental and Geotechnical Consultants, Lori A. Simpson, P.E., and Frank L. Rollo, P.E., *Mission Bay, San Francisco, California*, Figure 2, "Thickness of Fill," prepared for Catellus Development Corporation, December 1995, T&R Project 1319.02, map scale 1 inch equals 200 feet.

56. Bay Mud is a layered sequence of soft, plastic, expansive sediments forming the bottom of San Francisco Bay, consisting of clay- and silt-sized particles interspersed with stringers and pockets of peat, fine sand, and minor amounts of gravel, and having a water content ranging between about 30 and 90 percent (commonly 50 to 60 percent in the uppermost 50 to 100 feet of the deposit).

Project Area. Exceptionally thick accumulations of more than 140 feet occur near China Basin Channel between Fifth and Sixth Streets. The Bay Mud is not suitable as foundation support for large or heavy structures for the same reason the overlying fill is not suitable. It is subject to settlement, and structures founded on it would cause compression or shifting of the Bay Mud, leading to settlement damage of the foundations, floor slabs, or frame of the structure.[57]

Below the Bay Mud is an irregular layer of sandy alluvium between 1 and about 30 feet thick, which is underlain by as much as 90 feet of Old Bay Clay, a stiff marine deposit that rests on the Franciscan bedrock (chert, shale, serpentine and sandstone) at depths ranging from less than 5 feet to more than 240 feet below mean sea level (about -13 to about -248 feet San Francisco City Datum).[58] The alluvium and the Old Bay Clay are suitable for foundation support. Although the sheared (i.e., fractured and broken) bedrock may not be stable during severe seismically-induced groundshaking, the massive (i.e., solid, unfractured) bedrock is very stable in static and dynamic conditions, and therefore is suitable as foundation support.[59]

The project engineers (KCA Engineers, Inc.) worked with geotechnical engineers (Treadwell & Rollo, Inc.) to evaluate soil and seismic conditions for use in the design of pile-supported foundations in the Project Area. Generally, piles between 30 and 60 feet long would be used in the southern third of Mission Bay South. Piles 100 to 140 feet long would be used in the

57. Treadwell & Rollo, Inc., Environmental and Geotechnical Consultants, Lori A. Simpson, P.E., and Frank L. Rollo, P.E., *Mission Bay, San Francisco, California*, Figure 3, "Thickness of Bay Mud," prepared for Catellus Development Corporation, December 1995, T&R Project 1319.02, map scale 1 inch equals 200 feet.

58. Treadwell & Rollo, Inc., Environmental and Geotechnical Consultants, Lori A. Simpson, P.E., and Frank L. Rollo, P.E., *Mission Bay, San Francisco, California*, Figure 4, "Elevation of Bottom of Bay Mud," and Figure 5, "Elevation of Top of Bedrock," prepared for Catellus Development Corporation, December 1995, T&R Project 1319.02, map scale 1 inch equals 200 feet.

59. Treadwell & Rollo, Inc., Environmental and Geotechnical Consultants, Lori A. Simpson, P.E., and Frank L. Rollo, P.E., *Proposed UCSF Site, Mission Bay, San Francisco, CA*, letter report to Kerstin Magary, Catellus Development Corporation, October 31, 1994, 2 pages accompanied by 38 figures.

central and western portions of Mission Bay South and the western half of Mission Bay North. Piles in excess of 140 feet long would be used in the northern half of Mission Bay South and the eastern half of Mission Bay North.[60] Various methods of reducing settlement hazards in areas not supported by piles would include soil compaction, chemical stabilization, and installation of drains, to be used as necessary if anticipated settlement rates or amounts appeared excessive.[61]

Mitigation Measures

Mitigation Measures K.2b and K4, pp. VI.K.47 - VI.K.48, respectively, from the 1990 FEIR would be included in the currently proposed project to reduce the effects of settlement to an insignificant level.

- Design flexible connections between pile-supported structures and unsupported sidewalks, driveways, patios, and paved parking areas. Paved areas would need special strengthening to withstand the stresses created between stationary buildings and settling soils.
- Install leveling jacks in the foundations of structures that do not have pile-supported foundations, or use other available methods to compensate for differential settlement, based on the recommendations of the geotechnical and civil engineers.

The above issues will not be analyzed further in the SEIR.

60. Treadwell & Rollo, Inc., Environmental and Geotechnical Consultants, Lori A. Simpson, P.E., letter to EIP Associates, March 3, 1997, 1 page accompanied by 6 figures.

61. Frank L. Rollo, P.E., Principal of Treadwell & Rollo, Inc., Environmental and Geotechnical Consultants, personal communication, "Soil Conditions and Geotechnical Issues, Mission Bay North" meeting, February 13, 1997.

		Yes	No	Discussed Below	To be Analyzed In SEIR
10.	Water				
*a.	Substantially degrade water quality, or contaminate a public water supply?	X	___	X	X
*b.	Substantially degrade or deplete ground water resources, or interfere substantially with ground water recharge?	___	X	X	___
*c.	Cause substantial flooding, erosion or siltation?	X	___	X	X

* Derived from State EIR Guidelines, Appendix G, normally significant effect.

Construction

Construction of Mission Bay North and Mission Bay South would have erosion impacts similar to those discussed in the 1990 FEIR.[62] As with the previous plan, erosion and sedimentation during construction for the current project could occur if soil were spread onto surrounding roads and walkways by construction activity and were washed into storm drains and sewers. Erosion and sedimentation could also occur during rainy weather from soil stockpiles or potential soil surcharges, which are piles of clean fill placed on certain areas in order to increase the speed of settlement resulting in denser underlying soils. Suspended solids concentrations could increase in the City's sewer system, China Basin Channel, and San Francisco Bay.

The City's Industrial Waste Ordinance, adopted in 1992, regulates the quality of water discharged into the sewer system and sets limits on the amount of pollutants, including

62. 1990 FEIR, Volume Two, pp. VI.L.13 - VI.L.15.

sediment, that can enter the system.[63] The ordinance also regulates the quality of dewatering discharge resulting from excavation and is further described below.

The transport of construction sedimentation into surface waters such as the Channel and Bay is regulated by federal and state storm water regulations. The 1990 FEIR described erosion control measures during construction.[64] Since certification of the 1990 FEIR, the U.S. Environmental Protection Agency has adopted regulations that require storm water discharges associated with construction activities involving ground disturbance of 5 acres or more to be regulated and covered by a National Pollutant Discharge Elimination System (NPDES) permit. If the area contributing storm water to China Basin Channel or the Bay totals 5 acres or more, then an NPDES permit would be needed for the project. The transport of construction sediment to surface waters will be further analyzed in the Hydrology and Water Quality section of the SEIR. Erosion of contaminated soil will be further discussed in the Contaminated Soils and Groundwater section of the SEIR.

Surface Runoff

The 1990 FEIR found that peak runoff under the three previously proposed alternatives would not significantly change from existing conditions.[65] Peak runoff under the currently proposed project also would not significantly change because the increase in impermeable surfaces (land coverage) under the current project is not substantially different from that considered in the 1990 FEIR.

The 1990 FEIR evaluated a project that proposed full capture and treatment, up to a five-year storm event, of storm water in the City's combined sanitary and storm water system. A

63. City and County of San Francisco, Department of Public Works, San Francisco Municipal Code, Pt. II, Ch. X (Public Works), Article 4.1, Industrial Waste Ordinance, adopted January 13, 1992.

64. 1990 FEIR, Volume Two, Measures L.1 and L.6, pp. VI.L.35 and VI.L.37.

65. 1990 FEIR, Volume Two, p. VI.L.15.

storm with five-year storm intensity on average occurs once every five years. The project proposes a combination of storm-drain-only, sewer-only, and combined sewer/storm drain systems. Sanitary sewage in the sewer-only and in the combined system would be treated at the City's Southeast Water Pollution Control Plant. Initial storm flows in the storm-drain-only system also would be conveyed to the treatment plant. Subsequent storm water flows in the storm drains would be directly discharged to the Bay or Channel. The Hydrology and Water Quality section of the SEIR will evaluate the impacts of discharging storm water directly to surface waters. Sewer capacity and wastewater treatment capacity issues will be analyzed in the Community Services and Utilities section of the SEIR.

Groundwater

Non-potable water users at Mission Bay would be served by the proposed City reclaimed water system, which would potentially use a blend of imported groundwater and recycled water. The reclaimed City water system is a new city utility being constructed to provide recycled water and groundwater to non-potable water users in the City, and will be discussed further in the Community Services and Utilities section of the SEIR.

The Planning Department analyzed the environmental effects of this use of groundwater in a separate environmental review document, *San Francisco Recycled Water Master Plan and Groundwater Master Plan Final Environmental Impact Report.*[66] The analysis found that 1) city-wide use of recycled water for irrigation and other uses would reduce the demand for groundwater currently used to meet these demands, mostly affecting the Golden Gate Park, Lake Merced, and Presidio areas; and 2) use of groundwater by the reclaimed water system would contribute to reducing the demand for groundwater pumping at those areas, and would not adversely affect groundwater resources or groundwater recharge. No other water quality impact for groundwater was found in the *San Francisco Recycled Water Master Plan and*

66. City and County of San Francisco, Planning Department, *San Francisco Recycled Water Master Plan and Groundwater Master Plan Final Environmental Impact Report*, SCH No. 940123049, certified August 7, 1997.

Groundwater Master Plan Final Environmental Impact Report. Except as described below, the SEIR will not further analyze effects to groundwater.

Therefore, the project also would not affect groundwater resources or groundwater recharge through its proposed use of reclaimed water. As discussed in the Hazards section of this Initial Study, a comprehensive investigation of the entire Project Area is being conducted to determine the current levels of soil and groundwater contamination within the Project Area. Effects of the project on groundwater quality will be evaluated in the Contaminated Soils and Groundwater section of the SEIR.

Groundwater may be encountered during excavation for utilities. If groundwater were encountered, then the construction area would require dewatering. Disposal of dewatering discharge may occur via the City's sewer, or via transport to an off-site disposal facility. The City categorizes disposal of dewatering discharge into its sewer system as a batch wastewater discharge that would require a permit for disposal into the City's sewer.[67] Disposal into the sewer system would require an application to be filed at least 45 days prior to the proposed commencement of the discharge. The City would require sampling and testing of the proposed discharge, which must satisfy the water quality limits specified by the City before the City allows the discharge to enter the sewer. Because of existing contamination in Mission Bay, the City would require testing for specific substances related to hazardous waste contamination. If the analysis revealed any contaminant to be over its regulatory concentration limit, pre-treatment of the dewatered groundwater would be required in order to meet the allowable concentration limit prior to discharge into the sewer system. If the limit could not be met through pre-treatment, the contaminated dewatered groundwater would have to be disposed off-site at an approved facility. Dewatering of groundwater will not be evaluated further in the SEIR.

67. City and County of San Francisco, Department of Public Works, Bureau of Environmental Regulation and Management, Requirements for Batch Wastewater Discharges, April 11, 1994.

Mitigation measures will be included for any significant environmental impacts related to water quality identified in the analysis.

Flooding

The 1990 FEIR concluded that structures or roadways placed at elevations at or below -2.0 ft. San Francisco Datum (SFD) could be subject to tidal flooding during the 100-year flood event.[68] Flooding would occur more frequently if sea levels were to rise. If sea levels were to rise, groundwater levels in localized areas at Mission Bay could rise about the same amount. Flooding issues for development in Mission Bay were adequately addressed in the 1990 FEIR and will not be further analyzed in the SEIR.

The 1990 FEIR reported that the San Francisco Bay Conservation and Development Commission (BCDC) projects a rise of about 5 inches in sea level at the Presidio by the year 2006 and about an 8-inch rise by 2036, and that the rate of rise could be further accelerated beyond that time. Since 1990, considerable research on global warming and potential sea level rise has taken place. This research supersedes the basis of the earlier BCDC analysis. A recent study performed by the U.S. Environmental Protection Agency (U.S. EPA) provides methodology to make a rough estimate of sea level rise.[69] According to U.S. EPA methods for estimating local sea level rise, an 8-inch rise at San Francisco would occur by about 2025. A rise in sea level would influence the groundwater level at Mission Bay.

Mitigation Measures

The property owners would minimize excavation by installing slabs at the current grade or above in most cases. Substantial amounts of fill would be brought in. Placing structures at grade or above would substantially reduce flooding hazard.

68. 1990 FEIR, Volume Two, p. VI.L.19 and Volume Four, p. XV.J.4.

69. Titus, James G.; Narayanan, Vijay K., U.S. Environmental Protection Agency, *The Probability of Sea Level Rise*, Washington, D.C., 1995.

The 1990 FEIR recommended design and site-planning mitigation measures that would avoid flooding of new development at Mission Bay if implemented.[70] Mitigation Measure L.15, pp. IV.L.39 - IV.L.40 has been revised to apply to the current project. The Redevelopment Agency documents shall require that detailed construction specifications to reduce the impacts of a sea-level rise shall be performed by a licensed engineer. Such measures may include: setback from the water's edge; installation of seawalls, dikes, and/or berms during construction of infrastructure; reducing the amount of excavation for utilities or basements; and use of topsoil to raise the level of public open spaces.

	Yes	No	Discussed Below	To be Analyzed In SEIR
11. Energy/Natural Resources[71]				
*a. Encourage activities which result in the use of large amounts of fuel, water, or energy, or use these in a wasteful manner?	X	___	X	___
b. Have a substantial effect on the potential use, extraction, or depletion of a natural resource?	___	X	___	___

* Derived from State EIR Guidelines, Appendix G, normally significant effect.

Pacific Gas and Electric Company (PG&E) is the main supplier of electricity and natural gas for Northern and Central California, and is the public utility supplying power and gas to San

70. 1990 FEIR, Volume Two, Mitigation Measure L.15, pp. IV.L.39 - VI.L.40.

71. Energy is the capacity for doing work and takes several forms. One form may be changed to another, such as burning natural gas to produce steam to drive a turbine which produces electricity. Most of the world's convertible energy comes from fossil fuels that are burned to produce heat. Energy is measured in terms of the work it is capable of doing. Electric energy is usually measured in kilowatt hours (kWh); natural gas in million cubic feet (MMcf). Both may be converted to units of British thermal units (Btu); 1 Btu is the quantity of heat necessary to raise the temperature of 1 pound of water 1 degree Fahrenheit. A kilowatt is a measure of power, or heat flow rate, and one kWh equals 3,413 Btu per hour.

Francisco. Adopted in 1996 and effective January 1, 1998, Assembly Bill 1890 (AB 1890) will restructure the electric industry into a competitive market with the intent of lowering electricity costs to consumers. While large consumers of electricity already have some choice in suppliers, AB 1890 will extend choice to all consumers, including residential consumers. Consumers will be allowed to purchase electricity from suppliers other than PG&E. Deregulation will not directly affect the overall energy supply for the state. The state of California does not currently experience an energy shortage, and supply is plentiful at present.

In response to AB 1890, PG&E is currently divesting several power plants. PG&E will continue to own transmission and distribution facilities along with some generation facilities, and will offer electric service to customers who request it. Impacts of the project on transmission capacity and infrastructure will be further discussed in the Community Services and Utilities section of the SEIR.

Operational Energy Consumption

Current energy consumption at Mission Bay is approximately the same as consumption in 1987. The Mission Bay Golf Center was constructed in December 1992. Little land use change has otherwise occurred that would cause a substantial change in the amount of energy consumed by Mission Bay since the 1990 FEIR. It also is assumed that there has been no large-scale replacement or upgrade of existing energy-using fixtures (e.g., machinery, appliances, heating, cooling, and lighting) with more energy-efficient ones. Therefore, current electricity use by commercial and industrial uses is about 11.6 million kilowatt-hours (kWh), or about 119 billion Btu, per year, and natural gas use is about 37 million cubic feet (MMcf), or about 41 billion Btu, per year, as calculated in the 1990 FEIR.[72] Over the last 10 years, overall electricity consumption in San Francisco has increased from 3.8 billion

72. 1990 FEIR, Volume Two, pp. VI.H.3 - VI.H.4.

kWh annually, and natural gas consumption has decreased from 35,000 MMcf.[73] Citywide electricity consumption for 1996 was about 5 billion kWh, and natural gas consumption was about 26,000 MMcf.[74]

Because existing land uses have not changed since 1987, transportation patterns also are assumed to be approximately the same between Mission Bay and outlying areas. Thus, transportation energy use is assumed to be similar to that calculated in the 1990 FEIR, about 420 billion Btu consumed annually to provide about 71 million passenger-miles of travel. With the decommissioning of older vehicles and the introduction of newer, more fuel-efficient, vehicles on the road during the past decade, present transportation energy use is probably slightly lower than estimated.

The project proposes a mix of land uses that are different from the alternatives evaluated in the 1990 FEIR. As shown in Table 2, the project would consume approximately 206 million kWh/yr of electricity, increasing present electricity use at Mission Bay by about 18 times. Electricity consumption at Mission Bay would be about 4% of existing citywide consumption. About 1,070 million cubic feet (MMcf) per year of natural gas would be consumed, increasing present natural gas use at the site by about 29 times. Natural gas consumption at Mission Bay would be about 4% of citywide consumption. Energy consumption by the project would be about 2,109 billion Btu/yr, similar to the energy consumption of 2,100 billion Btu/yr estimated in the 1990 FEIR for Alternative A.[75]

As discussed in the 1990 FEIR, buildings in Mission Bay would be required by law to comply with either the prescriptive or performance requirements of Title 24 Energy

73. 1990 FEIR, Volume Two, p. VI.H.4.

74. Andrea Gough, Associate Energy Specialist, California Energy Commission, memorandum to Rita Lee, EIP Associates, July 25, 1997.

75. 1990 FEIR, Volume Two, Table VI.H.2, p. VI.H.12.

TABLE 2
MISSION BAY PROJECT: ANNUAL OPERATIONAL ENERGY CONSUMPTION AT BUILD-OUT

Land Use	Building Floor Area (gsf)	Electricity Consumption Factor (kWh/gsf-yr) /a/	Natural Gas Consumption Factor (cu ft/gsf-yr) /a/	Annual Energy Consumption: Electricity (kWh)	Annual Energy Consumption: Natural Gas (MMcf)	Annual Energy Consumption: Total (Btu, millions)
Commercial Industrial	5,557,000	23.05	26.84	128,088,850	149	1,311,658
UCSF /b/	2,650,000	N/A	N/A	61,500	543	1,200
Neigh. Retail	257,000	8.51	5.08	2,187,070	1	22,395
City-serving Retail	805,000	48.03	23.62	38,664,150	19	395,902
Cmc./Enter.	445,000	38.97	114.5	17,341,650	51	177,615
Comm. Fac. /c/	170,537	8.1	29.08	1,381,353	5	14,149
Hotel, 500 rooms /d/	480,000	6.07	32.93	2,913,600	16	29,849
	[du]	[kWh/unit-yr] /e/	[cu ft/unit-yr] /e/			
Residential	6,090	2,500	47,000	15,225,000	286	156,189
TOTAL				**205,863,173**	**1,070**	**2,108,957**

Notes:
gsf = gross square feet
kWh = kilowatt hour
cu ft = cubic feet
MMcf = million cubic feet
Btu = British thermal units

a. Based on unpublished commercial model data from California Energy Commission July 1995 forecast. Information provided by Richard Rohrer, Assistant Chief Forecaster, California Energy Commission, July 17, 1997.
b. University of California San Francisco, *UCSF Long Range Development Plan Final Environmental Impact Report*, SCH No. 95123032, January 1997, p. 464.
c. For police, fire station, and school, assumes 75% coverage of site.
d. Assumes 800 sq. ft. per room, plus 20% additional floor area.
e. City and County of San Francisco, Department of City Planning, Mission Bay FEIR, 1990, Table XIV.H.5.

Source: EIP Associates

Conservation Standards.[76] Compliance with Title 24 would be enforced by the San Francisco Department of Building Inspection, through the building permit review process. Such compliance would mean that the project would adequately conserve energy and would not use energy in a wasteful manner.

Transportation energy consumption by the projects would amount to about 3,200 billion Btu/yr (see Table 3).[77] Most of the transportation energy consumption would be by automobiles with about 2,530 billion Btu consumed per year, equivalent to about 24 million gallons of gasoline. The California Energy Commission estimates that about 2,627 million gallons of gasoline and 534 million gallons of diesel would be used annually in the San Francisco region by the year 2010.[78]

Construction Energy Consumption

Construction of buildings and infrastructure would require both direct and indirect expenditures of energy. As discussed in the 1990 FEIR, indirect energy represents about three-quarters of total construction energy and includes the energy consumed in all of the industries that contributed to the production of the construction materials. Direct energy represents about one-quarter of total construction energy.[79] The total construction energy that would be consumed by the project is about 20,645 billion Btu, which would be approximately equivalent to 3.6 million barrels of crude oil (see Table 4).

76. 1990 FEIR, Volume Two, p. VI.H.20.

77. The energy calculations for transportation were based on preliminary trip generation data. The trip generation data in the Draft EIR show lower numbers of peak-hour and daily trips. Therefore, the transportation energy estimate in this Initial Study is a conservative one.

78. California Energy Commission, *1993 - 1994 California Transportation Energy Analysis Report, Technical Appendices, Draft*, February 1994, Table 2C-2, Transportation Energy Consumption by Region.

79. 1990 FEIR, Volume Two, p. VI.H.7.

TABLE 3
MISSION BAY PROJECT:
ANNUAL TRANSPORTATION ENERGY CONSUMPTION AT BUILD-OUT

Mode	Annual Miles Traveled	Energy Consumption Factor [Btu/mi] /a/	Btu, millions
Auto /b/	424,003,971	5,965	2,529,184
BART	71,514,217	2,400	171,634
AC Transit	14,348,800	3,200	45,916
Charter Bus	7,683,468	3,200	24,587
GG Transit Bus	17,892,143	3,200	57,255
Ferry	2,792,443	1,600	4,468
SamTrans	7,388,570	3,200	23,643
Caltrain	34,910,424	3,000	104,731
MUNI	34,331,319	2,900	99,561
MUNI Metro /c/	52,208,201	2,900	151,404
TOTAL			**3,212,383**

Notes:

a. Unless otherwise indicated, all consumption factors are from City and County of San Francisco, Department of City Planning, Mission Bay FEIR, 1990, Table XIV.H.16.

b. Consumption factor based on fuel efficiency factor (21.4 miles per gallon of gasoline and gasoline equivalent) as found in California Energy Commission, *1993 - 1994 California Energy Analysis Report*, Technical Appendices, Draft, February 1994, Table 2C-5, California Vehicle Fuel Efficiency. Converted fuel efficiency factor to Btu/mile using 127,650 Btu/gallon of gasoline.

c. MUNI Metro is probably a lower consumer of energy than MUNI trolleys and diesel buses, but no information is available from MUNI to estimate consumption per passenger mile (Bill Nielson, Principal Engineer, San Francisco Transportation Commission, MUNI Capital Projects Division, telephone conversation, July 22, 1997). Therefore, consumption is conservatively assumed to be same as for MUNI trolleys and diesel buses.

Source: EIP Associates.

TABLE 4
MISSION BAY PROJECT:
ESTIMATED TOTAL CONSTRUCTION ENERGY CONSUMPTION AT BUILD-OUT

Land Use	Floor Area of New Construction (gsf)	Construction Energy Consumption Factor (Btu/gsf) /a/	Construction Energy Consumption (Btu, millions)
Commercial Industrial	5,557,000	1,640,000	9,113,480
UCSF	2,650,000	1,640,000	4,346,000
Neigh. Retail	257,000	940,000	241,580
City-serving Retail	805,000	940,000	756,700
Cmc./Enter.	445,000	1,640,000	729,800
Comm. Fac. /b/	170,537	1,450,000	247,279
Residential /c/	7,308,000	650,000	4,750,200
	Street Length [ft]	[Btu/linear ft]	
Infrastructure /d/	64,300	7,160,000	460,388
TOTAL			**20,645,427**

Notes:
gsf = gross square feet
Btu = British thermal units
ft = feet

a. Based on construction factors used in 1990 FEIR, pp. XIV.H.2 - XIV.H.4.
b. For police, fire station, and school, assumes 75% coverage of site.
c. Assumes average of 1,200 gsf per dwelling unit.
d. Infrastructure includes streets, sewers, storm drains, water supply, electrical service, natural gas service, and telephone service. Infrastructure construction energy consumption is related to street length; street lengths measured from Catellus Development Corporation, Mission Bay Conceptual Framework for a Proposal for the Catellus Development Portion of the South of Channel Redevelopment Plan Area, Exhibit C, Infrastructure Plan, Exhibit 2, Street Surface Improvements; and from KCA Engineers, Inc., Mission Bay North of Channel Improvements, Drawing No. 97.0110, November 1, 1996.

Source: EIP Associates.

Energy consumption estimates for the proposed project are similar to those provided in the 1990 FEIR for Alternative A.[80] No significant impacts were shown as a result of information in the 1990 FEIR; a review of that information and updated calculations do not show new significant environmental effects from the proposed project. Therefore, the topic will not be discussed further in the SEIR.

		Yes	No	Discussed Below	To be Analyzed In SEIR
12.	Hazards				
*a.	Create a potential public health hazard or involve the use, production or disposal of materials which pose a hazard to people or animal or plant populations in the area affected?	X	___	X	X
*b.	Interfere with emergency response plans or emergency evacuation plans?	X	___	X	X
c.	Create a potentially substantial fire hazard?	X	___	X	X

* Derived from State EIR Guidelines, Appendix G, normally significant effect.

The proposed project would involve the use, production or disposal of materials that pose hazards to people or animal or plant populations. For purposes of analysis, these hazards can be divided between those related to existing conditions in the Project Area (e.g., soil and groundwater contamination and hazardous materials in existing buildings) and those related to new uses proposed as part of the project, such as campus uses, research and development, and light industry.

80. 1990 FEIR, Volume Two, Table VI.H.2, p. VI.H.12.

The Mission Bay Project Area contains certain known and potentially contaminated sites, as well as groundwater contamination. Contamination within the Project Area may be directly related to past uses. A detailed description of past uses in the area and potential soil and groundwater contamination issues associated with each use is contained in the 1990 FEIR on pp. VI.N.5 through VI.N.17; this information will be summarized and incorporated by reference in the SEIR.

Since the 1990 FEIR was certified, various site assessments have been conducted in areas of concern throughout the Project Area. More recently, a comprehensive investigation of the entire Project Area is being conducted to determine the current levels of soil and groundwater contamination within the Project Area.[81] The SEIR analysis will incorporate by reference and summarize new data and conclusions in order to assess the potential impacts to workers and new residents associated with the proposed project. In addition, the SEIR will discuss possible remediation procedures and mitigation measures and will discuss the applicability of the City's Hazardous Waste in the Soils Ordinance, known as the "Maher Ordinance" (Article 20, Public Works Code).

The SEIR will also contain an analysis of other types of hazardous materials contamination that could exist within the Mission Bay Project Area due to the age and historic use of buildings. These structures could contain asbestos and/or lead-based paints. Old fluorescent light fixtures, transformers, or capacitors, which could contain polycholorinated biphenyl (PCB) oils could also still be present on the site. The potential presence of these types of hazardous materials will be investigated and potential adverse impacts will be determined. Appropriate mitigation measures and/or remediation recommendations will be presented.

The SEIR analysis will include a discussion of regulatory review and compliance requirements that are applicable to the proposed project.

81. Val F. Siebal, Chair, Site Designation Committee, California Environmental Protection Agency, letter and attached Resolution No. 97-10, July 15, 1997.

Regarding potential hazards related to new uses proposed under the project, such as campus uses, research and development, and light industry, these uses would likely involve the use, storage, and disposal of hazardous materials. Therefore, the SEIR will assess the possible resulting environmental impacts of these activities. In particular, the SEIR will discuss potential impacts pertaining to hazardous chemicals, radioactive materials, and biological agents at the project site. The analysis will consider potential hazards to workers and the public, and evaluate both routine operating scenarios and possible upsets (i.e., accidents). The analysis will also address hazards related to transporting hazardous materials through the Project Area. In addition, the SEIR will discuss the impact of increased hazardous waste generation (including radioactive and medical waste generation) as a result of increased development. To provide a thorough context for the analysis, the SEIR will also discuss impacts related to the use, storage, and disposal of hazardous materials by new households and typical commercial enterprises. Wastewater disposal into the City's sewer and storm water system from research facilities proposed along the western and southern boundaries of the Project Area and from UCSF would be subject to the City's Industrial Waste Ordinance (see discussion of the Ordinance in Section IV.B.10, Water, above). This issue will not be discussed further in the SEIR.

Project development could result in the need for additional emergency response planning. The SEIR will evaluate potential conflicts with existing emergency response plans or emergency evacuation plans, including the Community Safety Element of the *San Francisco General Plan* and the City's Emergency Operations Plan. Further, the SEIR will evaluate the adequacy of existing emergency response services, including the ability to respond to hazardous materials emergencies.

In most cases, the project would not substantially increase fire hazards in the Project Area because new development would conform to the life safety provisions of the San Francisco Building Code and Title 24 of the California Code of Regulations. The projects could also replace some older buildings constructed before these codes were enacted. Therefore, routine fire safety will not be discussed further in the SEIR. Nevertheless, some of the

proposed research and development and light industrial uses would pose special hazards related to the use of hazardous materials (e.g., fires or releases), and the SEIR will assess these hazards and identify measures to reduce them, if necessary.

Mitigation measures will be included for any significant environmental impacts related to hazardous materials and hazardous wastes identified in the analysis.

		Yes	No	Discussed Below	To be Analyzed In SEIR
13.	Cultural				
*a.	Disrupt or adversely affect a prehistoric or historic archaeological site or a property of historic or cultural significance to a community or ethnic or social group; or a paleontological site except as a part of a scientific study?	X	___	X	___
b.	Conflict with established recreational, educational, religious or scientific uses of the area?	___	X	___	___
c.	Conflict with the preservation of buildings subject to the provisions of Article 10 or Article 11 of the City Planning Code?	X	___	X	___

* Derived from State EIR Guidelines, Appendix G, normally significant effect.

As discussed in the 1990 FEIR,[82] and incorporated by reference into this Initial Study, archival research regarding Mission Bay identified areas of potential prehistoric and historic subsurface archaeological resources. The 1990 FEIR analysis was based upon *Cultural*

82. 1990 FEIR, Volume II, pp. VI.J.1 to VI.J.29.

Resources Evaluation for the Mission Bay Project, San Francisco, California, David Chavez & Associates, 1987. Although one portion of the current Mission Bay Project Area was not within the boundaries of the 1990 FEIR alternatives, namely the Castle Metals site[83], the 1990 FEIR analysis did evaluate cultural resources beneath the Castle Metals site.[84]

The 1990 FEIR found that the potential for prehistoric, Native American sites was low, as there are no known sites, but could not be entirely discounted. In addition, the potential for historic resources reflects nineteenth century and early twentieth century land use of Mission Bay for industrial purposes and as a City dump. The 1990 FEIR concluded that development under the Mission Bay Plan could disturb potentially significant prehistoric and historic resources, and identified mitigation measures to reduce or avoid impacts on cultural resources.

A recent (1997) review of archaeological resources information by David Chavez & Associates confirmed information in the 1990 FEIR, and did not identify any new information that would alter the discussions or conclusions in the 1987 Chavez report.[85]

The 1990 FEIR identified areas within Mission Bay of subsurface prehistoric and historic archaeological resources, seven specific areas of historical resource potential, and three historic structures potentially eligible for the National Register of Historic Places (the Lefty O'Doul Bridge crossing China Basin Channel at Third Street, the Peter Maloney Bridge at Fourth Street, and the closed Station 30 Firehouse at Third Street near Mission Rock Street).[86]

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83. The Project Area consists of Catellus-owned land and three other sites under private ownership, the Castle Metals site, the Esprit site, and the Third Street site.

84. 1990 FEIR, Volume II, p. VI.J.17 (Figure VI.J.1).

85. David Chavez & Associates, *Archaeological Resources Review for the Mission Bay Project Subsequent EIR, San Francisco, California*, August 18, 1997.

86. 1990 FEIR, Volume Two, Figure VI.J.1, p. VI.J.17, and pp. VI.J.14 - VI.J.18.

Closed Fire Station 30 may be eligible for the National Register of Historic Places. The project includes the development of police and fire facilities on about 3 acres of land, including the site of Fire Station 30. The potential demolition of Fire Station 30 will be discussed in the SEIR.

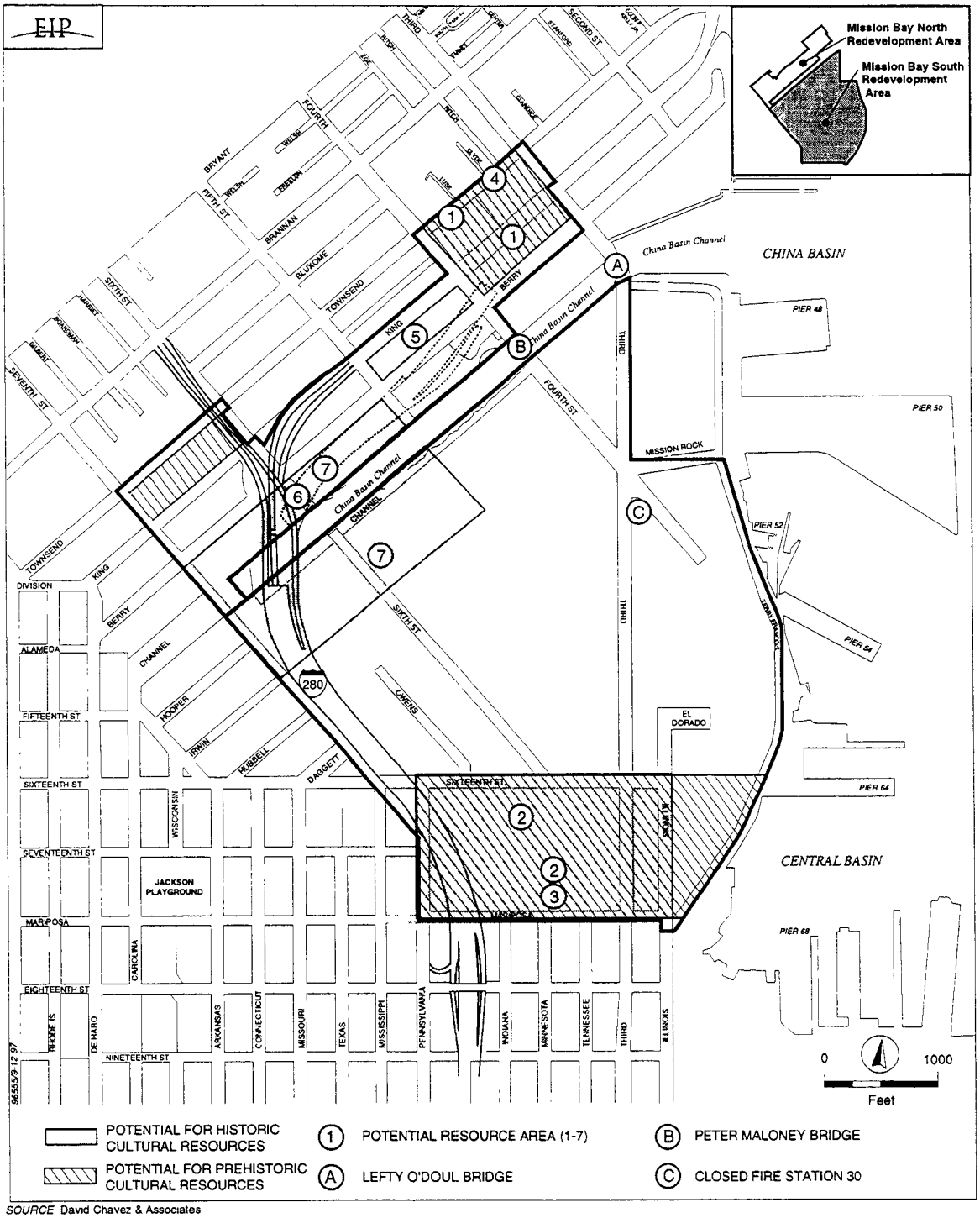
The FEIR also identified the basalt pavement blocks found on parts of King Street between Third and Seventh Streets, and on Sixth Street near King, as of local interest but not eligible for the National Register. The basalt block paving has been removed as a result of rebuilding of King Street for the MUNI Metro light rail extension and new I-280 on- and off-ramps. Other than these basalt blocks, the cultural resource potential at Mission Bay is as described in the 1990 FEIR. Figure 5 in this Initial Study illustrates cultural resources potential in Mission Bay as of 1997. Table 5 lists the potentially significant historic archaeological deposits, potential resource areas, identified in Figure 5.

Development under the proposed Mission Bay Redevelopment Plans could disturb potential subsurface archaeological resources. The project would include the following mitigation measures to avoid significant adverse effects on cultural resources. These measures update the mitigation identified in the 1990 FEIR.

Mitigation Measures

Prehistoric Archaeological Resources

The entire Mission Bay Project Area has at least some sensitivity for the presence of unknown archaeological remains. Prehistoric cultural deposits could be encountered in three identified areas and unknown historical features, artifact caches, and debris areas could be located anywhere in the Project Area. Excavation crews would be instructed, the Agency and/or the City (the Environmental Review Officer (ERO) and President of the Landmarks Preservation Advisory Board (LPAB)) would be notified, and recovery measures would be developed, as described below.



SOURCE David Chavez & Associates

MISSION BAY SEIR INITIAL STUDY

FIGURE 5 CULTURAL RESOURCES

TABLE 5
POTENTIALLY SIGNIFICANT HISTORICAL ARCHAEOLOGICAL DEPOSITS

1. Steamboat Point, a shipbuilding area of the 1850s and early 1860s. Steamboat Point was located in the two blocks bounded by Third, Fourth, Townsend and Berry Streets.

2. Point San Quentin/Point Potrero, another early shipbuilding area, occupied beginning in the early 1860s, defined by 16th Street, Illinois Street, Mariposa Street and Pennsylvania Avenue. This area includes the 1860s to 1880s shipbuilding yards of P.H. Tiernan and the Dickie Brothers at Third and Mariposa Streets.

3. The east side of Minnesota Street between Mariposa and 17th Streets -- the location of the Pacific Glass Works (1863 to 1876).

4. The south side of Townsend Street between Third and Fourth Streets -- the original site of San Francisco Glass Works (1865 to 1870).

5. The block bounded by King, Berry, Fourth, and Fifth Streets -- the second location of the San Francisco Glass Works (1870 to 1886).

6. The south side of Berry Street between Fifth and Seventh Streets -- the area of shipbuilding yards of Alexander Hay and Boole and Beaton (1880s).

7. The area bordered by Berry, Fifth and Seventh Streets, south to where a line extended from Irwin Street would meet Fifth Street -- the City dump from the 1870s to the early 1890s.

Source: 1990 FEIR, p. VI.J.18.

Mitigation Measure J.7, p. VI.J.27 of the 1990 FEIR, requires that in the event that prehistoric archaeological deposits are discovered, the developer must consult with the California Native American Heritage Commission and obtain a list of appropriate local Native American contacts; dialogue with the Agency and/or the City and the archaeological consultant would take place to develop acceptable archaeological testing and excavation procedures, particularly in regard to the disposition of cultural materials and Native American burial remains.

Historic Archaeological Resources

With the exception of some limited archaeological testing in the past, very little is known about the actual areal extent, specific nature and location of historic features and artifact caches, and depositional integrity of potential historic archaeological deposits. Specific information of that nature is important in determining the significance of archaeological resources and in developing appropriate mitigation plans. Pre-construction archaeological testing and construction monitoring would be appropriate for six of the seven identified historic resource areas (see Figure 5); archaeological monitoring during construction only, rather than pre-construction testing, would be appropriate for the seventh area, the location of the nineteenth-century City dump.

Mitigation Measure J.1, pp. VI.J.22 - VI.J.24, of the 1990 FEIR has been included in the current SEIR project. The following procedures shall be used for the six areas:

A) Retain the services of a qualified archaeologist, because of the strong possibility of encountering the remains of cultural or historic artifacts or features in the six historic resources areas. The archaeologist shall consult with the Agency and/or the City and shall determine prior to commencement of development activities: 1) whether the archaeologist should instruct all excavation and foundation crews on the project site of the potential for discovery of historic archaeological deposits and artifacts, and the procedures to be followed if such materials are uncovered; and 2) whether a program of archaeological testing prior to the commencement of foundation excavation is required. *Any archaeological testing plan or program shall be prepared to include consideration of the program developed to manage hazardous wastes in soil in the project area.* (Updated language in italics.) As described in Mitigation Measure J.2, p. VI.J.24, the testing program could include the following procedures:

1) Define specific research parameters and prepare a written study plan prior to subsurface exploration, with emphasis on National Register determination of historical significance and the maximum retrieval of archaeological data.

2) Examine large-scale exposure of soil profiles.

3) Complete detailed field records, including photographs and drawings, to document subsurface soil profiles, archaeological deposits and integrity of such deposits.

4) Complete a detailed report of findings to describe research and exploration methodologies, testing results, all archaeological finds and recommendations for resource management.

B) Retain a qualified historical archaeologist to supervise a pre-foundation excavation testing program in identified historic resource areas for each phase of Project Area development or each construction site, as appropriate, using a series of mechanical, exploratory boring and/or backhoe trenches or other testing methods determined by the archaeologist to be appropriate. A qualified historical archaeologist would supervise the testing at the site to determine the probability of finding significant cultural and historical remains. At the completion of the archaeological testing program, the archaeologist would submit a written report first and directly to the Agency and/or the City, with a copy to the project sponsor, which describes the findings, assesses their potential significance and proposes appropriate recommendations for any additional procedures necessary for the mitigation of adverse impacts to cultural resources determined to meet significance criteria. *Additional procedures could include excavation and retrieval of significant archaeological resources and photographic documentation prior to project construction, and archival research and report preparation after in situ retrieval and photography is complete.* (Updated language in italics.)

C) Retain an archaeologist to supervise a program of on-site monitoring during site excavation in the identified historic resource areas, following site clearance and pre-excavation testing. The archaeologist would record observations in a permanent log. Should cultural or historic artifacts be found following commencement of excavation activities, the archaeologist would assess the significance of the find, and immediately report to the Agency and/or the City. Upon receiving the advice of the consultants, the Agency and/or the City would recommend specific mitigation measures, if necessary. The monitoring program, whether or not there are finds of significance, would result in a written report to be submitted first and directly to the Agency and/or the City, with a copy to the project sponsor.

D) Should important artifacts be found during excavation, suspend excavation or construction activities which might damage discovered cultural resources for a total maximum of four weeks over the course of construction at each site to permit inspection, recommendations and retrieval, if appropriate.

E) Implement an appropriate security program to prevent looting or destruction, if cultural resources of potential significance are discovered. Any recovered cultural artifact assessed as significant by the archaeologist upon concurrence by the Agency and/or the City would be placed in a repository designated for such materials or possibly exhibited in a public display. Following approval of the archaeological testing and monitoring program reports by the Agency and/or the City, a final report would be sent to the Foundation for San Francisco's Architectural Heritage and the State Office of Historic Preservation.

Regarding the late-nineteenth-century City dump site, archival review suggests that depositional integrity has been lost because of scavenging while the dump was in operation; however, important historical artifacts may still be present. In addition, while the Project Area other than the seven areas discussed above are considered to have low potential for cultural resources, and pre-construction archaeological testing is not required, evidence of

resources could be found during ground disturbance at the site. If this were to occur, the following Mitigation Measure J.3, p. VI.J.25, would be implemented:

A) Should evidence of archaeological resources of potential significance be found during ground disturbance, the Project Sponsor shall immediately notify the Agency and/or the City and shall suspend any excavation which the Agency and/or the City determines could damage such archaeological resources. Excavation or construction activities which might damage discovered cultural resources shall be suspended for a total maximum of four weeks over the course of construction.

B) After notifying the Agency and/or the City, the Project Sponsor shall select an archaeologist to assist the Agency and/or the City in determining the significance of the find. The archaeologist shall prepare a draft report containing an assessment of the potential significance of the find and recommendations for what measures should be implemented to minimize potential effects on archaeological resources. Based on this report, the Agency and/or the City shall recommend specific additional mitigation measures to be implemented by the Project Sponsor.

C) Mitigation measures might include a site security program, additional on-site investigations by the archaeologist, and/or documentation, preservation, and recovery of cultural materials. Finally, the archaeologist shall prepare a draft report documenting the cultural resources that were discovered, and evaluation as to their significance, and a description as to how any archaeological testing, exploration and/or recovery program was conducted.

D) Copies of all draft reports prepared according to this mitigation measure shall be sent first and directly to the Agency and/or the City for review. Following approval by the Agency and/or the City, copies of the final reports(s) shall be sent by the archaeologist directly to the California Archaeological Site Survey Northwest Information Center. Three copies of the final archaeology report(s) shall be submitted to the Agency and/or

the City, accompanied by copies of the transmittals documenting its distribution to the California Archaeological Site Survey Northwest Information Center.

Prehistoric and historic archaeological resources will not be further discussed in the SEIR.

	Yes	No	Discussed Below	To be Analyzed In SEIR
C. OTHER				
Require approval of permits from City Departments other than Department of City Planning or Bureau of Building Inspection or from Regional, State or Federal Agencies?	X	___	X	X

Permits and approvals to be discussed in the SEIR include, but are not limited to, the following:

- Planning Commission and Redevelopment Agency Commission, jointly: Certification of the Final SEIR.
- Planning Commission: Adoption of General Plan amendments; approval of rescission of Article 9 of the City Planning Code; determination of General Plan consistency of Redevelopment Plans; endorsement of Designs for Development.
- Redevelopment Agency Commission: Adoption of the Redevelopment Plans and Designs for Development.
- Board of Supervisors: Approval of CEQA findings, Mitigation Monitoring Plan, and adoption of Redevelopment Plan; adoption of rescission of Article 9 of the City Planning Code; approval of General Plan amendments; approval of street vacations.
- Port Commission: *Waterfront Land Use Plan* amendments and findings; street vacations.
- Department of Public Works: Approval of parcel and condominium maps.

- Department of Public Health (DPH): Food and beverage permits for specific businesses within Mission Bay; administration of requirements for Hazardous Materials Business Plans; review of Article 20 Site Mitigation Plans.
- Bay Conservation and Development Commission: Review of compliance with requirements set forth in the *San Francisco Bay Plan* and *San Francisco Waterfront Special Area Plan*; permits for work within the Bay and the 100 ft. shoreline band such as promontories or rip-rap along the Channel.
- Bay Area Quality Management District (BAAQMD): Permits for specific uses or tenants locating in the Project Area, such as industrial and research and development facilities that would cause pollutant emissions.
- Regional Water Quality Control Board (RWQCB): Approval of Risk Management Plans and issuance of final site clearance for specific development sites; National Pollutant Discharge Elimination System permit for storm water discharges, if project includes separated sewers, and untreated outfall of stormwater sewage to the Channel or the Bay.
- State Public Utilities Commission: Approval of changes to existing rail crossings and new rail crossings.
- Agencies with jurisdiction over alterations to the Channel include the Department of Fish and Game, the U.S. Army Corps of Engineers, and the U.S. Coast Guard.
- Agencies with potential permitting and/or oversight authority with regard to hazardous materials include: California Division of Occupational Safety and Health Administration (Cal-OSHA) and the federal Occupational Safety and Health Administration, California Environmental Protection Agency, Department of Toxic Substances Control (DTSC), DPH, RWQCB, BAAQMD, the U.S. Department of Transportation, the California Highway Patrol and the California Department of Transportation.

		Yes	No	Discussed Below	To be Analyzed In SEIR
D.	MITIGATION MEASURES				
1.	Could the project have significant effects if mitigation measures are not included in the project?	X	___	X	X
2.	Are all mitigation measures necessary to eliminate significant effects included in the project?	___	X	___	X

Table 6 summarizes mitigation measures from the 1990 FEIR related to topics determined to require no further analysis in the SEIR. The SEIR will contain a mitigation chapter that will incorporate the measures and also include other measures that would be, or could be, adopted to reduce potential significant adverse effects of the project as identified in the SEIR. Some of these measures are updated to conform with current City practice. Any revisions to previously proposed mitigation measures are shown in italics. In accord with CEQA Section 15150(a), the mitigation measures from the 1990 FEIR are incorporated by reference; thus, a summary of each measure as well as a page reference to the 1990 FEIR is provided.

Table 7 summarizes additional mitigation measures related to topics determined to require no further analysis in the SEIR. These measures are included in the 1990 FEIR, however they are not proposed for inclusion in the SEIR. These measures are of three types: measures that provide a means of complying with existing regulations or that have since been incorporated into existing regulations; measures that address less-than-significant effects (such measures are now referred to as "improvement measures" by the City); and measures that are otherwise not applicable to the current SEIR project.

TABLE 6
1990 FEIR MEASURES INCLUDED IN THE CURRENT SEIR PROJECT

SUMMARIES OF 1990 MISSION BAY FEIR MITIGATION MEASURES RELATED TO TOPICS TO BE FOCUSED OUT OF THE SUBSEQUENT EIR UPDATED LANGUAGE IS SHOWN IN ITALICS		Measure to Mitigate Potentially Significant Impact	Improvement Measure to Reduce Less-Than-Significant Impact	Measure Included as Part of the SEIR Project	Not Applicable to SEIR Project
I.10	Require review of designs for large buildings by a qualified wind consultant and to the extent feasible reduce wind speed and turbulence to facilitate public use of adjacent spaces. (p. VI.I.75) *The Redevelopment Agency would require developers of high-rise structures above 100 ft. to conduct a microclimate analysis, including wind-tunnel studies, to determine design-specific impacts on hazard criteria and to provide a basis for design modifications to mitigate these impacts. Projects within Mission Bay, including UCSF, would be required to meet this standard or to mitigate exceedances through building design.*	X		X	
J.1	Retain the services of an archaeologist to instruct construction crews regarding potential historic archaeological resources and appropriate procedures to follow if they are uncovered, establish preconstruction testing programs and recommend any further mitigation measures required and supervise on-site monitoring during excavation in the six historic resource areas. (p. VI.J.22)	X		X	
J.2	Develop archaeological exploration programs for pre-identified sensitive historic archaeological areas. (p. VI.J.23)	X		X	
J.3	Retain the services of an archaeologist to provide archaeological monitoring during construction in the area occupied by the late 19th- century city dump. (p. VI.J.25)	X		X	
J.7	In the event that prehistoric archaeological deposits are discovered, consult local Native American organizations regarding acceptable testing and excavation procedures. (p. VI.J.27)	X		X	

(continued)

TABLE 6 (cont.)
1990 FEIR MEASURES INCLUDED IN THE CURRENT SEIR PROJECT

SUMMARIES OF 1990 MISSION BAY FEIR MITIGATION MEASURES RELATED TO TOPICS TO BE FOCUSED OUT OF THE SUBSEQUENT EIR UPDATED LANGUAGE IS SHOWN IN ITALICS		Measure to Mitigate Potentially Significant Impact	Improvement Measure to Reduce Less-Than-Significant Impact	Measure Included as Part of the SEIR Project	Not Applicable to SEIR Project
K.2b	Design connections between pile-supported structures and unsupported sidewalks and driveways to reduce the likelihood of separation due to settlement. (p. VI.K.47)	X		X	
K.4	If shallow foundations are used for any buildings, install leveling jacks as part of the foundations or use other available methods to compensate for differential settlement, where feasible. (p. VI.K.47)	X		X	
K.7	As required by City guidelines, design surface drainage systems, storm drains, and sewers to accommodate future settlement. (p. VI.K.49)	X		X	
K.8	Test soils for sulfate and chloride content. If necessary, use admixtures in concrete and/or coated metal pipes to resist corrosion. (p. VI.K.49)	X		X	
L.15	Protect low-lying areas from a potential rise in sea level. *Detailed construction specifications to mitigate against impacts of a sea-level rise would require specific flood protection engineering and building analysis by a licensed engineer. (p. VI.L.39)*	X		X	

TABLE 7
1990 FEIR MEASURES NOT PROPOSED FOR THE CURRENT SEIR PROJECT

SUMMARIES OF 1990 MISSION BAY FEIR MITIGATION MEASURES RELATED TO TOPICS TO BE FOCUSED OUT OF THE SUBSEQUENT EIR UPDATED LANGUAGE IS SHOWN IN ITALICS		Measure Addressed by or Incorporated in Existing Regulations	Improvement Measure to Reduce Less-Than-Significant Impact	Measure Included as Part of the SEIR Project	Not Applicable to SEIR Project	Comments
G.1	Comply with the construction-related provisions of the San Francisco Noise Ordinance. Construct noise barriers around construction sites and provide noise shielding for stationary construction equipment, such as compressors. (p. VI.G.30)	X				Means of complying with the San Francisco Noise Ordinance (Article 29, San Francisco Police Code.)
G.2	Implement appropriate measures to reduce pile-driving noise, as determined by the City in consultation with the construction engineers. (p. VI.G.31)	X				Regulated by section 2907(c) of the San Francisco Noise Ordinance.
H.1	Where feasible replace energy-intensive materials and construction methods with less-intensive ones. (p. VI.H.21)		X			Measures to increase energy efficiency beyond that required by law.

(continued)

TABLE 7 (cont.)
1990 FEIR MEASURES NOT PROPOSED FOR THE CURRENT SEIR PROJECT

SUMMARIES OF 1990 MISSION BAY FEIR MITIGATION MEASURES RELATED TO TOPICS TO BE FOCUSED OUT OF THE SUBSEQUENT EIR UPDATED LANGUAGE IS SHOWN IN ITALICS		Measure Addressed by or Incorporated in Existing Regulations	Improvement Measure to Reduce Less-Than-Significant Impact	Measure Included as Part of the SEIR Project	Not Applicable to SEIR Project	Comments
H.2, a-n	Use energy-efficient appliances, require building system operation and maintenance plans, consider provision of recycling facilities, provide load management guidelines, use natural cooling, consider passive solar space heating, incorporate energy management and control systems where feasible, meter the electricity and natural gas use of residential units on an individual basis and commercial tenants on at least a floor-by-floor basis, consider the energy implications of landscaping and building orientation, optimize glazing, and study the use of photovoltaics. The City and PG&E are to conduct a five-year feasibility study of the potential for District Heating and Cooling, daylighting, and cogeneration. (p. VI.H.21)		X			Measures to increase energy efficiency beyond that required by law.
H.3	Reduce transportation energy consumption through measures to decrease vehicle trips (p. VI.H.25)		X			Measures to increase energy efficiency beyond that required by law.

(continued)

TABLE 7 (cont.)
1990 FEIR MEASURES NOT PROPOSED FOR THE CURRENT SEIR PROJECT

SUMMARIES OF 1990 MISSION BAY FEIR MITIGATION MEASURES RELATED TO TOPICS TO BE FOCUSED OUT OF THE SUBSEQUENT EIR UPDATED LANGUAGE IS SHOWN IN ITALICS		Measure Addressed by or Incorporated in Existing Regulations	Improvement Measure to Reduce Less-Than-Significant Impact	Measure Included as Part of the SEIR Project	Not Applicable to SEIR Project	Comments
I.7	To the extent consistent with other land use considerations and design criteria articulated in the Design Guidelines of the Specific Plan, minimize shading of open space through articulation of building faces, setbacks, building separation, tower separation and setbacks, use of mansard or gable roofs, and reduced building heights. (p. VI.I.73)		X			Does not address a significant effect.
I.9	Include design factors to reduce wind speeds and turbulence such as: -Building setbacks along street frontages; -Articulation of the building facade and balconies or bay windows; and -Trellises, walls, large mature trees, and other elements to break up wind flows through mid-block lanes and courtyards (p. VI.I.74)		X			Means of addressing wind conditions which are now addressed in Measure I.10, Table 6.
J.6	Leave the cut-basalt block pavement on King and Sixth Streets intact, or remove and reuse it for road or pathway material in other Mission Bay locations, or remove and reuse it in other parts of the City. (p. VI.J.26)		X		X	Basalt blocks removed for MUNI light rail and new I-280 ramps

(continued)

TABLE 7 (cont.)
1990 FEIR MEASURES NOT PROPOSED FOR THE CURRENT SEIR PROJECT

SUMMARIES OF 1990 MISSION BAY FEIR MITIGATION MEASURES RELATED TO TOPICS TO BE FOCUSED OUT OF THE SUBSEQUENT EIR UPDATED LANGUAGE IS SHOWN IN ITALICS		Measure Addressed by or Incorporated in Existing Regulations	Improvement Measure to Reduce Less-Than-Significant Impact	Measure Included as Part of the SEIR Project	Not Applicable to SEIR Project	Comments
K.1	For structures of three stories or greater, conduct a comprehensive boring, sampling, and testing program to determine the engineering properties of the soil as required by the building permit process. (p. VI.K.45)	X				Measures now are incorporated in the San Francisco Building Code.[1]
K.2	Use pile-supported foundations (or other comparable foundations) wherever engineering practices and soil reports indicate that they are needed. (p. VI.K.45)	X				Measures now are incorporated in the San Francisco Building Code.[2]
K.2c	Design flexible connections for utilities serving pile-supported buildings to accommodate the settlement expected in the surrounding soil. (p. VI.K.47)	X				Measures now are incorporated in the San Francisco Building Code.[3]
K.5	Use surcharging and vertical drains to accelerate settlement if site-specific soils studies indicate need. (p. VI.K.48)				X	Current project design eliminates need for surcharging.

(continued)

1. City and County of San Francisco Municipal Code, *Building Code*, adopted 14 December 1995, §1804 and §1807.
2. City and County of San Francisco Municipal Code, *Building Code*, adopted 14 December 1995, §1804 and §1807.
3. City and County of San Francisco Municipal Code, *Building Code*, adopted 14 December 1995, §1804 and §1807.

TABLE 7 (cont.)
1990 FEIR MEASURES NOT PROPOSED FOR THE CURRENT SEIR PROJECT

SUMMARIES OF 1990 MISSION BAY FEIR MITIGATION MEASURES RELATED TO TOPICS TO BE FOCUSED OUT OF THE SUBSEQUENT EIR UPDATED LANGUAGE IS SHOWN IN ITALICS		Measure Addressed by or Incorporated in Existing Regulations	Improvement Measure to Reduce Less-Than-Significant Impact	Measure Included as Part of the SEIR Project	Not Applicable to SEIR Project	Comments
K.5a	Cover, coat, or seed the bare dirt to protect it from wind and rainfall. (p. VI.K.49)	X				Required by 1995 San Francisco Building Code.
K.5b	Where feasible, use soil excavated from other parts of the Project Area for surcharging to minimize the transport of soil. (p. VI.K.49)				X	Current project design eliminates need for surcharging.
K.6	To the extent urban design priorities would allow, keep basements above the water table so that dewatering would not be required. Construct project streets at or above existing grades to reduce the amount of excavation and the potential to encounter groundwater. (p. VI.K.49)		X			Does not address a significant effect.
M.1	Provide large blocks and wide strips of open space and parklands to maximize their value to wildlife, as included in Variant 12. (p. VI.M.21)		X			Does not address a significant effect.
M.2	Establish vegetation as soon as feasible after construction. (p. VI.M.21)		X			Does not address a significant effect.
M.3	Plant fruit, nut and berry producing trees and shrubs in open space areas to increase the primary productivity of the site, providing food for birds. (p. VI.M.21)		X			Does not address a significant effect.

(continued)

TABLE 7 (cont.)
1990 FEIR MEASURES NOT PROPOSED FOR THE CURRENT SEIR PROJECT

SUMMARIES OF 1990 MISSION BAY FEIR MITIGATION MEASURES RELATED TO TOPICS TO BE FOCUSED OUT OF THE SUBSEQUENT EIR UPDATED LANGUAGE IS SHOWN IN ITALICS		Measure Addressed by or Incorporated in Existing Regulations	Improvement Measure to Reduce Less-Than-Significant Impact	Measure Included as Part of the SEIR Project	Not Applicable to SEIR Project	Comments
M.3a	To the maximum extent practicable, use organic controls on pests and weeds in landscaping. Prepare a list of chemical pesticides and herbicides to be avoided by park personnel and property owners in Mission Bay. (p. VI.M.21)		X			Does not address a significant effect.
M.4	Plant foliage buffers between open space areas and roadways and areas of high human activity. (p. VI.M.22)		X			Does not address a significant effect.

E. MANDATORY FINDINGS OF SIGNIFICANCE

	Yes	No	Discussed Below	To be Analyzed In SEIR
*1. Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or pre-history?	X	___	___	X
*2. Does the project have the potential to achieve short-term, to the disadvantage of long-term, environmental goals?	X	___	___	X
*3. Does the project have possible environmental effects which are individually limited, but cumulatively considerable? (Analyze in the light of past projects, other current projects, and probable future projects.)	X	___	___	X
*4. Would the project cause substantial adverse effects on human beings, either directly or indirectly?	X	___	___	X

* Derived from State EIR Guidelines, Appendix G, normally significant effect.

The proposed land use development program could have a number of potentially significant environmental effects in issue areas including: land use, visual quality, transportation, noise, air quality, community facilities and infrastructure, vegetation and wildlife, seismic and inundation hazards, water quality, hazardous materials and hazardous wastes. The SEIR will

consider these issues as well as whether the project could affect the balance of jobs and housing or induce growth outside the Project Area.

F. ON THE BASIS OF THIS INITIAL STUDY:

___ I find the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared by the Department of City Planning.

___ 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, numbers ___, in the discussion have been included as part of the proposed project. A NEGATIVE DECLARATION will be prepared.

_X_ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

Date 9/19/97

Hillary E. Gitelman
Environmental Review Officer
for
Gerald G. Green
Director of Planning

Stanley Muraoka
EIR Program Administrator
San Francisco Redevelopment Agency

B. PLANS, POLICIES, AND PERMITS

PROPOSED GENERAL PLAN AMENDMENTS

The following pages contain the proposed amendments to the *San Francisco General Plan* (General Plan) as developed by the Planning Department./1/ These amendments would be necessary to create consistency between the proposed project and the policies presented in the General Plan. The "Mission Bay Area" would be graphically delineated to correspond with the overall boundaries of the proposed Mission Bay North Redevelopment Area and the Mission Bay South Redevelopment Area. Please note that additions to the text of the General Plan are noted by **bold double underlined** text and deletions are noted by ~~strike-out text~~. Minor modifications and refinements to the following list are expected as the project proceeds through its various public meetings, hearings, and approval processes.

Residence Element

Page I.1.9; Table 59 entitled "Potential Residential and Population Density by Zoning Districts"

Amendments include:

1. Under the second column, "Zoning Districts," in the second row ("Moderately Low Density"), delete the reference to the "MB-R-1" zoning district.

2. Under the second column, "Zoning Districts," in the third row ("Medium Density"), delete the reference to the "MB-R-2" zoning district.

3. Under the second column, "Zoning Districts," in the fourth row ("Moderately High Density"), delete the reference to the "MB-R-3" zoning district.

4. Under the fifth column, "General Locations," in the second row, delete the reference to Mission Bay. The new text (with deletions noted by strike-out text) is as follows:

> "Appropriate in the central hills area, along Diamond Heights, Twin Peaks, and Potrero Hill, around Golden Gate Park in the Richmond, and northern part of the Sunset districts and in the Marina district ~~and the edges of Mission Bay bordering open space areas~~."

5. Under the fifth column, "General Locations," in the third row, delete the reference to Mission Bay. The new text (with deletions noted by strike-out text) is as follows:

> "Appropriate for nonresidential commercial and industrial districts, and certain areas adjacent to the commercial zones ~~and the central area in Mission Bay~~."

6. Under the fifth column, "General Locations," in the fourth row, amend the references

to Mission Bay as indicated below (with deletions noted by strike-out text and additions noted by bold, double underlined text):

> "Appropriate for the more intensively developed north-eastern part of the city, for major transit corridors such as Van Ness Avenue, Upper Market Street and Columbus Avenue, in major redevelopment areas such as the Western Addition ~~and~~, Golden Gateway **and Mission Bay** areas, in Nob Hill, Chinatown, and North Beach~~, and the edges of Mission Bay bordering commercial and industrial areas~~. **In the Mission Bay North Redevelopment Project Area, residential densities of up to 250 persons per gross residential acre would be appropriate and in the Mission Bay South Redevelopment Project Area, residential densities of up to 275 persons per gross residential acre would be appropriate."**

Page I.1.11; Map 3 entitled "Residential Density Plan"

Amend the designation for the Mission Bay area from "Medium Density (Average 54 Units Per Acre)" to a Circle designation with an asterisk in the circle which references, at the bottom of the page, the statement "See the Mission Bay North and Mission Bay South Redevelopment Plans."

Commerce & Industry Element

Page I.2.5; Map 1 entitled "Generalized Commercial and Industrial Land Use Plan"

Add a circle around the Mission Bay area with a line that leads to a reference that states "See the Mission Bay North and Mission Bay South Redevelopment Plans."

Page I.2.6; Map 2 entitled "Generalized Commercial and Industrial Density Plan (Excludes Neighborhood Commercial Areas)"

Add a circle around the Mission Bay area with a line that leads to a reference that states "See the Mission Bay North and Mission Bay South Redevelopment Plans."

Page I.2.31; Map 4 entitled "Residential Service Areas of Neighborhood Commercial Districts and Uses"

Delete the shading from the Mission Bay area and add a circle around said area with a line that leads to a reference that states "See the Mission Bay North and Mission Bay South Redevelopment Plans."

Page I.2.33; Map 5 entitled "Generalized Neighborhood Commercial Land Use and Density Plan"

Add a circle around the Mission Bay area with a line that leads to a reference that states "See the Mission Bay North and Mission Bay South Redevelopment Plans."

Recreation and Open Space Element

Page I.3.11; Map 2 entitled "Public Open Space Service Areas"

Add a circle around the Mission Bay area with a line that leads to a reference that states "See the Mission Bay North and Mission Bay South Redevelopment Plans."

Page I.3.18; Map 4 entitled "Citywide Recreation & Open Space Plan"

Delete the shaded areas within the Mission Bay area and add a circle around the Mission Bay area with a line that leads to a reference that states "See the Mission Bay North and Mission Bay South Redevelopment Plans."

Page I.3.36; Map 8 entitled "Eastern Shoreline Plan"

Delete the shaded areas within the Mission Bay area and add a circle around the Mission Bay area with a line that leads to a reference that states "See the Mission Bay North and Mission Bay South Redevelopment Plans."

Page I.3.37, Second column, third paragraph entitled "Mission Bay"

This paragraph is deleted in its entirety and replaced by the following text:

"The area known as Mission Bay is governed by the Mission Bay North and Mission Bay South Redevelopment Plans. The two Redevelopment Plans and their companion Design for Development Documents provide for a balanced program of active and passive recreational opportunities within strategically located open space sites throughout Mission Bay. They also provide that the open spaces within Mission Bay will seek to utilize and enhance the existing natural amenities of Mission Bay, such as the shoreline, China Basin Channel and public vistas.

"The concept for the open space system for Mission Bay is to provide opportunities for local, citywide and regional recreational usage. The intent is to develop: (1) flexible/multiple use spaces that can accommodate heavy, active recreational uses as well as a balance of active and passive uses; and (2) spaces that will accommodate the immediate as well as the long-term/changing needs of the local community and the City."

Page I.3.45, Figure 3 entitled "Service Areas"

Remove the shading around the Mission Bay area.

Page I.3.47; Map 9 entitled "Neighborhood Recreation & Open Space Improvement Priority Plan"

Delete the shaded areas within the Mission Bay area and add a circle around the Mission Bay area with a line that leads to a reference that states "See the Mission Bay North and Mission Bay South Redevelopment Plans."

Transportation Element

Page I.4.28; Map 5 entitled "Signed Bikeways Plan"

Amend the area for Mission Bay to reflect the street grid and bicycle path network of the Mission Bay North and Mission Bay South Redevelopment Plans and Design for Development documents.

Page I.4.32; Map 6 entitled "Vehicular Street Map"

Amend the area for Mission Bay to reflect the street grid and street hierarchy of the Mission Bay North and Mission Bay South Redevelopment Plans and Design for Development documents.

Page I.4.34; Map 8 entitled "Metropolitan Transportation System (MTS): Streets and Highways"

Amend the area for Mission Bay to reflect the street grid and street hierarchy of the Mission Bay North and Mission Bay South Redevelopment Plans and Design for Development documents.

Page I.4.56; Map 12 entitled "Neighborhood Pedestrian Streets"

Amend the area for Mission Bay to reflect the street grid and pedestrian network of the Mission Bay North and Mission Bay South Redevelopment Plans and Design for Development documents.

Page I.4.59; Map 13 entitled "Bicycle Route Map"

Amend the area for Mission Bay to reflect the street grid and bicycle path network of the Mission Bay North and Mission Bay South Redevelopment Plans and Design for Development documents.

Urban Design Element

Page I.5.13; Map 2 entitled "Plan for Street Landscaping and Lighting"

Delete the shaded areas within the Mission Bay area and add a circle around the Mission Bay area with a line that leads to a reference that states "See the Mission Bay North and the Mission Bay South Redevelopment Plans."

Page I.5.18; Map 3 entitled "Where Streets Are Most Important as Sources of Light, Air and Open Space"

Delete the shaded areas within the Mission Bay area and add a circle around the Mission Bay area with a line that leads to a reference that states "See the Mission Bay North and Mission Bay South Redevelopment Plans."

Page I.5.34; Map 4 entitled "Urban Design Guidelines for Height of Buildings"

Delete the shaded areas within the Mission Bay area and add a circle around the Mission Bay area with a line that leads to a reference that states "See the Mission Bay North and Mission Bay South Redevelopment."

Page I.5.35; Map 5 entitled "Urban Design Guidelines for Bulk of Buildings"

Delete the shaded areas within the Mission Bay area and add a circle around the Mission Bay area with a line that leads to a reference that states "See the Mission Bay North and Mission Bay South Redevelopment Plans."

Arts Element

Page I.9.11; Map showing "Single Artists" concentration throughout the City

Amend the map to reflect, for the Mission Bay area, a change in the shading from a "very high" concentration of single artist to a "low" concentration of single artists.

Page I.9.13; Map showing concentration of Literary Arts Centers throughout the City

Amend the map to reflect, for the Mission Bay area, a change in the shading from a "very high" concentration of literary arts centers to a "low" concentration of literary arts centers.

Page I.9.20; Map showing concentrations of Motion Picture Theaters throughout the City

Amend the map to reflect, for the Mission Bay area, a change in the shading from a "very high" concentration of motion picture theaters to a "medium" concentration of motion picture theaters.

Page I.9.20; Map showing concentrations of Recording Industry throughout the City

Amend the map to reflect, for the Mission Bay area, a change in the shading from a "very high" concentration of recording industry to a "medium" concentration of recording industry.

Page I.9.21; Map showing concentrations of Commercial Arts Centers throughout the City

Amend the map to reflect, for the Mission Bay area, a change in the shading from a "very high" concentration of commercial arts centers to a "medium" concentration of commercial arts centers.

Page I.9.23; Map showing concentrations of Commercial Theaters throughout the City

Amend the map to reflect, for the Mission Bay area, a change in the shading from a "very high" concentration of commercial theaters to a "medium" concentration of commercial theaters.

Downtown Plan

Page II.1.10, First Paragraph

Amend the second to last sentence as shown below (with deletions noted by strike-out text and additions noted by bold, double underlined text):

"Support commercial and secondary office demand can be absorbed in a number of locations: Market Street west of Fifth Street, portions of the south of Market ~~west~~ **southeast** of YBC, the Van Ness corridor, Second Street corridor south of the C-3 district, Jackson Square, and the northern waterfront. **A major new source of space for support commercial and secondary office may also be provided at Mission Bay.**"

Central Waterfront Plan

Page II.8.1, Paragraph entitled "Scope and Organization"

This paragraph is deleted in its entirety and replaced by the following text:

"The geographic area covered in the Central Waterfront Plan is comprised of a number of geographic sub-areas shown on Map 1. The Plan begins with introductory material covering the purpose of the Plan, relation to the General Plan and Background. The Plan also contains general objectives and policies for the Showplace Square, Central Basin, North Potrero, Islais Creek and Lower Potrero sub-areas followed by specific objectives and policies for each sub-area.

"The area designated as Mission was previously governed by a separately published sub-area plan, called the Mission Bay Plan, which was organized to qualify as a Specific Plan. The Mission Bay area has subsequently been designated as two separate Redevelopment Project Areas, Mission Bay North and Mission Bay South, and is governed by the Mission Bay North and Mission Bay South Redevelopment Plans, respectively. Please refer to those Plans, their accompanying Design for Development documents and related approval documents for sub-area-specific planning objectives, land use standards and design guidelines."

Page II.8.3, Second column, first paragraph under "Description" in the "Background" section

This paragraph is deleted in its entirety and replaced by the following text:

"The Central Waterfront covers the eastern shoreline of San Francisco between China Basin and Islais Creek and adjacent inland areas, exclusive of the approximately 65 acres lying within the Mission Bay North Redevelopment Project Area and the approximately 238 acres lying within the Mission Bay South Redevelopment Project Area. The land covered by the Central Waterfront Plan totals approximately 600 acres."

Page II.8.5, Second column, first paragraph (third paragraph under "Conditions and Trends (1990))"

This paragraph is deleted in its entirety and replaced by the following text:

"The entire Central Waterfront Plan area encompasses approximately 600 acres, which excludes the 303 acres covered by the approximately 65-acre Mission Bay North and approximately 238-acre Mission Bay South Redevelopment Project Areas. The 130 acres in Showplace Square is used primarily for apparel and interior design wholesale, storage and showroom facilities. Data collected from a 1987 land use inventory indicated 482 acres in the lower Potrero and waterfront areas of which 302 acres were in industrial use, 18 acres were vacant, 58 acres were in railroad easements under freeways and the remaining 108 acres were in a mix of uses."

Page II.8.6, Second column, second paragraph

This paragraph is deleted in its entirety and replaced by the following text:

"Favorable economic trends are beginning to appear in the Central Waterfront. Healthy components of the local economy, including apparel manufacturing, interior design activities, multi-media publishing and medical research, are now undergoing expansion and future growth is anticipated. The prospect over 6,000 new dwelling units and over 5 million square feet of office, medical research, retail and other commercial space in the Mission Bay North and Mission Bay South Redevelopment Project Areas, as well as a UCSF campus within the Mission Bay South Redevelopment Project Area, signal the healthy redevelopment of the area. The resurgence of the primary and secondary office market, the construction of live/work units along Third Street and Lower Potrero and the proposed construction of the Third Street Light Rail Transit line bodes well for the economic and social revitalization of the neighborhood."

Page II.8.13, Map 1 entitled "Central Waterfront Planning Area"

Add a circle around the Mission Bay area with a line that leads to a reference that states "See the Mission Bay North and Mission Bay South Redevelopment Plans."

Page II.8.17, Second column last sentence that states "OBJECTIVES AND POLICIES - PART 2: SEE MISSION BAY PLAN"

This sentence is deleted in its entirety and replaced by the following text:

"OBJECTIVES AND POLICIES OF THE MISSION BAY AREA: SEE MISSION BAY NORTH REDEVELOPMENT PLAN AND MISSION BAY SOUTH REDEVELOPMENT PLAN"

Mission Bay Plan

The Mission Bay Plan was proposed to be rescinded in its entirety and replaced by the Mission Bay North Redevelopment Plan and the Mission Bay South Redevelopment Plan. However, several sites in the *Mission Bay Plan* would not be part of the proposed project and are not included in the Project Area: the blocks located between Townsend, King, Fourth, and Sixth Streets, which include the Caltrain terminal and tracks; Seawall Lot 337, located at the mouth of China Basin Channel and Third Street; and portions of Seawall Lots 338 and 339. For the Project Area, the Mission Bay Plan would no longer apply and the following would be inserted in substantially this form: "The Mission Bay North and Mission Bay South Redevelopment Plans govern the area shown as 'Mission Bay Redevelopment Plan Areas' on Map 1 entitled 'Central Waterfront Planning Area' on page II.8.13 of the Central Waterfront Plan."

Land Use Index

Page III.1.3, Map entitled "Generalized Land Use Plan"

Delete the shaded areas within the Mission Bay area and add a circle around the Mission Bay area with a line that leads to a reference that states "See the Mission Bay North and Mission Bay South Redevelopment Plans."

Page III.1.6, Map entitled "Generalized Commercial and Industrial Land Use Plan"

Amend the notation of the Mission Bay area that states "See CENTRAL WATERFRONT PLAN" by adding a circle around the Mission Bay area with a line that leads to a reference that states "See the Mission Bay North and Mission Bay South Redevelopment Plans."

Page III.1.15, Map entitled "City Recreation & Open Space Plan"

Delete the shaded areas within the Mission Bay area and add a circle around the Mission Bay area with a line that leads to a reference that states "See the Mission Bay North and Mission Bay South Redevelopment Plans."

Page III.1.26, Map entitled "Generalized Commercial & Industrial Density Plan"

Delete the shaded areas within the Mission Bay area and add a circle around the Mission Bay area with a line that leads to a reference that states "See the Mission Bay North and Mission Bay South Redevelopment Plans."

Page III.1.27, Map entitled "Residential Density Plan"

Delete the shaded areas within the Mission Bay area and add a circle around the Mission Bay area with a line that leads to a reference that states "See the Mission Bay North and Mission Bay South Redevelopment Plans."

Page III.1.29, Map entitled "Urban Design Guidelines for Height of Buildings"

Delete the shaded areas within the Mission Bay area and add a circle around the Mission Bay area with a line that leads to a reference that states "See the Mission Bay North and Mission Bay South Redevelopment Plans."

Page III.1.30, Map entitled "Urban Design Guidelines for Bulk of Buildings"

Delete the shaded areas within the Mission Bay area and add a circle around the Mission Bay area with a line that leads to a reference that states "See the Mission Bay North and Mission Bay South Redevelopment Plans."

NOTES: Appendix B, Plans, Policies, and Permits

1. San Francisco Planning Department, *Mission Bay South Redevelopment Project Preliminary Plan*, October 16, 1997, pp. 12-19.

C. BUSINESS ACTIVITY, EMPLOYMENT, HOUSING, AND POPULATION

This appendix presents detailed tables that are summarized in Section V.C, Business Activity, Employment, Housing, and Population, as well as information on the methods for deriving the key estimates presented in that section. Table C.1 presents information on the distribution of existing Project Area jobs by occupation. Table C.2 contains employment projections from 1995 to 2015 for the rest of the region by main area, while Table C.3 shows the same data for population. Table C.4 identifies the residential location of people who have jobs in San Francisco, while Table C.5 presents data on where residents of San Francisco who are employed work within the region. Table C.6 presents the density factors and assumptions for estimating employment associated with Project Area development, while Table C.7 provides the same information for demographic factors used in estimating project population and employed residents. In addition, for informational purposes, this appendix compares the SEIR cumulative growth scenario with the Association of Bay Area Governments' (ABAG) *Projections '98* forecasts.

TABLE C.1
DISTRIBUTION OF EXISTING PROJECT AREA JOBS BY OCCUPATION

Occupation	Number of Jobs	Percent
Professional/Technical	94	6%
Managerial/Administrative	203	12%
Clerical	202	12%
Sales	260	16%
Service	88	5%
Skilled Crafts	110	7%
Operatives	573	34%
Other	140	8%
TOTAL	1,671	100%

Note:
Summary distribution of jobs by occupation created from detail by business activity. The detailed distributions are those from the 1990 FEIR; see Table VI.B.12, "Occupation and Wage/Salary Distribution for Jobs in Mission Bay, 1985," in Volume Two, p. VI.B.39.

Source: Hausrath Economics Group.

TABLE C.2
EMPLOYMENT IN THE REST OF THE REGION, 1995 AND 2015

Area of Region	Number			Percent of Total			Annual Growth Rate
	1995	2015	1995 - 2015	1995	2015	1995 - 2015	1995 - 2015
East Bay	1,079,080	1,541,540	462,460	43%	46%	52%	1.8%
South Bay	1,145,700	1,448,550	302,850	46%	43%	34%	1.2%
North Bay	268,900	393,020	124,120	11%	12%	14%	1.9%
Total Rest of Region Excluding San Francisco	2,493,680	3,383,110	889,430	100%	100%	100%	1.5%

Source: Association of Bay Area Governments, *Projections '96,* December 1995.

* * * *

TABLE C.3
POPULATION IN THE REST OF THE REGION, 1995 AND 2015

Area of Region	Number			Percent of Total			Annual Growth Rate
	1995	2015	1995 - 2015	1995	2015	1995 - 2015	1995 - 2015
East Bay	2,744,800	3,445,100	700,300	48%	50%	59%	1.1%
South Bay	2,307,650	2,636,000	328,350	40%	38%	27%	0.7%
North Bay	677,600	844,050	166,450	12%	12%	14%	1.1%
Total Rest of Region Excluding San Francisco	5,730,050	6,925,150	1,195,100	100%	100%	100%	1.0%

Source: Association of Bay Area Governments, *Projections '96,* December 1995.

TABLE C.4
PLACE OF RESIDENCE FOR PEOPLE WORKING IN SAN FRANCISCO

	Percent Distribution by Place of Residence				
Place of Residence	**1960**	**1970**	**1980**	**1990**	**2010**
San Francisco	*72.5%*	*62.6%*	*55.9%*	*55.3%*	*55.1%*
East Bay	8.1%	12.7%	18.5%	21.5%	23.3%
South Bay	14.9%	17.0%	16.9%	15.6%	14.4%
North Bay	4.5%	7.7%	8.7%	7.6%	7.2%
Subtotal Rest of Region	*27.5%*	*37.4%*	*44.1%*	*44.7%*	*44.9%*
TOTAL	100.0%	100.0%	100.0%	100.0%	100.0%

Note:
The percent distribution of workers does not include workers who live outside the nine-county Bay Area. In 1990, there were about 12,000 people working in the City who lived outside the region; they accounted for about 2% of all San Francisco jobs.

Source: Metropolitan Transportation Commission, "County-to-County Commuters in the San Francisco Bay Area: 1960-2010" (based on U.S. Decennial Census and ABAG *Projections '96*; commuter forecasts prepared by MTC); Hausrath Economics Group.

* * * *

TABLE C.5
PLACE OF WORK FOR EMPLOYED RESIDENTS OF SAN FRANCISCO

	Percent Distribution by Place of Work				
Place of Work	**1960**	**1970**	**1980**	**1990**	**2010**
San Francisco	*93.6%*	*89.7%*	*85.9%*	*81.1%*	*78.9%*
East Bay	2.0%	3.0%	5.4%	6.7%	7.2%
South Bay	3.8%	6.8%	7.6%	10.7%	12.2%
North Bay	0.6%	0.5%	1.1%	1.5%	1.7%
Subtotal Rest of Region	*6.4%*	*10.3%*	*14.1%*	*18.9%*	*21.1%*
TOTAL	100.0%	100.0%	100.0%	100.0%	100.0%

Note:
The percent distribution of employed residents does not include those who work outside the nine-county Bay Area. In 1990, there were about 3,300 people living in the City who worked outside the region; they accounted for less than 1% of all San Francisco employed residents.

Source: Metropolitan Transportation Commission, "County-to-County Commuters in the San Francisco Bay Area: 1960-2010" (based on U.S. Decennial Census and ABAG *Projections '96*; commuter forecasts prepared by MTC); Hausrath Economics Group.

TABLE C.6
DENSITY FACTORS AND ASSUMPTIONS FOR ESTIMATING EMPLOYMENT FOR THE PROPOSED PROJECT

Business Activity/Employment Category	Density Factor /a/	Comments
Office	300 gross sq. ft. occupied space per employee	Reflects a less intensive use of space in lower-rise office development than would be the case in downtown San Francisco office development (typically estimated at 275 gross sq. ft. of occupied space per employee). This is the same office employment density factor used in the 1990 FEIR variant analysis of office as a primary use in Service/Light Industrial/Research & Development space (Variant 7). A 5% vacancy rate is assumed. The employment density factor that incorporates the vacancy is 316 gross sq. ft. of **total** space per employee.
Research and Development	405 gross sq. ft. occupied space per employee	This is the same employment density factor used in the 1990 FEIR analysis of Service/Light Industrial/Research & Development (SLIRD) space for Alternative A in the 1990 FEIR. It reflects a mix of business activities including research and development, light manufacturing, small warehouse and distribution operations, and commercial services. A 5% vacancy rate is assumed. The employment density factor that incorporates the vacancy is 426 gross sq. ft of **total** space per employee.
UCSF Site	Not applicable	Employment estimate for UCSF (9,100 jobs) from University of California San Francisco, *1996 Long Range Development Plan Final Environmental Impact Report*, State Clearinghouse No. 95123032, January 1997, Volume II, p. 516.
Retail	350 gross sq. ft. per employee	Reflects the mix of retail shops and restaurants and bars typical of retail space in office buildings and, generally, of retail development outside the primary retail district, including stand-alone, city-serving retail outlets.
Entertainment-Oriented Commercial	350 gross sq. ft. per employee	Reflects the mix of retail shops and restaurants and bars typical of retail space in office buildings.
Hotel	0.74 employee per room	Includes hotel management and housekeeping functions, as well as retail shops and restaurants and bars in hotels. This employment density factor reflects the level of service of downtown hotels.
Community Facilities	777 gross sq. ft. per employee	C-3 District Employer Survey, 1981, and South of Market/Folsom Employer Survey, 1982.
Open Space	1 employee per 10 acres	Major open space land area only (not including open space associated with other uses). Accounts for gardening and landscape maintenance jobs, not staffing for active recreation.
Building Maintenance/ Security	40 employees per 500,000 gross sq. ft.	Applied to total of office, research and development, and retail space. Includes outdoor maintenance and landscaping. Building maintenance and security for UCSF assumed to be included in employment estimate for the site.
Structured Parking	1 employee per 80 spaces	C-3 District Employer Survey, 1981, and South of Market/Folsom Employer Survey, 1982.
Housing-related	2 employees per 50 dwelling units	Accounts for management, security, and maintenance personnel.

Note: a. The density factors account for both full-time and part-time workers.

Source: Hausrath Economics Group.

TABLE C.7
DEMOGRAPHIC FACTORS FOR THE PROPOSED MISSION BAY PROJECT

Persons-per-Household by Unit Size

Unit Size	Market-Rate Units	Affordable Units	Comments
Studio	1.05	1.1	Gabriel-Roche, Inc. and Hausrath Economics Group background analyses for 1990 FEIR.
1 Bedroom	1.35	1.6	
2 Bedrooms	1.8	2.5	
3 Bedrooms	2.6	3.7	

Age Distribution of the Population in 2015

Age Category	Percent of Population	Comments
Less than 15 years	16%	From 1990 FEIR, p. XIV.A.13, confirmed against ABAG demographic projections for San Francisco, presented in *Projections '96*.
15-64 years	69%	
65 years and over	15%	
TOTAL	100%	

Employed Residents by Age in 2015

Age Category	Percent of Population in Age Category That Would Be Employed	Comments
15-64 years	82%	Hausrath Economics Group background analyses for 1990 FEIR (see 1990 FEIR, p. XIV.A.13).
65-74 years /a/	50%	
Result: 60.4% of total population would be employed and 71.8% of population 15 years of age and older would be employed.		This is higher than the ABAG projected citywide average (62.5% of the population 15 years of age and older would be employed in 2015). It is reasonable to expect that a higher percentage of the Mission Bay population would be employed compared to the percentage for the City as a whole.

Note:
a. Assuming 50% of the population 65 years and older would be in the 65-74 year age category.

Source: Hausrath Economics Group.

EXISTING PROJECT AREA

Establishments and Employment

The 1990 FEIR identified 114 establishments and just over 2,000 people working in the Project Area./1/ In 1997, counts were lower (94 establishments and 1,671 persons employed), but not because of a decline in the level of activity. Indeed, compared to the situation 10 years ago, there now appears to be a higher level of business activity and more formal and established space use, particularly in the western portions of the Project Area. There are two reasons for fewer establishments and less employment in the 1997 survey: a different project area boundary and the approximate nature of the data-gathering process. The earlier project area boundary included the Caltrain terminal and associated land area along Townsend Street. That establishment alone accounted for about 150 jobs in the 1990 FEIR project area totals. The earlier project area boundary also included more port property than does the current boundary; the port-owned land, buildings, and associated business activity east of Third Street and north of Mission Rock Street are not included in the current Mission Bay Project Area. The activity at the properties added to the Project Area within the new boundary at Third Street and Mariposa Street is not currently of the scale to offset the loss of those areas no longer included.

Most important, the Project Area business survey is not a complete census of establishments and employment. A few establishments may have been missed in the field work, and some identified establishments did not respond to interviewers' questions about use of space and number of employees. Nonetheless, the current numbers are valid and confirm, by comparison to estimates of 10 years ago, that the function of the Mission Bay Project Area as a business location in San Francisco has remained fairly constant over the last decade.

Rail Freight Users

None of the business establishments interviewed for the 1997 business survey use rail transportation at this location in the Project Area. One office establishment (a long-time Project Area business) is a third-party provider of transportation services. As such, the office makes arrangements for rail transportation for various cargoes through the Port of San Francisco. The project area business survey conducted for the 1990 FEIR identified 13 rail-freight users (11% of all Project Area establishments)./2/

Maritime-Related Activity

The extent to which Project Area businesses depend directly on cargo movement through maritime facilities has declined over time. Thirteen of the respondents to the business survey conducted for this SEIR indicated that they depend on water-borne transportation, either because the establishment is part of the intermodal transportation network or because the establishment receives raw materials and/or ships products through port facilities. The project area business survey conducted for the 1990 FEIR identified 39 project area business establishments as "maritime-related."/3/ Only four of the current establishments use Port of San Francisco facilities (and only one of them uses those facilities exclusively). All the rest use the Port of Oakland, and one uses the Port of Redwood City. Some establishments view the Mission Bay Project Area location as convenient to Port of Oakland facilities. For others, proximity to a port's facilities is not an important location factor.

BACKGROUND ON THE JOBS/HOUSING ANALYSIS

Analysis of the jobs/housing relationship for the Project Area follows the approach outlined in the recent consultants' report updating the formula for the City's Office-Affordable Housing Production Program (OAHPP)./4/ That approach builds on the original OAHPP analysis that was the basis for the jobs/housing analysis of the alternatives in the 1990 FEIR./5/ Consequently, the assessment below (see Table C.8) represents an evolution of the jobs/housing analysis for San Francisco, reflecting updated demographic projections for the City and updated regional projections as presented in ABAG *Projections '96,* as well as the most current MTC commute patterns projections based on data in *Projections '96./6/*

As in the 1990 FEIR, the jobs/housing analysis starts with employment growth in the Project Area and, through a series of calculations, develops an estimate of the increase in households in San Francisco associated with additional Project Area jobs. That estimate, a measure of the demand for housing in San Francisco associated with Project Area employment growth, is compared to the supply represented by Project Area housing development. The comparison indicates whether development of the Project Area considered as a whole adds more to the demand side of the City's housing market equation (by accommodating business activity and jobs) or more to the supply side (by providing new housing units).

TABLE C.8
JOBS/HOUSING ANALYSIS FOR THE PROPOSED PROJECT

Demand	[Formulae]	With UCSF	Without UCSF/a/
A. Employment growth accommodated in Mission Bay/b/		28,330	19,230
B. Percent representing additional workers living in San Francisco/c/		55.0%	55.0%
C. Average number of San Francisco workers in households with workers/d/		1.6	1.6
D. Additional households associated with Project Area employment growth	[(A*B)/C]	9,738	6,610
Supply			
E. Total Project Area Housing Units		6,090	6,090
Comparison of Supply to Demand			
Surplus or (Deficit) in Project Area	[E-D]	(3,648)	(520)

Notes:
This jobs/housing comparison is not meant to imply that there should (or ever would) be a precise match between the two for any given project. The calculation is a useful means of evaluating the proposed project, and it provides an indication of the longer-term implications of the land use mix for the City's housing market.

a. UCSF addressed the issue of housing need for students, faculty and staff in the *1996 Long Range Development Plan*. The LRDP EIR discusses housing demand from students, faculty, and employees. See University of California San Francisco, *UCSF Long Range Development Plan Final Environmental Impact Report*, State Clearinghouse No. 95123032, January 1997, Volume II, pp.515-517.
b. Total Project Area employment at build-out (30,000 jobs) minus existing Project Area employment (1,670 jobs), and, for the "without UCSF" case, minus UCSF jobs (9,100 jobs).
c. Keyser Marston Associates, Inc. and Gabriel Roche, Inc., *Jobs Housing Nexus Analysis, City of San Francisco*, July 1997, pp. 51-52.
d. Keyser Marston Associates, Inc. and Gabriel Roche, Inc., *Jobs Housing Nexus Analysis, City of San Francisco*, July 1997, pp. 49-50.

Source: Hausrath Economics Group.

SEIR CUMULATIVE GROWTH SCENARIO COMPARED TO *PROJECTIONS '98*

ABAG published *Projections '98* in December 1997, after the analysis for this SEIR and most of the writing had been completed. What follows is a brief discussion of how the growth scenario used in the SEIR compares to ABAG's most recent projections. Table C.9 presents total San Francisco employment, households, and population projections as prepared for the San Francisco cumulative growth scenario (the basis for the cumulative analyses in this SEIR and several other environmental analyses currently under preparation in the City)/7/, side by side with the new projections published by ABAG. The projections of cumulative growth used in this SEIR (build-out of the Mission Bay Project Area by 2015 plus growth in the rest of the City as projected in the San Francisco cumulative growth scenario) remain valid for the purposes of the SEIR. As described below, the SEIR cumulative projections show more employment and population growth in San Francisco by 2015; they are therefore appropriately conservative for environmental impact analysis.

The employment projections to 2015 are almost the same, reflecting a substantial revision in ABAG's assessment of the employment growth outlook for San Francisco. In *Projections '98*, ABAG projects only 1,400 fewer jobs in San Francisco by 2015 than does the San Francisco cumulative growth scenario. The San Francisco cumulative growth scenario numbers shown in Table C.9 were modified for use in this SEIR to reflect full build-out of the Mission Bay Project Area. That total for employment in 2015 in San Francisco is 673,495 (see Table V.C.8). In *Projections '98*, ABAG's 2020 employment projection for San Francisco is 679,650, an estimate that would accommodate build-out of the Project Area.

There are differences between the two sets of projections of households, population, and employed residents. ABAG projects growth of housing in San Francisco, though at a slower rate than does the San Francisco cumulative growth scenario (about 1,265 units per year for ABAG and 1,600 units per year for the San Francisco cumulative growth scenario). Furthermore, population continues to increase under the San Francisco cumulative growth scenario while ABAG shows population decline in the City after a peak at 806,200 in 2010. According to ABAG, population is expected to decline because of demographic patterns, particularly the aging of the population, resulting in smaller average household sizes for existing as well as new housing units. This pattern is not evident in the San Francisco cumulative growth scenario projections./8/

Finally, the number of residents of the City who are employed continues to grow in both sets of projections. In *Projections '98*, the employed population increases while total population declines; there are more workers per household on average over time and a larger share of the population is in

TABLE C.9
COMPARISON OF ABAG *PROJECTIONS '98* TO SAN FRANCISCO CUMULATIVE GROWTH SCENARIO

	San Francisco Cumulative Growth Scenario /a/,/b/		ABAG *Projections '98* /c/		
	1995	**2015**	**1995**	**2015**	**2020**
Employment	534,600	665,300	534,610	663,900	679,500
Households	311,430	343,622	309,620	334,930	337,340
Population	759,900	819,500	751,700	801,400	793,400
Employed Residents	376,800	428,030	379,800	463,100	473,000

Notes:
a. San Francisco totals without adjustment for build-out of the Mission Bay Project Area. See Table V.C.8 and Table V.C.9 for the total San Francisco numbers analyzed in this SEIR (Project Area build-out plus "Rest of City" subtotals from the San Francisco Cumulative Growth Scenario prepared by Keyser Marston Associates.)
b. Keyser Marston Associates, Inc., *San Francisco Cumulative Growth Scenario, Final Technical Memorandum,* prepared for the San Francisco Redevelopment Agency, March 30, 1998.
c. Association of Bay Area Governments, *Projections '98*, December 1997.

Source: Hausrath Economics Group.

the labor force and employed./9/ By contrast, under the San Francisco cumulative growth scenario, the average number of workers per household and the relationship between employed residents and total population remains relatively constant through the projection period.

NOTES: Appendix C, Business Activity, Employment, Housing, and Population

1. San Francisco Planning Department, *Mission Bay Final Environmental Impact Report*, Planning Department File No. 86505E, State Clearinghouse No. 86070113, August 23, 1990, Volume Two, Table VI.B.5, p. VI.B.10.

2. 1990 FEIR, Volume Two, pp. VI.B.8-IV.B.9.

3. 1990 FEIR, Volume Two, pp. VI.B.9-VI.B.11.

4. Keyser Marston Associates, Inc. and Gabriel Roche Inc., *Jobs Housing Nexus Analysis, City of San Francisco*, July 1997.

5. 1990 FEIR, Volume Two, pp. VI.C.67-VI.C.77, and Volume Three, Appendix C, pp. XIV.C.29–XIV.C.36.

6. Association of Bay Area Governments, *Projections '96*, December 1995. Appendix Table C.4 presents commute patterns projections.

7. Keyser Marston Associates, Inc., *San Francisco Cumulative Growth Scenario, Final Technical Memorandum,* prepared for the San Francisco Redevelopment Agency, March 30, 1998.

8. This same pattern was evident in *Projections '96*—declining population in San Francisco after a peak in 2010.

9. The increase in workers per household over time is a substantial difference between *Projections '98* and *Projections '96* for San Francisco. In *Projections '96*, ABAG forecast that the average number of workers per household would hold steady through the year 2015.

D. TRANSPORTATION

ROADWAY SYSTEM

Existing Streets

The following provides a description of the existing roadway system in and near the proposed Mission Bay Project Area.

King Street

King Street has been reconstructed between The Embarcadero and Third Street, in preparation for future service as the primary connection between I-280 and The Embarcadero. There are two travel lanes in each direction with parking permitted in the curb lane in most areas in both directions. King Street between Third and Fourth Streets was opened to traffic in the summer of 1997. The Fourth to Fifth Streets section was opened to traffic in conjunction with the opening of the I-280 on-ramp in late November 1997. Starting January 1998, MUNI Metro light-rail service will be provided in the median of King Street with stations at Second Street and Fourth Street. King Street is designated as a major arterial, a transit important street, a neighborhood pedestrian street and a citywide bicycle route in the Transportation Element of the City's General Plan (see Table D.1 for definitions of street designations). It is also part of the County Congestion Management Program (CMP) network and the federally designated Metropolitan Transportation System.

Townsend Street

Townsend Street serves primarily industrial and service commercial type uses west of Second Street and a residential area in the block between Colin P. Kelly Street and The Embarcadero. West of Third Street, Townsend Street is designated as a citywide bicycle route in the City's Transportation Element. It carries two-way traffic in an east-west direction with four travel lanes provided between Second and Fourth Streets and two lanes elsewhere. On-street parking is permitted with diagonal and also perpendicular parking provided in the residential area near The Embarcadero and near the Caltrain terminal between Fourth and Seventh Streets.

Brannan Street

Located three blocks north of Mission Bay, Brannan Street serves a mix of low-rise office, industrial and service commercial uses west of Delancey Street and a residential/retail area in the block between

TABLE D.1
VEHICULAR NETWORK CLASSIFICATION DEFINITIONS

Freeways - Limited access, very high capacity facilities; primary function is to carry intercity traffic; they may, as a result of route location, also serve the secondary function of providing for travel between distant sections of the city.

Major Arterials - Cross-town thoroughfares whose primary function is to link districts within the city and to distribute traffic from and to the freeways; these are routes generally of citywide significance; of carrying capacity depending on the travel demand for the specific direction and adjacent land uses.

Transit Conflict Streets - Streets with a primary transit function which are not classified as major arterials but experience significant conflicts with automobile traffic.

Secondary Arterials - Primarily intra-district routes of varying capacity serving as collectors for the major thoroughfares; in some cases supplemental to the major arterial system.

Recreational Street - A special category of street whose major function is to provide for slow pleasure drives and cyclist and pedestrian use; more highly valued for recreational use than for traffic movement. The order of priority for these streets should be to accommodate: 1) pedestrians, hiking trails or wilderness routes, as appropriate; 2) cyclists; 3) equestrians; 4) automobile scenic driving. This should be slow and consistent with the topography and nature of the area. There should be adequate parking outside of natural areas.

Collector Streets - Relatively low-capacity streets serving local distribution functions primarily in large, low-density areas, connecting to major and secondary arterials. To be identified in area plans.

Local Streets - All other streets intended for access to abutting residential and other land uses, rather than for through traffic; generally of lowest capacity.

Congestion Management (CMP) Network - The network of freeways, state highways and major arterials established in accordance with state Congestion Management legislation. Transit Conflict Streets are included in this network as well.

Metropolitan Transportation System (MTS) Streets, Highways and Freight Network - A regional network for San Francisco of freeways, major and secondary arterials, transit conflict and recreational streets meeting nine criteria developed by the Metropolitan Transportation Commission as part of the Regional Transportation Plan. The criteria identify facilities that provide relief to congested corridors, improve connectivity, accommodate travel demand and serve a regional transportation function. Due to the specific nature of the criteria, the MTS street and highway network is generally consistent with, but not identical to, the CMP network.

Relationship Between Function and Physical Design - No rigid design standards can be established on the basis of the functional categories established above, although higher capacities will generally be associated with freeways and major arterials. Capacities must be determined on the basis of the level of traffic demand, the space available for traffic and the nature of the surrounding environment.

Source: City and County of San Francisco, *San Francisco General Plan*, Transportation Element, Table 1, p. I.4.35.

Delancey Street and The Embarcadero. The block between Fifth and Sixth Streets is part of the San Francisco County Congestion Management (CMP) network, a section that is also designated as a major arterial in the Transportation Element. Brannan Street carries two-way traffic in an east-west direction with four travel lanes west of Second Street and two lanes in the residential area between Delancey Street and The Embarcadero. Brannan Street provides on-street, diagonal parking in the residential area. It also provides access to I-280 via on- and off-ramps at the intersection of Sixth and Brannan Streets. MUNI bus routes 15 and 42 use portions of Brannan Street.

Bryant Street

Located two blocks (a seven-minute walk) north of the Project Area, Bryant Street serves primarily retail commercial/residential-oriented uses west of Sterling Street and a residential area between Second Street and The Embarcadero. Bryant Street is designated as a major arterial, a transit important street between Third and Seventh Streets, and a secondary transit street between Seventh and Eleventh Streets in the City's Transportation Element. It is also part of the County Congestion Management Program network and the federally designated Metropolitan Transportation System. There are three distinct segments of Bryant Street with key differences in traffic flow, as summarized below:

West of Sterling Street:

- One-way eastbound
- Four basic through lanes
- Parking both sides

Sterling to Beale Street:

- Two-way (high-occupancy vehicle [HOV] restriction westbound weekdays 3:30 to 7:00 p.m.)
- Two lanes
- Parking south side only

Beale Street to The Embarcadero:

- Two-way (no HOV restriction)
- Two basic through lanes
- Parking north side only

Bryant Street provides access to eastbound I-80/Bay Bridge via on-ramps at Fifth and Sterling Streets. Off-ramps from eastbound I-80 are provided at Seventh and Fourth Streets. In many respects, Bryant Street serves a frontage-road function for eastbound I-80, collecting and distributing traffic between the freeway and local roadway network.

Harrison Street

Harrison Street is located on the other side of the I-80/Bay Bridge "skyway" from Bryant Street, more than one-half mile north of the Project Area. Harrison Street serves a mix of low- and mid-rise office, retail and residential buildings. It is designated as a major arterial, a transit important street between Fourth and Seventh Streets, and a secondary transit street between Seventh and Eleventh Streets in the City's Transportation Element. It is also part of the County Congestion Management Program network and the federally designated Metropolitan Transportation System. Harrison Street carries two-way traffic between Third Street and The Embarcadero, but is one-way westbound west of Third Street./1/ Four travel lanes are provided. Parking is permitted on both sides of Harrison Street. Harrison Street provides access to and from both directions of I-80 via the following ramps:

Eastbound I-80 Bridge On-Ramps:

- First Street
- Essex Street

Westbound I-80 On-Ramps:

- Fourth Street
- Seventh Street
- Eighth Street

Westbound I-80 Off-Ramps:

- Fremont Street
- Fifth Street

Harrison Street serves a frontage-road function for westbound I-80, collecting and distributing traffic between the freeway and local roadway network. It also serves as a feeder route for downtown and South Beach traffic destined for eastbound I-80/Bay Bridge.

16th Street

Sixteenth Street extends in an east-west direction between Illinois Street and outer Market Street, connecting the project site with the Mission District and upper Market Street and Potrero Hill areas. Sixteenth Street is designated as a secondary arterial, a transit-oriented street, a neighborhood pedestrian street, and a bicycle route in the City's Transportation Element. It provides two-way traffic flow, with four travel lanes east of, and two lanes west of Pennsylvania Street. On-street parking is permitted west of Pennsylvania Street.

Mariposa Street

Mariposa Street extends from the northbound U.S. 101 off-ramp at Vermont Street past Third Street to the waterfront at China Basin Street. Mariposa Street serves primarily residential uses west of Mississippi Street. Mariposa Street is a two-way east-west street with four travel lanes east of I-280 and two travel lanes west of the freeway interchange. Access to and from the south on I-280 is provided via on-ramps and off-ramps at Mariposa Street. The intersection at the off-ramp is signalized; the on-ramp is stop sign controlled. Parking is permitted on both the eastbound and westbound side of Mariposa Street west of Mississippi Street. Mariposa Street is a signed bike route from Mississippi to Third Streets.

The Embarcadero

The Embarcadero follows the waterfront from King Street north to Fisherman's Wharf. It is being reconstructed as a landscaped expressway having at least two travel lanes in each direction, a semi-exclusive transit right-of-way in the median, bicycle lanes and separated access and loading areas at piers in maritime use. The Embarcadero has two travel lanes in each direction from King Street to Folsom Street. Curb parking is provided in some areas. Final design plans are being prepared for the Mid-Embarcadero improvements between Folsom Street and Broadway. The Embarcadero is designated as a major arterial and a transit important street in the City's Transportation Element. It is part of the County Congestion Management Program network and the federally-designated Metropolitan Transportation System. The Embarcadero is an access route from the Golden Gate Bridge via both Broadway and Bay Streets, routes used to access the Project Area from the North Bay.

Second Street

Beginning at Berry Street, Second Street extends north to Market Street, a distance of approximately one mile. The existing Transbay Transit Terminal is located one block east of the intersection of

Mission and Second Streets. Second Street near the Mission Bay Project Area serves primarily low-rise buildings containing a mix of retail, residential, and service commercial uses. Second Street is designated as a citywide bicycle route in the City's Transportation Element. Second Street provides four travel lanes for two-way traffic. Parking is permitted on both sides of Second Street. Second Street is an access route to eastbound I-80/Bay Bridge via the on-ramp at Bryant/Sterling Streets (restricted to HOVs from 3:00 to 7:00 p.m. weekdays) and the on-ramp at Harrison/Essex Streets. The section of Second Street between Berry and King Streets was closed to vehicular and pedestrian traffic in November 1997 for construction of the San Francisco Giants Ballpark and it will be eliminated as part of that project.

Third Street

From the China Basin Channel, near Berry Street, Third Street extends north to Market Street a distance of one mile. The Montgomery BART station is located on Market Street one block east of the intersection of Market and Third Streets. Third Street north of China Basin Channel serves primarily low-rise buildings containing a mix of retail, residential and service commercial uses. Extending south, Third Street crosses China Basin Channel with a four-lane historic bascule (lift) bridge known as the Lefty O'Doul Bridge to serve the industrial uses south of the Channel in the Project Area. South of Mariposa Street, Third Street continues south for approximately four miles through the Bayview/Hunters Point area to an interchange with U.S. 101.

Third Street is designated as a major arterial and a transit important street, and part of the designated citywide pedestrian network north of Folsom Street in the City's Transportation Element. It is part of the County Congestion Management Program network and the federally designated Metropolitan Transportation System. Third Street north of China Basin Channel is a one-way northbound roadway providing four travel lanes plus parking on both sides. South of the Channel, Third Street is a four-lane two-way street; there are parking lanes on both sides. Third Street provides access to U.S. 101 approximately four miles south of the China Basin Channel. MUNI routes 30, 45, and 15 use Third Street northbound from Townsend Street; route 15 travels on Third Street south of the present intersection with Fourth Street.

Fourth Street

Fourth Street extends from Third Street south of China Basin Channel north to Market Street, including a historic three-lane bascule (lift) bridge over the Channel, known as the Peter Maloney Bridge. Fourth Street near the Project Area serves primarily low-rise buildings containing a mix of retail, office and service commercial uses. Fourth Street is designated as a major arterial, a transit

important street, and a part of the designated citywide pedestrian network north of Folsom Street in the City's Transportation Element. It is part of the County Congestion Management Program network and the federally designated Metropolitan Transportation System. North of Townsend Street, Fourth Street is a one-way southbound roadway providing four travel lanes plus parking on both sides. Two-way traffic is carried on Fourth Street between Townsend Street and Third Street although only MUNI buses are allowed northbound between King and Townsend Streets. MUNI buses providing service on the 15, 30, 45, and 42 lines use Fourth Street. Fourth Street provides access to and from the west on I-80 via an on-ramp at Harrison/Fourth Streets and an off-ramp at Bryant/Fourth Streets. Fourth Street provides access to the Caltrain terminal at Townsend/Fourth Streets.

Fifth Street

Fifth Street extends from Berry Street to King Street and from Townsend Street to Market Street. Near the Project Area, Fifth Street serves primarily low-rise buildings containing a mix of retail and service commercial uses. The portion north of Brannan Street is designated as a major arterial in the Transportation Element. The portion north of Townsend Street is designated as a citywide bike route in the Transportation Element. The portion north of Brannan Street is part of the County Congestion Management Program network and the federally-designated Metropolitan Transportation System. Fifth Street is a two-way roadway providing four travel lanes plus parking on both sides. Fifth Street provides access to and from I-80/Bay Bridge via an on-ramp at Bryant/Fifth Streets and an off-ramp at Harrison/Fifth Streets. Fifth Street provides access to the Powell Street BART station at Market Street. In the Mission Bay Project Area, Fifth Street provides access to I-280 at King Street, opened in late November 1997.

Seventh Street

Seventh Street defines the western border of the Mission Bay Project Area. It is a major arterial from Bryant Street to Market Street, and is classified as a secondary arterial throughout the majority of the Project Area, from Bryant Street to 16th Street. It is a four-lane two-way street, and is part of the Citywide Bicycle Route from 17th Street to 23rd Street. It is part of the Congestion Management Program network north of Mission Bay, from Market Street to Bryant Street, and is part of the Metropolitan Transportation System from Market Street to 16th Street.

Terry A. François Boulevard

Terry A. François Boulevard is located in Mission Bay South and extends in the north-south direction along San Francisco Bay between China Basin Channel and Illinois Street. It currently serves as the

eastern boundary of the project site south of Mission Rock Street. It is a wide, two-lane street with diagonal parking on both sides in the southern portion, and has parallel parking on both sides in the northern section. There are no sidewalks on either side of the street; there is a pedestrian path on the west side of Agua Vista Park adjacent to the street. Terry A. François Boulevard is designated as a component of the Citywide Pedestrian Network in the *San Francisco General Plan* Transportation Element.

Proposed Streets in Project Area

The following provides a description of changes to the proposed roadway system planned for the Mission Bay Project Area. It is based on the Infrastructure Plan being prepared by Catellus Development Corporation (Catellus) and the San Francisco Redevelopment Agency, which is currently in a draft form. The changes described below are assumed to be part of the project and are included in the transportation impacts analyses for this SEIR. Typical cross-sections for the streets described are shown in Figures D.1, D.2, D.3, D.4, D.5, D.6, and D.7. The Project Infrastructure Plan includes a new system of local neighborhood and collector streets, new major streets, plus major improvement to existing streets. The traffic impact analysis in this SEIR assumes implementation of all changes described below.

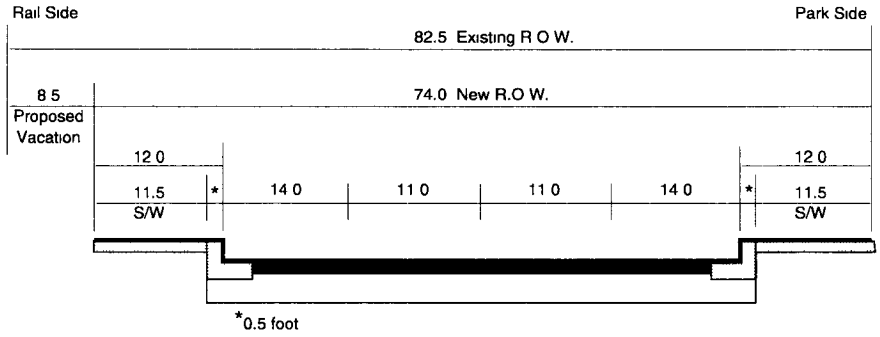
Mission Bay North

Berry Street

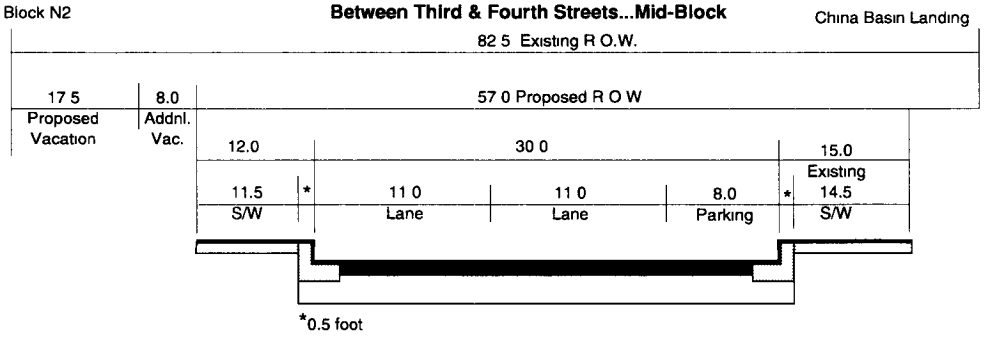
Berry Street would be developed as a linkage between Seventh Street and King Street. It will also connect with the planned westbound King Street frontage road to be built by the City on the north side of the I-280 on-/off-ramp structures. The existing inactive at-grade crossing of the Caltrain tracks would be re-opened and improved by repaving the existing road, providing automatic gates and flashing light signals, and installing rubberized surfaces across the tracks. Between Seventh Street and the King Street frontage road, Berry Street would have two travel lanes in each direction with no parking. During the off-peak commute periods, Berry Street between the frontage road and Fifth Street would be configured as a two-lane street (one lane each way) with parking on the south side. During the morning and evening peak commute periods, parking would be prohibited to accommodate an additional eastbound lane. The project proposes to close Berry Street between Fifth and Fourth Streets to public vehicular use, but would maintain emergency vehicle, pedestrian, and bicycle access. Between Fourth and Third Streets, Berry Street would accommodate one travel lane in each direction, with parallel parking on the south side. At the intersections of Berry Street with Fourth and Third Streets, the right-of-way would be widened by approximately 10 feet to provide an additional

EIP

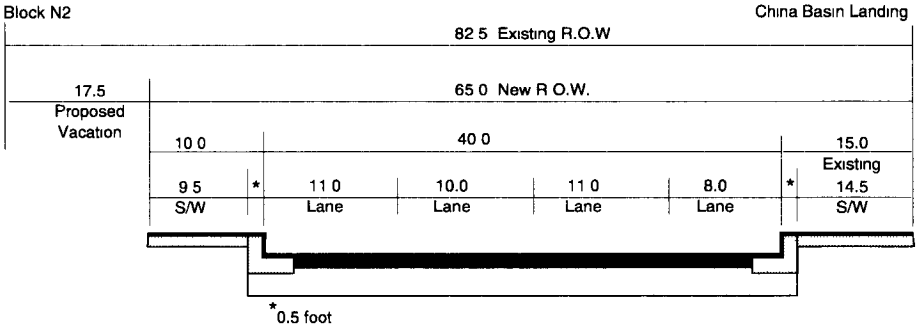
PROPOSED BERRY STREET
Between Sixth Street & Seventh Street



PROPOSED BERRY STREET
Between Third & Fourth Streets...Mid-Block



PROPOSED BERRY STREET
Additional Lane, from Fourth to 150' easterly of Fourth Similar Section at Third Street



Not to Scale

Note: Precise traffic and bicycle lane widths are subject to change as detailed project planning progresses. Dimensions are in feet unless otherwise noted. S/W= Street Width, R.O W. = Right of Way

96555-3-3-98

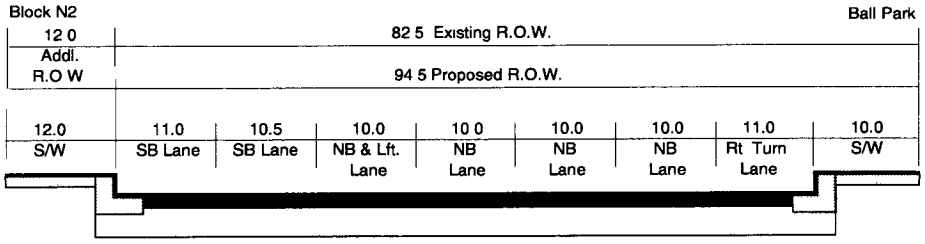
SOURCE KCA Engineers

MISSION BAY SUBSEQUENT EIR

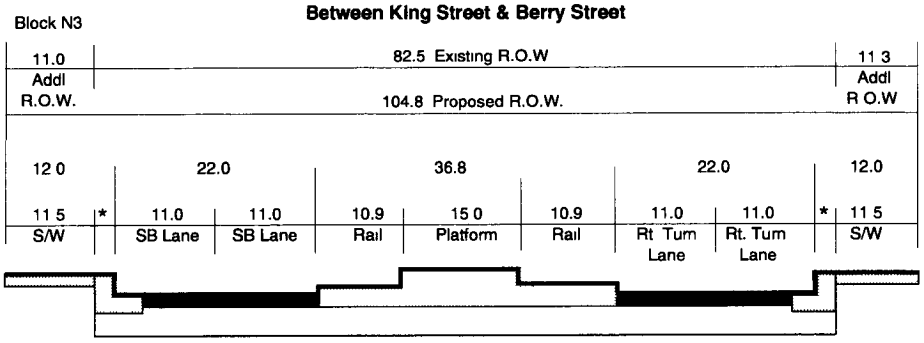
FIGURE D.1 MISSION BAY NORTH: BERRY STREET CROSS SECTIONS

EIP

PROPOSED THIRD STREET
Between King Street & Berry Street



PROPOSED FOURTH STREET
Between King Street & Berry Street



*0.5 foot

Not to Scale

Note: Precise traffic and bicycle lane widths are subject to change as detailed project planning progresses. Dimensions are in feet unless otherwise noted. S/W= Street Width, R.O W. = Right of Way

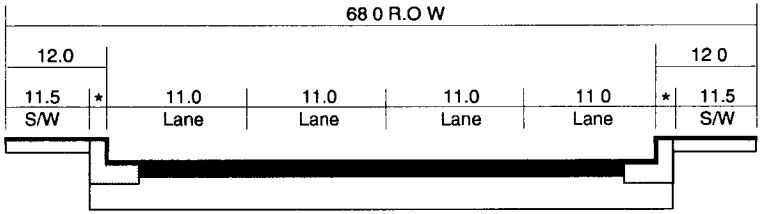
96555-8-20-98

SOURCE KCA Engineers

FIGURE D.2 MISSION BAY NORTH: THIRD STREET AND FOURTH STREET CROSS SECTIONS

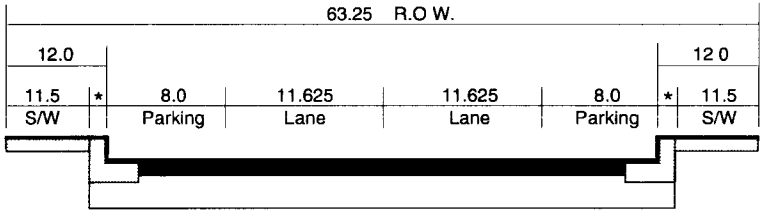
EIP

PROPOSED OWENS STREET
South of Roundabout



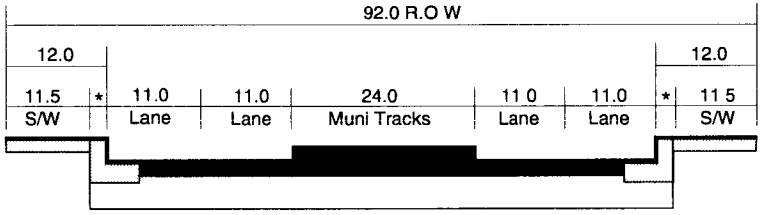
* 0.5 foot

PROPOSED EAST-WEST RESIDENTIAL STREETS



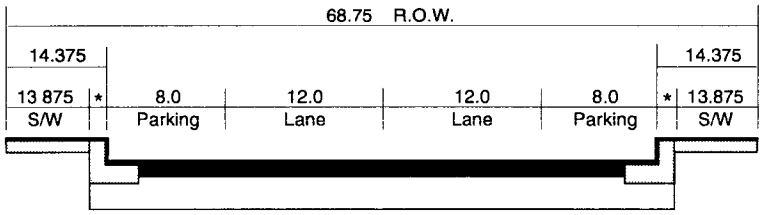
* 0.5 foot

PROPOSED OWENS STREET
New Fourth Street to Third Street



* 0.5 foot

PROPOSED NORTH-SOUTH RESIDENTIAL STREETS

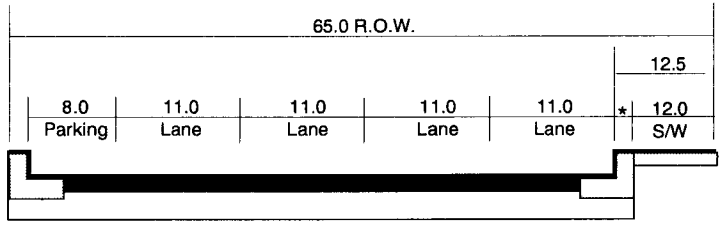


* 0.5 foot

PROPOSED OWENS STREET
Adjacent to Channel

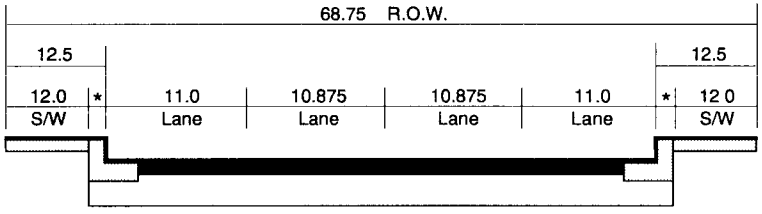
Park Side

Development Side



* 0.5 foot

PROPOSED SOUTH STREET
Third Street to Terry A. Francois Blvd.



* 0.5 foot

Not to Scale

Note: Precise traffic and bicycle lane widths are subject to change as detailed project planning progresses. Dimensions are in feet unless otherwise noted S/W= Street Width, R.O.W. = Right of Way

96555-3-23-98

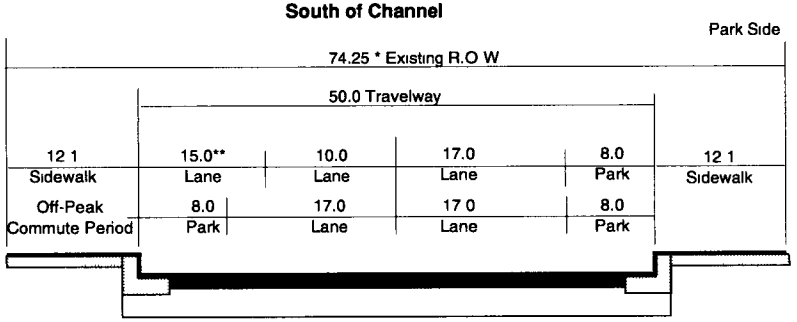
SOURCE KCA Engineers

MISSION BAY SUBSEQUENT EIR

FIGURE D.3 MISSION BAY SOUTH: OWENS STREET, EAST-WEST RESIDENTIAL STREETS, NORTH-SOUTH RESIDENTIAL STREETS AND SOUTH STREET CROSS SECTIONS

EIP

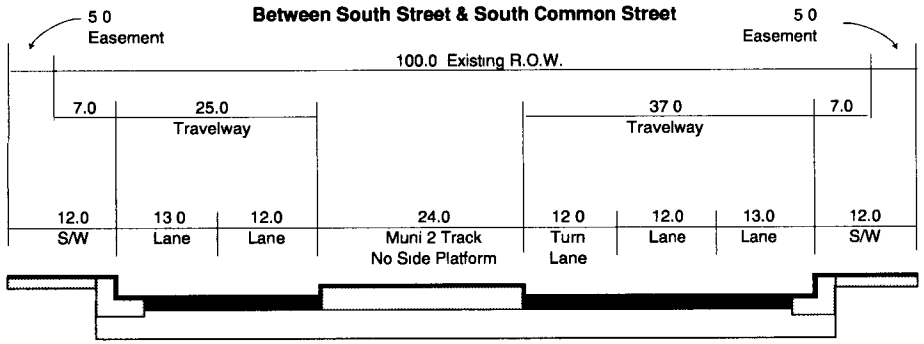
PROPOSED FOURTH STREET
South of Channel



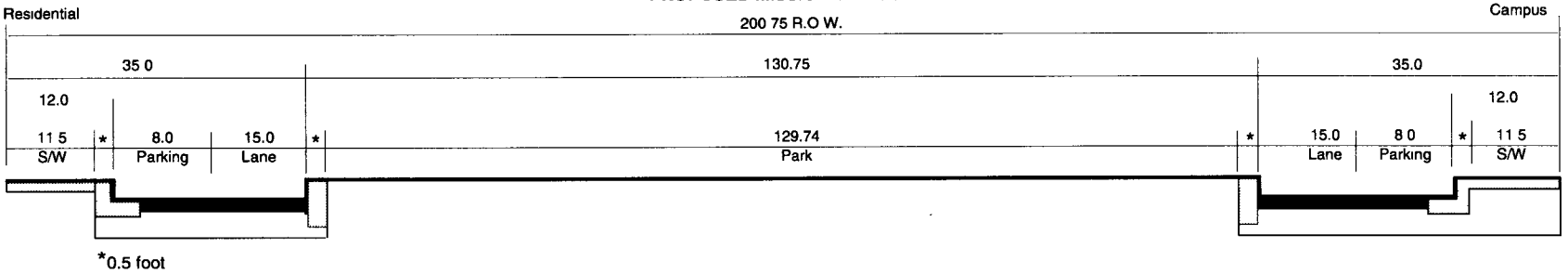
* Provide widened R O W at selected locations for left turns

** Accommodates bicycles

PROPOSED THIRD STREET
Between South Street & South Common Street



PROPOSED MISSION BAY COMMON



*0.5 foot

Not to Scale

Note: Precise traffic and bicycle lane widths are subject to change as detailed project planning progresses Dimensions are in feet unless otherwise noted. S/W= Street Width, R.O.W. = Right of Way

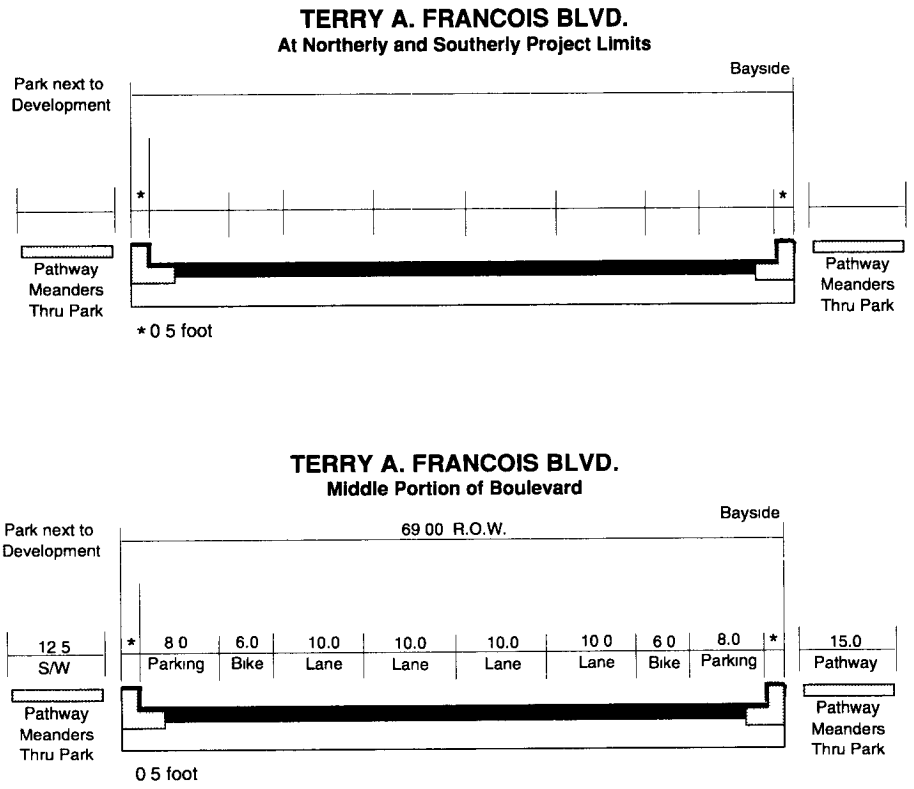
96555-3-24-98

SOURCE: KCA Engineers

MISSION BAY SUBSEQUENT EIR

FIGURE D.4 MISSION BAY SOUTH: THIRD STREET, FOURTH STREET, AND MISSION BAY COMMON CROSS SECTIONS

EIP



Not to Scale

Note: Precise traffic and bicycle lane widths are subject to change as detailed project planning progresses Dimensions are in feet unless otherwise noted. S/W= Street Width, R.O.W. = Right of Way

96555/3-3-98

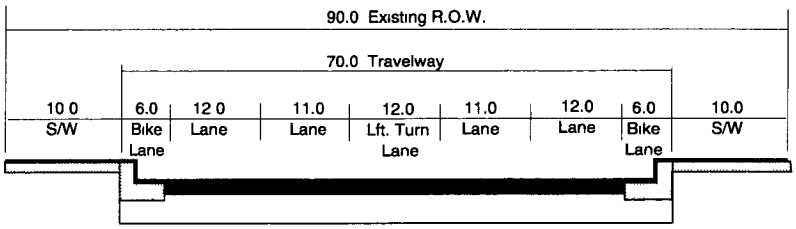
SOURCE KCA Engineers

MISSION BAY SUBSEQUENT EIR

FIGURE D.5 MISSION BAY SOUTH: TERRY A. FRANCOIS BOULEVARD CROSS SECTIONS

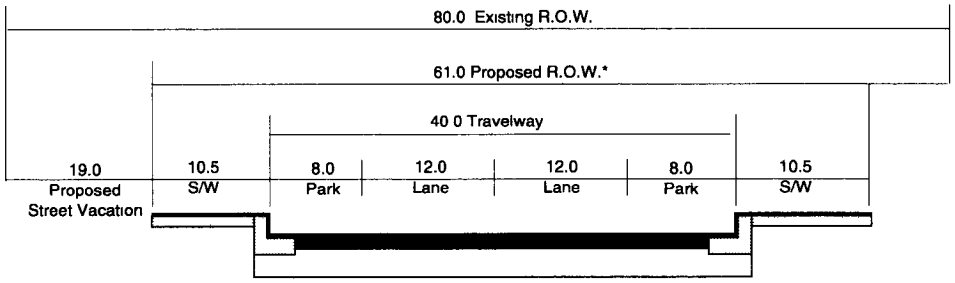
EIP

PROPOSED 16TH STREET



PROPOSED ILLINOIS STREET

16th Street to Mariposa Street



* Provide widened R.O.W at selected locations for left turns.

Not to Scale

Note: Precise traffic and bicycle lane widths are subject to change as detailed project planning progresses. Dimensions are in feet unless otherwise noted. S/W= Street Width, R.O.W. = Right of Way

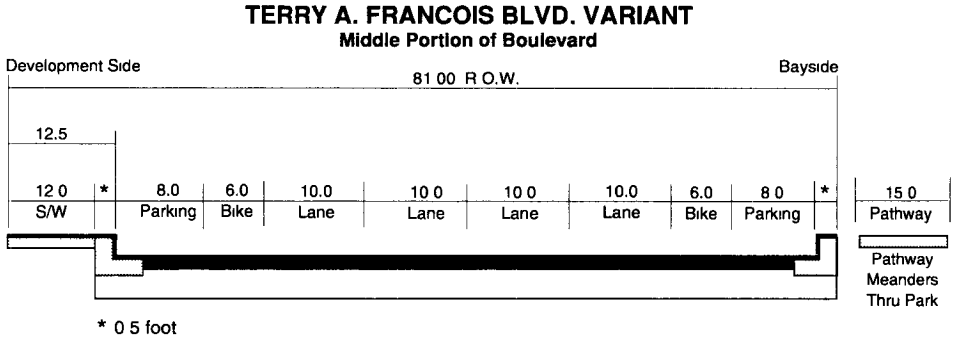
96555-3-3-98

SOURCE: KCA Engineers

MISSION BAY SUBSEQUENT EIR

FIGURE D.6 MISSION BAY SOUTH: ILLINOIS STREET AND 16TH STREET CROSS SECTIONS

EIP



Not to Scale

Note: Precise traffic and bicycle lane widths are subject to change as detailed project planning progresses. Dimensions are in feet unless otherwise noted. S/W= Street Width, R.O.W. = Right of Way

9655/3-22-98

SOURCE KCA Engineers

FIGURE D.7 VARIANT 1: MISSION BAY SOUTH-TERRY A. FRANCOIS BOULEVARD CROSS SECTION

outbound lane. The section of Berry Street between Third and Second Streets was closed to vehicular and pedestrian traffic in November 1997 for construction of the San Francisco Giants Ballpark and will be eliminated as part of that project.

King Street

A new exclusive left-turn only lane would be provided on King Street, in the westbound direction, to facilitate southbound movements onto Fifth Street for improved access to proposed residential development. The left-turn lane would be constructed within the existing King Street right-of-way, by narrowing approximately 250 feet of the existing landscaped median located on the north side of King Street, to the east of Fifth Street. In addition, the I-280 off-ramp touch-down at King Street would be restriped to increase the number of eastbound lanes from the existing two to three. The additional eastbound through lane would be located on the north side of the off-ramp, within the existing right-of-way and without requiring modification of the ramp structure. The existing landscaped median, located on the south side of King Street across from the off-ramp, would be narrowed for approximately 300 feet. No modifications to the existing MMX light rail right-of-way would be required for either the new exclusive westbound left-turn lane or the additional eastbound through lane.

The existing street right-of-way on the south side of King Street, between Fifth and Fourth Streets, would be widened up to about 11 feet to provide an additional eastbound right-turn-only lane from King to Fourth Streets. On-street parking on the south side of King Street between Fifth and Fourth Streets would be prohibited.

Third Street

Third Street, between Berry and King Streets, would be widened as part of the Mission Bay project in order to accommodate an additional northbound lane. The existing right-of-way would be widened by approximately 12 feet, on the west side of the street. There would be no on-street parking on Third Street between the Channel and King Street.

Fourth Street

Fourth Street, between Berry and King Streets, would be widened as part of the Mission Bay project in order to accommodate the proposed Third Street light rail trackage and a station platform, requiring approximately 36 feet of the roadway. The existing right-of-way would be widened by approximately 22 feet evenly split between both sides (approximately 11 feet on each side). Fourth

Street between Berry and King Streets would accommodate two travel lanes in each direction in addition to the proposed light rail tracks and station platform. On-street parking would be prohibited.

Fifth Street

Fifth Street between King and Berry Streets would accommodate two travel lanes in each direction and an 8-foot-wide landscaped median. On-street parking would be prohibited.

Traffic Signalization

The existing traffic signal at the intersection of King Street with Third and Fourth Streets would be reconstructed to accommodate an additional northbound and eastbound lane, respectively. Additionally, the existing traffic signals on Berry Street at Third and Fourth Streets would be rehabilitated (traffic signal heads would be relocated and/or replaced) to accommodate widening of the streets. The Infrastructure Plan also proposes that the existing traffic signal at the intersection of King Street and Fifth Street be modified to incorporate a protected westbound left-turn phase. Finally, a new traffic signal would be installed at the intersection of Berry Street and Seventh Street.

Mission Bay South

Owens Street

Owens Street would be improved and extended to provide a primary north-south connection between Mariposa Street and Third Street. The existing Owens Street between 16th Street and the new roundabout intersection at the north-west corner of the UCSF site would be reconstructed and widened to two lanes each way. Some additional widening would occur at major intersections such as 16th and Mariposa Streets to provide exclusive left-turn lanes. Owens Street would also be extended east, to connect the roundabout with Third Street, replacing the existing access easement running along the south side of the China Basin Channel (Channel Street). The right-of-way section of Owens Street between Fourth and Third Streets would be about 24 feet wider than the rest of the street, in order to accommodate a semi-exclusive double track for the MUNI Metro Third Street light rail extension. The plan proposes that northbound Owens Street be located so that direct access from the northbound I-280 off-ramp at Mariposa Street is provided. Southbound Owens Street, on the other hand, would connect with Mariposa Street, but would not be straight aligned with the southbound I-280 on-ramp. On-street parking would be prohibited except on the north side of the street between Fourth Street and the roundabout intersection, adjacent to the park along the south edge of the Channel.

Fourth Street

South of the China Basin Channel, Fourth Street would be realigned and extended as a new street parallel to Third Street between the new Owens Street and Mariposa Street. During the off-peak commute periods, Fourth Street would be configured as a two-lane street (one 17-foot-wide lane each way to accommodate automobiles and bicycles), with parking on both sides. In additon, exclusive northbound and southbound left-turn lanes would be provided at the intersection with 16th Street. During the morning and evening peak commute periods, parking on Fourth Street would be prohibited on one side of the street to accommodate an additional wide curb lane (15 feet) to be shared by automobile and bicycle traffic.

Third Street

The existing lane configuration on Third Street through Mission Bay South would be modified as part of MUNI's Third Street light rail extension, a separate project. MUNI's extension project calls for the elimination of parallel parking on both sides of the street in order to accommodate a double track for light rail in a semi-exclusive alignment and station platforms in the median.

As part of the project, the existing Third Street right-of-way would be widened between the extended Owens Street and Mariposa Street by a 5-foot easement on both sides of the street. The new 110-foot cross-section would accommodate wider sidewalks, two traffic lanes each way, and exclusive left-turn lanes at major intersections. The roadway would be repaved and restriped, and the sidewalks would be reconstructed. At the intersection of Third and 16th Streets, the right-of-way on the east side of the street south of 16th Street would be widened by approximately 10 feet for about 150 feet to accommodate a second exclusive northbound left-turn lane.

Terry A. François Boulevard

This existing street would be improved as a north-south street serving the easternmost portion of the Mission Bay Project Area south of China Basin Channel, as well as Port of San Francisco properties. The project calls for Terry A. François Boulevard to be restriped to accommodate two traffic lanes and one bicycle lane each way, with parallel parking on both sides.

North Common and South Common Streets

North Common and South Common Streets would consist of two parallel east-west one-way roadways separated by an approximately 130-foot-wide grassy area, on the north side of the UCSF site, running

- from Terry A. François Boulevard to the roundabout intersection and the Seventh Street connector. Between Terry François Boulevard and Mission Bay Street, each roadway would have one 15-foot-wide lane to be shared by automobile and bicycle traffic, and parking on the curb side. Parking would be eliminated on the approaches to Fourth Street, Third Street, and Terry A. François Boulevard for approximately 150 feet to accommodate an exclusive right-turn lane. Between Mission Bay Street and the Owens Street roundabout, each roadway would have two traffic lanes with no parking. North Common and South Common Streets would serve as the project's primary east-west access route.

Seventh Street Connection

A new street extending west from the planned intersection of Owens Street and North Common and South Common Streets to Seventh Street is proposed as part of the project. This connection would provide Mission Bay South with a primary access to the city neighborhoods west of Seventh Street, including the UCSF Parnassus Heights site. The connection would consist of two one-way, two-lane roadways with an at-grade, automatic gated crossing of the Caltrain tracks; parking would be prohibited on these roadways. This proposed at-grade crossing of the Caltrain tracks would replace an existing railroad crossing at King Street which is to be abandoned. The implementation of this new crossing would require approvals from the Peninsula Joint Powers Board (for Caltrain) and the State of California Public Utilities Commission (CPUC). Rubberized surfaces would be installed across the tracks at the crossing for bicycle safety.

16th Street

Sixteenth Street, between Third and Seventh Streets, would be repaved and restriped, maintaining the existing cross-section. That is two lanes each way, with striped bicycle lanes on both sides. Exclusive left-turn lanes would be provided at major intersections, such as Owens, Fourth, and Third Streets. The existing sidewalks would also be reconstructed. The section of 16th Street between Third Street and Terry A. François Boulevard would have a similar configuration. Parking on 16th Street would be prohibited. Rubberized surfaces would be installed across the tracks at the existing Caltrain railroad crossing near Seventh Street.

Mariposa Street

The Mission Bay plan calls for Mariposa Street to be widened on the north side, between Terry A. François Boulevard and Pennsylvania Street, from the existing configuration to two lanes each way,

with exclusive left turn lanes at major intersections, such as Third, Fourth, and Owens Streets, as well as the I-280 on-ramp. The existing on-street parking on Mariposa Street would be eliminated.

Illinois Street

Illinois Street, between 16th and Mariposa Streets, would be repaved and restriped, decreasing the cross-section right-of-way from the existing 80 feet to 61 feet. Illinois Street would accommodate one lane each way, with parallel parking on both sides. The existing, short, dead-end roadway section north of 16th Street would be eliminated.

Residential Streets

A series of new residential streets would be created or extended into Mission Bay South. These would include the streets designated Mission Bay, Rincon, and Mission Rock Streets on the various figures in this SEIR (see, e.g., Figure V.E.8 or Figure III.B.3). (Street names are included for ease of reference here; they do not establish final names of new streets in the Project Area.) These residential streets would serve the northern portion of Mission Bay South and would consist of one traffic lane each way, with parallel parking on both sides.

Traffic Signalization

New traffic signals would be installed at the intersections of Owens Street with Third and Fourth Streets. Additionally, new traffic signals are proposed along 16th Street at Seventh, Owens and Fourth Streets. The existing traffic signal at the intersection of 16th Street with Third Street would be reconstructed (traffic signal heads and poles would be relocated and/or replaced) to accommodate a second exclusive northbound left-turn lane. The existing traffic signals along Mariposa Street, at Third Street and at the I-280 off-ramp/Owens Street would also be rehabilitated (existing traffic signal heads and poles would be relocated and some new ones would be added) to accommodate the widening of Mariposa Street. Two new traffic signals would be installed at the intersections of Mariposa Street with the I-280 on-ramp and with Fourth Street. Two new traffic signals are proposed on Third Street at South Street and Third Street at North Common and South Common Streets. A new traffic signal may be provided to serve the UCSF site at a future intersection of a private UCSF street with Owens Street, or with another Project Area street adjacent to the UCSF site. Finally, a new traffic signal would be installed at the intersection of Seventh Street with the Common Streets (Seventh Street connection).

Fourth Street Intersection with Mariposa Street

As noted above under "Fourth Street," Fourth Street in Mission Bay South is proposed to be extended south to Mariposa Street, parallel to Third Street from China Basin Channel. Fourth Street is proposed to shift to the west between 16th Street and Mariposa Street to meet Minnesota Street where it now intersects Mariposa Street from the south. The configuration was proposed by Catellus after consideration of other geometric alternatives for this portion of Fourth Street because the resultant minimization of the number of intersections (conflict points), and the relatively equal spacing of traffic signals (approximately every 450 feet) along Mariposa Street allows for even distribution of vehicular queues along the arterial and provides for effective traffic circulation.

The alternative configurations that were considered include extending Fourth Street southward from 16th Street in a straight alignment to intersect with Mariposa Street. The resulting configuration of two closely spaced "T" intersections (i.e., Mariposa Street and Fourth Street, Mariposa Street and Minnesota Street) would produce unsafe conditions for traffic maneuvers (turning movements). The off-set, nonstandard geometric designs, which would align southbound vehicles on Fourth Street with northbound vehicles on Minnesota Street, would not be familiar to most drivers and, therefore, would be considered unsafe. Also, the short distance between the two intersections (approximately 80 feet) under this alternative would reduce the available storage space for queued vehicles on Mariposa Street, and would make the coordination of signal phases along Mariposa Street more difficult.

Another alternative would extend Fourth Street beyond 16th Street to connect with Owens Street somewhere north of Mariposa Street and south of 16th Street. This alignment would direct all southbound Fourth Street traffic onto Owens Street. The Owens Street southbound traffic, together with the redirected southbound Fourth Street traffic, would substantially increase traffic on Owens Street at its intersection with Mariposa Street and the I-280 northbound off-ramp. Under this scenario, it is projected that the Owens Street intersection with Mariposa Street would operate at LOS F. In addition, the congestion caused by combining Owens Street and Fourth Street southbound traffic flows would induce many drivers to seek other southward travel routes. These drivers would cause increased congestion at other locations, such as at the intersection of Third and Mariposa Streets.

A third alternative is the aligning of Fourth Street to intersect with Indiana Street rather than Minnesota Street. This alternative would route southbound Fourth Street traffic to an intersection that is immediately adjacent (less than 80 feet) to the intersection of Owens Street, Mariposa Street and the I-280 southbound off-ramp, and would create close and unequal signal spacing on Mariposa Street

(Mariposa Street at Owens Street, Mariposa Street at Fourth Street and Indiana Street), and concentrated congestion at the intersections near the I-280 off-ramp.

SAN FRANCISCO GENERAL PLAN

The following Objectives and Policies in the *San Francisco General Plan* Transportation Element are potentially relevant to the proposed Mission Bay Project:

Objective 2: Use the transportation system as a means for guiding development and improving the environment.

> Policy 2.5: Provide incentives for the use of transit, carpools, vanpools, walking and bicycling and reduce the need for new or expanded automobile and automobile parking facilities.

Objective 3: Maintain and enhance San Francisco's position as a regional destination without inducing a greater volume of through automobile traffic.

> Policy 3.1: The existing vehicular capacity of the bridges, highways and freeways entering the city should not be increased and, for single-occupant vehicles, should be reduced where possible.

Objective 4: Maintain and enhance San Francisco's position as the hub of a regional, city-centered transit system.

> Policy 4.5: Provide convenient transit service that connects the regional transit network to major employment centers outside the downtown area.

Objective 8: Maintain and enhance regional pedestrian and hiking access to the Coast, the Bay and Ridge trails.

> Policy 8.1: Ensure that the Coast Trail, the Bay Trail and the Ridge Trail remain uninterrupted and unobstructed where they pass through San Francisco.

> Policy 8.2: Clearly identify the Citywide Pedestrian Network where it intersects with the Coast, Bay and Ridge Trails.

Objective 11: Maintain public transit as the primary mode of transportation in San Francisco and as a means through which to guide future development and improve regional mobility and air quality.

> Policy 11.1: Maintain and improve the Transit Preferential Streets program to make transit more attractive and viable as a primary means of travel.

> Policy 11.2: Continue to favor investment in transit infrastructure and services over investment in highway development and other facilities that accommodate the automobile.