The EPA NEPA Guidance Analyses, directs an agency preparing an EIS

> to consider historical, current, and reasonably foreseeable future circumstances of minority/low-income communities to assess cumulative impacts of new action. . . . Potential cumulative impacts associated with additive/synergistic effects of pollutant loading from new discharges and existing sources and reasonably foreseeable future sources could be significant[.]"

In Chapter 5. Methods and Tools for Identifying and Assessing Disproportionately High and Adverse Effects, the EPA NEPA Guidance Analyses discusses various technical methods and tools that can be used to assess the adverse health, socioeconomic, and distribution impacts of a project. (50-58)

a. The DEIR is legally inadequate in its consideration of the project's environmental justice and cumulative impacts on the Southeast neighborhood.

Despite the requirements and guidance discussed above, and the past evidence of environmental racism in Bayview, Hunter Point the DEIR is severely inadequate in its consideration of the environmental justice aspects of the project. The DEIR fails to analyze the demographics of the communities impacted by the project. Bayview/Hunter Point population is over 86% people of color. . . .a predominantly African-American community that is already overburdened with environmental hazards. (Attachment #4, Hazard waste sites in the Southeast portion of San Francisco provided from Southeast Alliance Environmental Justice and SF Dept. Public Health) There is no specific discussion of the demographics or existing toxic burden faced by Bayview. . . .The transfer of pollution and the risk of toxic and bacteria contamination from one part of San Francisco to the Southeast area raises serious environmental justice concerns that must be adequately analyzed and mitigated.

An analogous attempt to disregard additional impacts to an already over-burdened community was recently rejected by the Second Appellate District in Los Angeles Unified School District v. City of Los Angeles, 97 Daily Journal D.A.R. 13373 (filed October 22, 1997) (finding EIR inadequate because it concluded that there would be no significant impact on schools from increased traffic noise because the ambient noise level at the schools already exceeded the State noise standard). In Kings County Farm Bureau, the court held that "one of the most important environmental lessons evident from past experience is that environmental damage often occurs incrementally from a variety of small sources. These sources appear insignificant, assuming threatening dimensions only when considered in light of the other sources with which they interact." 221 Cal.App.3d at 720.

b. The DEIR is legally inadequate because it fails to mitigate the environmental justice impacts of the Mission Bay project.

Given the seriousness of the environmental justice impacts of the Mission Bay project, further analysis and mitigation measures are required. The EPA NEPA Guidance Analyses suggests the following mitigation measures be used to mitigate environmental justice impacts:

- Establishment of a community oversight committee to monitor progress and identify community concerns.

- Reducing or eliminating other sources of pollutants or impacts to reduce cumulative impacts.

- Conducting medical monitoring on affected communities and providing treatment or other responses if necessary.

- Providing assistance to an affected community to ensure that it receives at least its fair (i.e. proportional) share of the anticipated benefits of the proposed action (e.g., through job training, community infrastructure improvements).

- Identifying clear consequences and penalties for failure to implement effective mitigation measures.

(EPA NEPA Guidance Analyses, page 42-43). The DEIR has neither considered the EPA NEPA Guidance, nor taken any of these steps.

All of these actions and guidelines make it clear that the City of San Francisco would be abusing its discretion under NEPA and CEQA if it failed to adequately consider, analyze, and mitigate any and all environmental justice impacts from the Mission Bay project.

These comments are directed at the DEIR regarding how the existing project alternatives and the impact of combined sewage overflows (CSOs). . .fails to consider cumulative impacts of the project. . . .Currently, Bayview's Southeast wastewater treatment plant handles 80% of all San Francisco's polluted sewage water every year. However, the additional one billion gallons of wastewater generated from Mission Bay would go directly through Bayview as would the brunt of combined sewage overflows to Islais Creek. . . .

The DEIR fails to analyze the existing environmental hazards facing Bayview, Hunters Point, or southeast corridor of the City; additionally, while the separation of stormwater and sewage in the Central Basin of Mission Bay will reduce overflows events at the new development, it will increase the volume of wastewater and the troubles that come with it to Bayview. . . The Mission Bay project DEIR does not consider comprehensive wastewater alternatives to help alleviate environmental injustice and protect human health. (*Mike Thomas, SAFER!/CBE Organizer; Lesley Barnhorn, Legal Intern; and Scott Kuhn, Staff Attorney, Communities for a Better Environment*)

We are concerned about the impact of the proposed wastewater plan for the Mission Bay/UCSF project on the environment - both as an individual project & as part of the cumulative, massive development on the City's bayside. We are particularly concerned about the effects of placing an additional wastewater burden on the Bayview/Hunters Point neighborhood, degraded shoreline, and nearshore Bay environment. This neighborhood receives a hugely disproportionate share of the City's wastewater burden. The 25 year old centralized system sends 80% of the City's sanitary sewage (100% of the sanitary sewage of the City's eastern watershed) and a huge portion of the City's wet weather/primary sewage and stormwater overflows to the Bayview/Hunters Point neighborhood, with a policy of "send all stormwater to Bayview." (*Jeff Marmer, Coalition for Better Wastewater Solutions*)

The environmental review's failure to describe with any particularity a plan to mitigate the adverse impacts of the estimated increases in wastewater to be sent to the Hunters Point sewage plant. Increased wastewater flows from the Mission Bay project are estimated to reach almost 1 billion gallons above what is currently handled by that plant. A plan specifying, among other things,

alternative localized treatment and water conservation measures, designed to maintain, as much as is feasible, the current flows to the Hunters Point plant should be evaluated as part of the SEIR. LARGE PROJECTS SHOULD NOT RESULT IN NEW WASTE LOADS TO THE HUNTERS POINT PLANT. . .

As for flows into the sewage plant, the SEIR must await the comments of the two technical review committees and must propose measures that will prevent, as much as is feasible, increases in wastewater flow to the Hunters Point. (*Michael R. Lozeau, Executive Director, San Francisco BayKeeper*)

Failure to consider disproportionate impacts and environmental justice, as defined by Executive Order No. 12.898 (59 Federal Register 7629)(1994), and to provide sufficient mitigation for those impacts.

The DEIR does not consider the environmental justice impacts of the Mission Bay project as required under Executive Order No. 12,898 (59 Fed. Reg. 7,629)(1994), "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations," issued by President Clinton on February 11, 1994. The Executive Order declares that each Federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations in the United States.

1. Each federal agency must analyze environmental effects, including human health, economic, and social effects, of federal actions, including effects on minority communities and low-income communities, when such analysis is required by NEPA.

2. Mitigation measures outlined or analyzed in EA's, EIS's, or Records of Decision (ROD's), whenever feasible, should address significant and adverse environmental effects of proposed federal actions on minority communities and low-income communities.

3. Each federal agency must provide opportunities for community input in the NEPA process, including identifying potential effects and mitigation measures in consultation with affected communities and improving accessibility of public meetings, official documents, and notices to affected communities.

4. In reviewing other agencies' proposed actions under the Clean Water Act, EPA must ensure that the agencies have fully analyzed environmental effects on minority communities and low-income communities, including human health, social and economic effects.

Under NEPA, a draft EIS must "to the fullest extent possible" integrate into the NEPA analysis "surveys and studies" required by other "environmental review laws and executive orders." 40 C.F.R. § 1502.25(a).

On September 30, 1997, the United States EPA issued its Interim Final Guidance for Incorporating Environmental Justice Concerns in EPA's NEPA Compliance Analyses (attached as Exhibit N). The EPA NEPA Guidance Analyses provides an excellent blueprint for an agency to use to ensure that environmental justice concerns are adequately researched, considered, avoided, and mitigated. Specifically, Exhibit 3. Summary of Factors to Consider in Environmental Justice Analysis provides

an excellent list of the demographic, geographic, economic, human health and risk factors that should be used to consider environmental justice in the NEPA process. (Exhibit N, pages 26-30).

As discussed at page 41 of the EPA NEPA Guidance Analyses, an agency preparing an EIS has to consider historical, current, and reasonably foreseeable future circumstances of minority/low-income communities to assess cumulative impacts of new action. Potential cumulative impacts associated with additive/synergistic effects of pollutant loadings from new discharges and existing sources and reasonable foreseeable future sources could be significant[.]"

Although extensive guidance is given in respect to environmental justice concerns, the SEIS/SEIR fails to consider these concerns.

The past evidence of environmental injustice and racism in Bayview-Hunters Point is extensive. Historically, the Bayview-Hunters Point community, a community of nearly 90% people of color, has been the location of San Francisco's most environmentally degrading industries, including slaughterhouses, wrecking yards, junk yards, ship repair yards, steel manufacturing, materials recycling facilities, sewage treatment, and power generation facilities. In many locations, environmental contamination from these activities still remains. Although the number of residents in Bayview-Hunters Point make up less than 5% of San Francisco's population, this neighborhood contains or is adjacent to 30% of the contaminated hazardous waste sites under investigation by the California Environmental Protection Agency (CalEPA).[1]

Based on an inventory of toxic sites and sources of pollution conducted in 1996 by the San Francisco Department of Public Health, it is clear that the Bayview-Hunters Point community (zip code 94124) is bearing an environmental burden that is significantly higher than any other neighborhood in San Francisco. For example, the Potrero/Bayview-Hunters Point area is the location of: 25% of permitted air emissions sources; 10% of the toxic air emission sources; 40% of the acutely hazardous materials storage sites; 23% of all underground storage tanks (UST's); 26% of the registered hazardous materials facilities; and 24% of hazardous waste generators. Furthermore, the Potrero/Bayview-Hunters Point area received 16% of all hazardous waste complaints, and is the location of 23% of all Local Oversight Program Sites, 56% of all CAL sites, and 60% of all potential discharge sites.[2] In addition to the above mentioned evidence for hazardous and toxic materials, the waste water facilities in Bayview-Hunters Point, located in proximity to residential areas, treat and discharge waste matter into the bay via Islais Creek, an area recognized as having fishing for subsistence food. The State Water Resources Board (1993) identified the Islais Creek area above the Third Street Bridge as a potential toxic hot spot.

The above referenced evidence of environmental racism and injustice speaks directly to the disproportionate impacts from the Mission Bay Project's wastewater stream. The further centralization of sewage treatment in Bayview-Hunters Point, a neighborhood that already bears the burden of 80% of the City's sewage waste, and the billion gallons of additional flows per year to the plant would exacerbate the problem of a waste water system that only meets Clean Water Act regulations because of exemptions.

The SEIS/SEIR is also legally inadequate because it fails to adequately mitigate the environmental justice impacts of the Mission Bay Project. Although, the SEIS/SEIR proposes mitigation (VI.47, K3 & K4) these are inadequate in light of the serious environmental justice impacts from the project.

While the project, will reduce overflows at the new development, it will increase the volume of wastewater and its negative effects to Bayview-Hunters Point. The transfer of pollution and the risk of toxic and biological contamination from yet another part of San Francisco to Bayview-Hunters Point raises serious environmental justice concerns and is patently unacceptable. . . .

EPA NEPA Guidance Analyses suggest the following mitigation measures to be used to mitigate environmental justice impacts:

- Establishment of a community oversight committee to monitor progress and identify community concerns.
- Reducing or eliminating other sources of pollution or impacts to reduce cumulative impacts.
- Conducting medical monitoring on affected communities and providing treatment or other responses if necessary.
- Providing assistance to an affected community to ensure that it receives at least its fair (i.e. proportional) share of the anticipated benefits of the proposed action (e.g. job training, community infrastructure improvements).
- Identifying clean consequences and penalties for the failure to implement effective mitigation measures.

The SEIS/SEIR has not only not discussed the potentiality for environmental justice impacts, but has not addressed any mitigation for these impacts.

Although, the project is not directly paid for with federal dollars, it does make use of existing facilities that used federal monies in their construction. When an environmental justice claim is made, agencies must assure "early and ongoing" opportunities for public involvement in the permitting process and must conduct a special health and environmental impact analysis "focusing particularly on the minority or low-income community whose health or environment is alleged to be threatened by the facility."

The City's failure to address environmental justice concerns, while clear guidelines exist, make it clear that the City is neglecting its duty to protect the health and welfare of the Southeast Community. The City and the Project are in effect making the Bayview-Hunters Point bear the externalities of the project, without receiving any of its direct benefits. . .

Our support of this project is contingent upon the City and Catellus paying adequate attention to the environmental concerns of SAEJ and the Bayview-Hunters Point community.

Bayview-Hunters Point no longer accepts being the dumping ground for what the rest of San Francisco does not wish to put its own backyard. The residents of the community insist on equity and proper attention to our concerns. . .

SAEJ suggest the goal of the project should be no net increase in sewage flows (dry or wet weather) to the SWPCP. This alternative will not further burden a strained system and will work toward environmental justice.

[1] Bayview-Hunters Point Health and Environmental Assessment Project, 1996 Workplan Report.
[2] See "*Partial Inventory of Toxic Sites/Factors in San Francisco,*" prepared by the Department of Public Health, Bureau of Environmental Health Management.

(*Alex Lantsberg, Project Coordinator, Southeast Alliance for Environmental Justice*)

And in order to explain it, I just have to remind you that Mission Bay, according to the paper, will send 100% of the sanitary sewage and 80% of the storm water to the southeast water pollution control plant. That's us. That's us, we live there for 24 hours a day, near that smelly place that the City has put in our community. And this particular project is planning to make it worse for us. It is planning to make us sicker, it is planning to make our daily life worse than it is right now. And on that issue, let's talk about that. . .

Reverse the trend of wastewater flows to Bayview/Hunters Point. We do not want any more sewage, you know, to come into Bayview/Hunters Point.

We are ready to help the City by -- you know, 80% of the sewage of the City comes to Bayview/Hunters Point. Why is that happening to us? And why are they insisting on making it worse for us? (*Ena Aguirre*)

Response

The comments raise a number of issues related to environmental justice. In particular, they assert that the SEIR is inadequate because it fails to consider disproportionate impacts of the project on minority and low-income communities as required by Executive Order 12898. Executive Order 12898 requires federal agencies to make achieving environmental justice a part of their missions by identifying and addressing disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority and low-income populations./86/ In accordance with Executive Order 12898, federal agencies typically address environmental justice in their National Environmental Policy Act (NEPA) documents.

The comments assert evidence of environmental injustice and racism in the Bayview-Hunters Point area, and suggest that increasing wastewater and stormwater flows would further burden the Bayview-Hunters Point community. The comments state that the SEIR does not analyze the demographics of this community, its existing environmental hazards, or the project-related public health issues that pertain to it. The comments call for a special health and environmental impact analysis that focuses on the minority and low-income communities of Bayview-Hunters Point, and request that the SEIR adhere to U.S. Environmental Protection Agency (U.S. EPA) guidance for incorporating environmental justice concerns into NEPA studies. They also propose a goal of no net increase in sewage sent to the Southeast Water Pollution Control Plant.

The comments argue that the Executive Order, and hence NEPA guidance, applies to the SEIR because (1) CEQA was modeled after NEPA, and state courts have looked at federal NEPA case law in interpreting CEQA, and (2) although the project would not be constructed with federal funds, it would rely on facilities built with federal funds. The SEIR has been prepared in accordance with CEQA, a state law. NEPA is a federal law that does not apply to the decisions at hand, which involve local and state agencies. Although project-related activities could rely on facilities built with federal funds (e.g., highways and wastewater treatment facilities), these facilities have already been constructed; therefore, NEPA does not apply.

Federal agencies that may undertake major federal actions related to the project could include the U.S. Army Corps of Engineers and the U.S. Coast Guard, as listed under "Summary of Local, Regional, and Federal Approvals" on pp. III.49-III.51. These agencies may undertake NEPA studies, if necessary, when they consider federal approvals for aspects of the project under their jurisdiction. In doing so, they would be expected to comply with the Executive Order regarding environmental justice.

Guidance in interpreting NEPA requirements may be helpful in interpreting CEQA requirements where both requirements are similar, but issues of environmental justice are handled differently under CEQA and NEPA. Whereas NEPA documents must adhere to Executive Order 12898, State CEQA Guidelines Section 15131 directs agencies to focus on the physical changes that would arise from a project, not on its economic or social effects. While economic and social issues may be discussed as they relate to physical effects, they are not themselves considered significant environmental impacts under CEQA. The SEIR evaluates the physical impacts of the project without regard to the racial, ethnic, or economic status of the populations affected. For this reason, the SEIR does not evaluate the demographics of the affected communities, but it does describe the existing and foreseeable future physical conditions of these communities as relevant to the impact analysis.

The comments appear to be most concerned with impacts to the Bayview-Hunters Point community. As summarized under "Significant Environmental Effects that Cannot Be Avoided if the Proposed Project is Implemented" on p. IX.1, the SEIR identifies potentially significant and unavoidable impacts of the project. None of these impacts would disproportionately affect residents of Bayview-Hunters Point.

- Significant potential traffic intersection impacts would occur at or near I-280 and I-80 in the South of Market area, not in the Bayview-Hunters Point area.

- Significant traffic congestion impacts would occur on the Bay Bridge and its on-ramps, but not in the Bayview-Hunters Point area.

- Significant air quality impacts would affect the entire San Francisco Bay Air Basin, not any particular community within the region.

- Significant toxic air contaminants impacts could affect individuals in and near the Project Area, but the distance between the Project Area and the Bayview-Hunters Point area (about 0.75 miles) would provide a substantial buffer from project-related emissions.

- Significant hazardous waste generation and disposal impacts would occur at treatment and disposal facilities typically far from the Project Area, and no hazardous waste facilities in the Bayview-Hunters Point area accept third-party wastes.

- The project would contribute to potentially significant water quality impacts that could occur near-shore, particularly at storm water and combined sewer overflow (CSO) outfalls, but as discussed below, they would not cause significant human health impacts.

As discussed under "Effects of Mass Pollutant Emissions on Sediment Quality," on pp. V.K.48-V.K.50, the project would increase the volume and duration of CSOs to Islais Creek, which is located in the northern part of the Bayview-Hunters Point area. As stated under "Effects on Water-Contact Recreation" on p. V.K.54, foreseeable cumulative development would increase the duration of CSOs by about 14.1 hours per year or 1.4 hours per overflow. Islais Creek is not typically used for water-contact recreation; therefore the cumulative increase in CSO volumes and durations, and their near-shore effects, would not be a human health issue. Furthermore, the increased volumes and durations of CSOs would be small compared to existing conditions. Nevertheless, Mitigation Measure K.3 on p. VI.47 would eliminate the project's contribution to the cumulative increase in CSOs volumes and durations, thereby eliminating any possible contribution of the project to potential effects on minority or low-income populations.

The comments note that the Executive Order addresses subsistence fishing, which occurs at various locations along the shore of the Bay. The Executive Order instructs federal agencies to collect, maintain, and analyze information on the consumption patterns of populations who rely on fish for subsistence, and to communicate to them the risks posed by those consumption patterns. As demonstrated by the documents attached with one comment, the California Office of Environmental Health Hazard Assessment undertakes this responsibility. The Mission Bay project would not affect the number of individuals practicing subsistence fishing in the Project Area. The effect of the project would be limited to its contribution to the bioaccumulation of toxic substances in fish. As discussed in the response regarding "Consumption of Bay Fish," the project would not substantially alter the

concentrations of pollutants in San Francisco Bay and, therefore, would not substantially affect the levels at which fish accumulate toxic substances.

Regarding U.S. EPA guidance with respect to the Executive Order, the project is not subject to the Executive Order, NEPA, or U.S. EPA approval; therefore, U.S. EPA's guidance does not apply to the SEIR. The U.S. EPA guidance identifies potential mitigation measures that include instituting a community oversight committee, reducing other sources of pollution in affected areas, monitoring the health of community members and providing treatment when necessary, providing the affected community with some of the benefits of the project (e.g., jobs or infrastructure), and spelling out clear consequences for any failure to implement appropriate mitigation./87/ Notwithstanding the above discussion, these suggested mitigation measures are also unwarranted for the following reasons.

- Establishing a community oversight committee to monitor progress and identify community concerns would not mitigate any significant environmental impact identified in the SEIR.

- Reducing other sources of pollution or impacts would be unnecessary if Mitigation Measure K3 were implemented.

- Conducting medical monitoring and providing treatment would be unnecessary because the project would not pose substantial human health hazards to the Bayview-Hunters Point community.

- Ensuring that affected communities share in the benefits of the project would not relate to physical impacts, although the potential benefits of the project may be considered when making CEQA findings.

- Identifying consequences for failing to implement mitigation would be beyond the scope of the SEIR. Decision-makers could consider specific enforcement mechanisms when they consider the project, in addition to the enforcement mechanisms already available to the City by law.

The comments assert that wastewater flows to the Southeast Plant presently burden the Bayview-Hunters Point community and that increasing these flows would exacerbate existing problems. The Southeast Plant went into operation in 1951. Following certification of a program EIR/EIS (EE74.62, certified May 1974) that included evaluation of alternative ways to most effectively reduce the detrimental effects of the City's waste discharges, the City and County of San Francisco, the RWQCB, and the U.S. EPA approved a Wastewater Master Plan. Pursuant to that Master Plan, as modified since 1974, the decision was made to develop a central treatment system instead of a decentralized system with many plants. As a key component of that system, the Southeast Plant was expanded, and other system components constructed, between 1974 and 1997. Following the

program EIR/EIS on the Wastewater Master Plan, each component of the system received a separate environmental review, 24 in all between 1974 and 1992, and while aspects of the original Wastewater Master Plan were modified in accordance with updated engineering and other technical studies, the basic concept of a central system has remained.

When the decision was made to expand the Southeast Plant in the Bayview-Hunters Point neighborhood, the Bayview-Hunters Point community received certain amenities in return for receiving the facility. These amenities included the Southeast Community Facility, which supports a community center, day care facility, and educational job training programs for the Bayview-Hunters Point neighborhood residents. Much of its space is leased to City College of San Francisco. These amenities were provided in recognition of any burdens placed on the Bayview-Hunters Point community from the expanded Southeast Plant; they were not mitigation measures for any specific physical environmental impacts. Similarly, wetlands enhancement and bank planting were carried out on the north edge of Islais Creek as part of the construction of transport/storage sewers and a pump station between César Chavez Street and the creek.

Responses to specific concerns regarding the Southeast Plant are provided in the response regarding "Background Regarding Existing Combined Sewer System" on pp. XII.232- XII.238. Evidence does not suggest that the project would result in any substantial change in conditions in the Bayview-Hunters Point area. Because existing problems associated with the Southeast Plant are not associated with the project (as discussed in the responses regarding "Sewer Flooding" pp. XII.392- XII.394 and "Odors" pp. XII.394-XII.396), a policy of not increasing flows to the plant is unwarranted, unreasonable, and impractical. Furthermore, the full capacity of the Southeast Plant was considered in accordance with CEQA./88/

In conclusion, although the environmental justice concerns expressed by the comments cannot be considered significant impacts under CEQA, their inclusion here ensures that they will be reviewed and considered by project decision-makers when considering project approval. The SEIR has carefully considered all project-specific, as well as cumulative, impacts of the project as required by CEQA.

Consumption of Bay Fish

Comments

A 1992 CBE survey of 400 anglers showed that over 70% of people fishing the Bay are people of color, and over 50% of anglers and their families consume the fish they catch. The State Water Resources Control Board (SWRCB) has listed central San Francisco Bay as impaired on the basis of

field surveys of water column, sediments, sediment toxicity, bivalve bioaccumulation, and water toxicity. (SWRCB, 1996 California Water Quality Assessment Report, January 1997)

The contaminants of primary concern include mercury, copper, selenium, diazinon, and poychlorinated biphenyls (PCBs). The State EPA has issued health warnings for Bay-caught contaminated fish since the 1970s, and children and pregnant or breast-feeding women are advised to eat no more than two to eight ounces of Bay fish per *month.* (See attachment #3 "Health Advisory on catching and eating fish"). CBE surveys show that many Bay anglers and their families eat from three ounces to as much as a pound per *day*. The study found that on average people of color anglers and their families consume 21% more grams of fish per person per day than their white counterparts.

The 1995 San Francisco RWQCB report, "Contaminated Levels in Fish Tissue from San Francisco Bay" finds that commonly caught and consume white croaker and shiner surf perch contain alarmingly high levels of mercury, PCBs, dioxin at all 3 San Francisco sites, Pier #7, Islais Creek, and Double Rock (Candlestick). In 1997, CBE worked with the City and County of San Francisco Department of Public Health to post metal health warning in eight language signs across the Bayside shoreline.

Negative impacts on beneficial use at Islais Creek is of central concern. The DEIR states,

> At Islais Creek facilities, the annual overflow duration was estimated to increase by 14.1 hours, or 1.4 hours per flow. No water contact recreation occurs in the water near the facilities, and the increase in overflow duration would have no substantial impact in this area of the Bayside shoreline under cumulative scenario. Volume II V.K.54

CSOs not only contribute to pathogens contamination of shorelines, CSOs contribute heavy dumping of toxic pollutants which enter the food chain. Islais Creek is a favorite fishing spot for community members in the Southeast corridor, with families fishing from the banks and pier. As an identified toxic hotspot, with four existing overflow pipes, and fish health warning signs posted, beneficial use will be "substantially impacted" by the increased volumes of overflows as stated in the DEIR. (*Mike Thomas, SAFER!/CBE Organizer; Lesley Barnhorn, Legal Intern; and Scott Kuhn, Staff Attorney, Communities for a Better Environment*)

The toxics. For the last five years Safer, which is a project of Communities for a Better Environment, have been working around educating them, around fish consumption.

Over 75% of the people that are eating Bay fish are people of color and immigrants. 70% of those people eat the fish that they catch and 66% of those people didn't even know about the health effects.

For San Francisco, fish tested at Islais Creek, which is near Bayview, and Pier 7 which is near Chinatown, indicated levels of concern PCBs and mercury. (*Mike Thomas, Communities for a Better Environment*)

Response

Tables V.K.2, V.K.3, and V.K.4 (pp. V.K.35, V.K.37, and V.K.39) estimate foreseeable increases in pollutant loads from treated effluent, combined sewer overflow (CSO), and stormwater discharges

for certain constituents. With the project, effluent loads would likely increase by about 2.8%, and CSO loads would increase by about 0.22%. Stormwater loads would vary, with possible increases ranging from about 10% to 60%, depending on the pollutant considered. For pollutants not listed in Tables V.K.2, V.K.3, and V.K.4, potential increases in loads would likely mirror those included in the tables. Implementation of Mitigation Measures K.3 and K.4 on p. VI.47 would reduce pollutant loads from CSOs and stormwater (refer to the response regarding "Illustrative Mitigation Scenarios,") pp. XII.253-XII.277.

Some pollutants found in the Bay are transported among various organisms through the food web. For example, benthic organisms live within a relatively thin layer of the sediments at the bottom of the Bay. They ingest the sediments and can accumulate some pollutants deposited there. Some organisms accumulate certain pollutants at levels that can be orders of magnitude above the concentrations of the surrounding waters in which the organisms live. Therefore, certain pollutants from the Project Area could contribute to existing pollutants already moving through the food web.

However, the levels of pollutants found in Bay fish and other organisms depend on the environmental concentrations of the pollutants. The project would not likely affect pollutant concentrations in Bay fish because it would not measurably affect overall pollutant concentrations in the Bay, including the pollutant concentrations of settleable materials discharged to Bay waters. Although the project could incrementally increase the amount of settleable materials discharged to the Bay, the pollutant concentrations in any new sediments would be similar to or less than the pollutant concentrations of the existing sediments (to the extent that past CSOs may have contributed to pollutant concentrations and current discharges occur far less frequently and are of higher quality). As the sediments rise, the benthic organisms rise, always remaining in the uppermost layer of sediments. Therefore, benthic organisms would continue to be exposed to roughly the same or lower concentrations of pollutants as they are now.

The potential for pollutants to be transported through the food web and, in some cases, accumulate within Bay organisms has been considered by the Regional Water Quality Control Board (RWQCB) in developing its water quality objectives. Because programs based on numerical objectives for individual pollutants and toxicity objectives do not fully consider the accumulation of these pollutants, the RWQCB has initiated a program requiring major dischargers to monitor sediments and bioaccumulation near discharge sites. Information from such local monitoring will be assessed to ensure that Basin Plan objectives regarding pollutant accumulation in sediments and aquatic organisms are met./89/ The RWQCB also accounts for the issue of bioaccumulation in preparing its list of impaired water bodies, described under "Impairment of Central San Francisco Bay" on p. V.K.8.

Many of the pollutants targeted for a Total Maximum Daily Load (TMDL) process (e.g., mercury and polychlorinated biphenyls [PCBs]) can potentially bioaccumulate through the food web. For an additional discussion relating to the TMDL process, refer to the text under "San Francisco Bay Basin Water Quality Control Plan (Basin Plan)" on p. V.K.16 and the response regarding "Pollutant Loads and Federal and State Antidegradation Policy," pp. XII.367-XII.370.

Although the project could contribute to pollutant loads transported through the food web (albeit not sufficiently to substantially alter the pollutant concentrations observed in fish), it would not likely result in increases in the number of individuals fishing in the Bay, including people of color and immigrants. Regarding potential environmental justice issues, refer to the response regarding "Environmental Justice," pp. XII.378-XII.392.

Sewer Flooding

Comments

The combined sewer strategy has involved enormous costs, wet-weather components of the existing system cost approximately $900 million and the dry-weather components cost approximately $550 million. (Attachment #5, April 10, 1998 fax from Dave Jones of the PUC to Wendall Chin/CBE) Further, the system took 10 years to be constructed, does not prevent frequent pathogen contamination of beaches, and still results in manhole overflows.

Immediate benefits of removing stormwater from Mission Bay project would include reducing the overflows from street manholes in the Southeast area, total volume to the Southeast plant, and odor problems. Street manhole flooding is a City-wide issue which affects the Southeast and Sunset neighborhoods most directly. These flooding incidents are a violation of San Francisco's permit and directly impact the quality of life of resident, business owners, and public health. With the Mission Bay project and its estimated one billion gallon annual wastewater flow how many more manholes will pop off? . . . *(Mike Thomas, SAFER!/CBE Organizer; Lesley Barnhorn, Legal Intern; and Scott Kuhn, Staff Attorney, Communities for a Better Environment)*

Secondly, there are many illegal overflows from street manholes, especially in the Southeast, that indicate that the system is not performing as expected and is out of compliance. *(Jeff Marmer, Coalition for Better Wastewater Solutions [letter from John Rosenblum, Ph.D., Rosenblum Environmental Engineering; attachment to Mr. Marmer's letter])*

Secondly, there are many illegal overflows from street manholes, especially in the Southeast, that indicate that the system is not performing as expected and is out of compliance. *(Jeff Marmer, Coalition for Better Wastewater Solutions [letter from Robert W. Rawson, International Organic Solutions; attachment to Mr. Marmer's letter])*

As we know, since it's raining now, we have the overflow where feces are running down our street.

The young man that spoke earlier proudly stated that he had been the one opposing the cross-town tunnel that was promised to those of us that lived in Bayview/Hunters Point 25 years ago.

If that tunnel had been built 15 years ago, feces would not be running down our streets like it is today. (*Espanola Jackson*)

Response

Collection system flooding is primarily caused by undersized or hydraulically inadequate sewers, although there are some areas that flood because they are below official City grade. When it rains and the collection system fills, local sewer inadequacies can cause local ponding of stormwater because stormwater cannot get into the catch basins. During an extreme storm, an excessively inadequate sewer can even cause flow from within the sewer to exit, usually through a manhole. This type of flooding presents a potential public health hazard as the flow exiting the sewer includes a small percentage of sanitary sewage.

Because the primary cause of flooding is undersized sewers, it is a localized problem requiring localized solutions. One possible solution is to replace the undersized sewer with a larger pipe. Another possible solution is to divert flow upstream. However, flooding caused by an inadequate local sewer would not be relieved by transporting flow from the Southeast Water Pollution Control Plant to the Oceanside Water Pollution Control Plant (via a Crosstown tunnel or any other route), by diverting all flows from Mission Bay away from the Southeast Plant, or by increasing the treatment rate at the Southeast Plant. See the response regarding "Crosstown Tunnel," pp. XII.277-XII.278 for additional discussion of its status.

The San Francisco Public Utilities Commission is developing a Strategic Plan for the Clean Water Program. The goal of this document is to identify the major issues currently facing the City's wastewater infrastructure, identify the potential capital improvements needed to respond to those issues, develop a process and criteria for prioritizing the improvements, present an action plan for the Clean Water Program, develop a financial plan for the priority improvements, propose a public information and outreach plan, and describe implementation strategies for the recommended improvements. As part of this process, additional flood control projects (other than those currently underway) will be ranked against other recommended improvements. In general, flood control projects are expected to receive a high priority throughout this process.

The City maintains a list of all known structurally and hydraulically inadequate sewers that is updated on a regular basis. Every year, funds are allocated to projects addressing these inadequacies. Since 1978, the City has spent over $90 million on projects related to the collection system. In 1994, voters approved a $149 million bond measure that would have allocated $79.4 million to collection

system inadequacies. However, of the $79.4 million in voter-approved flood control bonds, $54.8 million cannot be sold under the terms of Proposition H, passed by San Francisco voters in June 1998. Therefore, many of the flood control projects that were to be funded by the 1994 bond measure no longer have an identified funding source. As of August 1998, there are $160.4 million worth of identified projects to repair hydraulically inadequate sewers. Most of these projects are in three districts: Bayview-Hunters Point ($10.5 million), McLaren Park ($29.8 million), Richmond ($14.8 million), and Sunset ($29.8 million).

Nevertheless, the City is currently implementing four sewer improvement projects to address flooding problems in the southeast quadrant of the City. The Joseph K. Lee Recreation Center Project was recently completed. The Rankin Drainage Basin Improvement Project is an ongoing project that is expected to be completed by the end of the year. For the Yosemite/Egbert Sewer Project, bids have been accepted for the construction contract, and the City is in the process of selecting a contractor. The project could be completed by next summer. The Sunnydale Sewer Improvements Project is in the early planning stages, but construction could start by the year 2000.

With regard to the City's permits, the comments do not specifically identify which permits the City is allegedly violating. The City's NPDES permit regulates the quality of wastewater discharged by the City and does not address flooding. Comments regarding flow volumes to the Southeast Plant are responded to in "Environmental Justice" on pp. XII.378-XII.392. Comments regarding odor problems are referred to "Odors" below. Comments regarding pathogen contamination of beaches are responded to in "Pathogenic Bacterial Contamination" on pp. XII.350-XII.354 and "Water-Contact Recreation" on pp. XII.354-XII.357.

Odors

Comments

Alternatives need to address this environmental injustice. Odor complaints from neighboring residents directly resulting from the combined system and its volume, have been alarming. The TRC has concluded that if a plant is creating such odors then it is not effectively working and overloaded. (*Mike Thomas, SAFER!/CBE Organizer; Lesley Barnhorn, Legal Intern; and Scott Kuhn, Staff Attorney, Communities for a Better Environment*)

Response

Regarding odors emanated by the Southeast Water Pollution Control Plant, an odor-sampling and analysis study performed by the City during the Fall of 1997 found that the most significant sources of odors at the Southeast Plant are the following facilities or operations (in order of greatest to least

off-site odor impact): digestion, sludge cake loadout, startup of the old primary sedimentation tanks, new primary sedimentation tanks, sludge thickening, normal operation of the old primary sedimentation tanks, sludge cake storage, sludge dewatering, and old headworks. Most odors detected by the general public are gases resulting from wastewater treatment processes. These gases include hydrogen sulfide, the most common sewer and wastewater gas, ammonia, resulting from solids processing and handling, and other reduced and oxidized compounds. In general, odorous compounds are the result of biological activity, such as anaerobic decomposition on organic matter containing sulfur and nitrogen. These biological processes are normal processes typical to most treatment plants, and resulting odors indicate that the plant is operating correctly and effectively. Odors are not related to the treatment capacity of the plant. Thus, although the project would increase the influent into the Southeast Plant by about 2.8%, the project does not propose changes to the biological processes or physical facilities of the Southeast Plant. Therefore, the project would have little, if any, effect on odor levels emitted by the Southeast Plant.

To reduce existing odors from the Southeast Plant, the City has prepared an Odor Control Master Plan for the Southeast Plant, independently of the Mission Bay project, that evaluates various alternative odor control measures to reduce off-site odor impacts./90/ The plan recommends a plant-wide odor-control program to meet the odor objective of achieving odor levels at the fence line of the Southeast Plant or nearest receptor that are as close as possible to non-detectable on a normal basis. The Odor Control Master Plan identifies five categories of odor control measures: chemical addition to wastewater, wastewater process design, operational procedures, foul air collection and treatment, and enhanced atmospheric dispersion.

The Odor Control Master Plan has a prioritized list of recommended odor control measures that includes "Fast-Track Projects" and "Bond Initiative Projects." Fast-track projects include odor control measures that are relatively less expensive, have relatively high odor reduction benefits, can be implemented using existing, already-approved budgets and funds, can be fully implemented over a period of about two years, and have an estimated capital cost of about $3.7 million and an estimated annual operating cost of about $340,000. Bond initiative projects are the remaining projects that must be implemented in order for off-site odor impacts to meet the off-site odor objectives. These projects are more costly than the fast-track projects, and as a result, funding is currently not available for these projects, and a bond initiative would be needed to obtain the necessary funds. Bond initiative projects are also more complex and will take more time for design and construction. The estimated capital cost for bond initiative projects is about $50 million with an annual operating cost of about $490,000.

Funding that was available for some of these projects through 1994 voter-approved bond funds has been frozen by Proposition H, passed by San Francisco voters in June 1998. Funding for bond initiative projects would need to be obtained through passage of a new bond initiative.

Interim control measures are currently being implemented to minimize odor problems. Along with operational changes, these measures include replacement of corroded gas piping which contributes to over-pressurization and resulting gas leaks, and addition of ferric chloride to the sludge blending tank, which would reduce hydrogen sulfide levels in the digester gas resulting in a reduction in strength of the digester gas odors.

Regarding odor complaints, information about the public complaint history of the Southeast Plant is presented in the Odor Control Master Plan. During 1995 through 1997, less than 100 complaints regarding odors at the Southeast Plant were received by the City from 23 individuals, with one individual accounting for over 60 percent of the complaints. Slightly more than half of the other individuals reported odors in the residential area on or near Phelps Street at the south end of the plant. These complaints accounted for approximately 85 percent of all complaints. As discussed above, full implementation of the fast-track projects and bond initiative projects would meet off-site odor objectives in the adjacent community. Regarding potential environmental justice issues, refer to the response regarding "Environmental Justice" on pp. XII.378-XII.392.

Stormwater Pollutant Loading

Comment

Finally, while the Project-related increase in pollutant loading into the Bay (0.2%) is not considered significant because it represents a small portion of total Bayside discharges, the DEIR offers no studies of the effects of the proposed Project wastewater plan on pollutant loading into Mission Creek, an important area for fish and wildlife. Nor is any evidence offered in the DEIR of the extent to which capture of the first flush of stormwater would reduce pollutant loads brought by excess stormwater into Mission Creek. Given the current state of the Creek as a dreadful toxic hot spot and its role at the same time as important habitat for Bay fish, this information must be presented and discussed in the EIR before the Project can be approved. (*Trent W. Orr, Attorney at Law*)

While studies show that the proposed plan for Mission Bay would divert initial flows into the Combined Sewer System, and the project related increase in pollutant loading (0.2% - 2 million gallons per year) into the Bay is "not significant" because it represents such a small portion of total Bayside discharges, there have been no studies on the effects of the proposed plan on pollutant loading into Mission Creek, and there is no evidence that capture of the "first flush" of stormwater would reduce pollutant loadings of the excess stormwater into Mission Creek. (*Corinne W. Woods, Chair, Toxics Subcommittee, Mission Bay Citizens Advisory Committee*)

No study was done on the pollutant loadings of storm water in excess of what could be captured and treated at the plant into Mission Creek or the Bay, and this concerns us. . .

And while studies show that the proposed plan for Mission Bay will divert initial flows into the combined sewer system, and the project-related increase in pollutant loading, which is .2 percent into the Bay, is not significant because it represents such a small percentage of total bayside discharges. There have been no studies on the effects of the proposed plan on pollutant loading in Mission Creek, and there is no evidence that the capture of the first flush of storm water will reduce pollutant loadings of the excess storm water into the creek. (*Corinne W. Woods, Chair, Toxics Subcommittee, Mission Bay Citizens Advisory Committee*)

Response

These comments say that the SEIR understates impacts related to stormwater discharges, and does not study the effects of pollutants on China Basin Channel. They contend that the capture of initial stormwater flows would not reduce the pollutant loads of the excess stormwater flowing to China Basin Channel.

Beginning on p. V.K.22, the SEIR evaluates impacts related to stormwater as well as wastewater discharges. In characterizing the volume and quality of stormwater and wastewater discharges (described under "Quality of Municipal Wastewater from the Project" on pp. V.K.22-V.K.23 and under "Evaluation of Potential Water Quality Impacts" on pp. V.K.30-V.K.40), the SEIR provides a reasonable description of how typical stormwater and wastewater volumes and quality could foreseeably change with the project. Similarly, the SEIR's evaluation of the effects of pollutants on China Basin Channel (presented under "Effects of Mass Pollutant Emissions on Sediment Quality" on pp. V.K.48-V.K.49 and under "Sediment Quality" on pp. V.K.53-V.K.54) pays careful attention to the effects of pollutants on China Basin Channel. The SEIR specifically concludes that the project would contribute to potentially significant cumulative impacts to China Basin Channel (Mission Creek) and Mitigation Measure K.4 on p. VI.47 is suggested to address the project's contribution to impacts on Channel sediments. See also the response regarding "Stormwater Treatment," pp. XII.291-XII.294.

As discussed under "Volume and Quality of Direct Stormwater Discharge to Bay" on pp. V.K.38-V.K.40, the SEIR does not assume that the capture of initial stormwater flows would reduce the pollutant loads of the excess stormwater flowing to China Basin Channel. Instead, the SEIR conservatively assumes that pollutant loads in stormwater would be proportional to stormwater volumes, regardless of when during a storm the stormwater is created. Stated another way, pollutant concentrations in stormwater are assumed to remain constant throughout the duration of any given storm. This conservative assumption is contrary to conventional wisdom, which would lead one to assume that the initial stormwater runoff from a storm would contain higher pollutant loads than the

runoff at the end of a long storm. But as explained under "Diversion of Initial Flows to Combined Sewer System" on p. V.K.26, this is not always the case because the transport of pollutants in stormwater depends on the duration of the preceding dry-weather period, rainfall patterns, rainfall intensity, the chemistry of individual pollutants, and site-specific conditions. The SEIR is conservative in making no adjustment to account for this potential benefit of the proposed capture of initial stormwater flows.

The water quality impacts of the project are summarized under "Effects on Receiving Waters" on pp. V.K.40-V.K.50 and under "Cumulative Issues" on pp. V.K.50-55. Although the analysis does not demonstrate any significant impacts for the project by itself, the SEIR conservatively concludes that the project could contribute to a potentially significant cumulative impact in the near-shore environment of China Basin Channel from treated combined sewer overflows (CSO) and direct stormwater discharges. This conclusion is based on the high degree of public concern about CSOs; the lack of conclusive evidence refuting a causal relationship between CSOs, stormwater discharges, and sediment quality; and the recognition that the existing setting may be degraded. Mitigation Measures K.1 through K.6 on pp. VI.45-VI.50 would reduce or eliminate potential impacts to the extent feasible. Mitigation Measure K.4, in particular, addresses the quality of stormwater discharges to China Basin Channel. However, on p. IX.2 in Chapter IX, Other Statutory Sections, the SEIR conservatively concludes that the project could result in an unavoidable cumulative significant water quality impact, although the project's contribution to this impact could be reduced to a less than significant level if mitigation measures are imposed.

The following change has been made to the first bulleted item on p. IX.2 in Chapter IX, Other Statutory Sections:

- **~~contribution to~~ cumulative water quality impacts (although the project's contribution to cumulative water quality impacts could be reduced to less-than-significant levels if mitigation measures are imposed ~~analysis does not demonstrate a significant impact~~).**

No information has been presented that would lead one to conclude a new finding of significance, and no evidence has been presented that contradicts or refutes the findings of the SEIR.

Comment

Urban Ecology has reviewed the Mission Bay EIR, and has found that it severely underestimates the impacts related to stormwater and wastewater collection and treatment that would occur as a result of the Mission Bay project. The EIR needs to include additional analysis of these impacts, and it also needs to include additional measures to attempt to mitigate these impacts. In addition, some impacts

of the project that were not identified in the EIR cannot be completely mitigated. Under CEQA, the Draft EIR needs to be rewritten to disclose these unmitigable impacts. The Draft EIR must also be recirculated for additional public review comment, to allow for review of additional identified impacts and to allow for review of new significant information that has not been supplied to date. (*Kate White, Program Director, Urban Ecology, Inc.*)

Response

The comments of Urban Ecology, Inc. have been considered and responded to in various responses above regarding "Decentralized Management of Sanitary Wastewater," pp. XII.240-XII.244; "Stormwater Treatment," pp. XII.291-XII.294; "Reductions in Combined Sewer Overflow Volumes," pp. XII.295-XII.298; "Assumptions Used in the Bayside Planning Model," pp. XII.303-XII.305; "Levels of Treatment Assumed in the Bayside Planning Model," p. XII.306; "Rainfall Data Used in the Bayside Planning Model," pp. XII.307-XII.311; "Cumulative Assumptions," pp. XII.315-XII.322; "Wastewater Flows," pp. XII.322-XII.327; "Designation of China Basin Channel and Islais Creek as Toxic Hot Spots," pp. XII.327-XII.334; "Water Discharges from Research and Development Activities," pp. XII.361-XII.367; and "Wet-Weather NPDES Permit," pp. XII.371-XII.376. Project impacts related to increases in wastewater, CSO, and stormwater volumes have been adequately analyzed in the SEIR, and all identified significant impacts are mitigable to a less-than-significant level with implementation of Mitigation Measures K.1 through K.6. No information has been presented that would lead one to conclude a new finding of significance, and no evidence has been presented that contradicts or refutes the findings of the SEIR.

NOTES: Hydrology and Water Quality

1. City and County of San Francisco, U.S. Environmental Protection Agency, *Final Environmental Impact Report & Statement, San Francisco Wastewater Master Plan,* Planning Department File No. EE 74.62, State Clearinghouse No. 74040876, May 1974, pp. 78 - 88, and Appendix A.

2. City and County of San Francisco, U.S. Environmental Protection Agency, *Final Environmental Impact Report & Statement, San Francisco Wastewater Master Plan,* Planning Department File No. EE 74.62, State Clearinghouse No. 74040876, May 1974, Table IX-1, p. 174.

3. City and County of San Francisco, U.S. Environmental Protection Agency, *Final Environmental Impact Report & Statement, San Francisco Wastewater Master Plan,* Planning Department File No. EE 74.62, State Clearinghouse No. 74040876, May 1974, pp.165-171.

4. City and County of San Francisco, U.S. Environmental Protection Agency, *Final Environmental Impact Report & Statement, San Francisco Wastewater Master Plan*, Planning Department File No. EE 74.62, State Clearinghouse No. 74040876, May 1974, p. 75.

5. Regional Water Quality Control Board, San Francisco Bay Region, Order No. 95-039, NPDES Permit No. CA0038610, Reissuing Waste Discharge Requirements for City and County of San Francisco, Bayside Wet Weather Facilities Including the North Point Water Pollution Control Plant, San Francisco County, February 15, 1995.

6. Brown and Caldwell, *Preliminary Screening of Alternative Wastewater and Stormwater Treatment Technologies, Mission Bay Project*, prepared for San Francisco Public Utilities Commission, July 7, 1998, p. 8.

7. Brown and Caldwell, *Preliminary Screening of Alternative Wastewater and Stormwater Treatment Technologies, Mission Bay Project*, prepared for San Francisco Public Utilities Commission, July 7, 1998, p. 10. According to the report, an 80,000-gallons-per-day (gpd) plant is operating in Burlington, Vermont. The size of plant needed for Mission Bay would be 600,000 gpd.

8. City and County of San Francisco, U.S. Environmental Protection Agency, *Final Environmental Impact Report & Statement, San Francisco Wastewater Master Plan,* Planning Department File No. EE 74.62, State Clearinghouse No. 74040876, May 1974.

9. Gail Boyd, John Davis, Gary Palhegyi, and Peter Mangarella, Woodward-Clyde Consultants, "Analysis of Stormwater Management Options at Mission Bay," prepared for the City and County of San Francisco, August 24, 1998.

10. Gail Boyd, John Davis, Gary Palhegyi, and Peter Mangarella, Woodward-Clyde Consultants, "Analysis of Stormwater Management Options at Mission Bay," prepared for the City and County of San Francisco, August 24, 1998.

11. Gail Boyd, John Davis, Gary Palhegyi, and Peter Mangarella, Woodward-Clyde Consultants, "Analysis of Stormwater Management Options at Mission Bay," prepared for the City and County of San Francisco, August 24, 1998.

12. Beth Goldstein memorandum to Bill Dietrich, EIP; John Bouey, Lee & Ro; Paul Deutsch, Planning; July 22, 1998, re: Revised storage calcs. for mitigated project, Table entitled Mission Bay Central Basin; First Flush: 1972-1985 Preliminary Results, showing weighted 14-year average of 78.4% capture with 1.1 MG total storage.

13. Although these changes could reduce the directly discharged flow and increase the proportion of stormwater captured for treatment, the proportion of diverted flow to directly discharged flow is conservatively assumed for purposes of analysis to be 80:20 for the Central/Bay Basin.

14. Gail Boyd, John Davis, Gary Palhegyi, and Peter Mangarella, Woodward-Clyde Consultants, "Analysis of Stormwater Management Options at Mission Bay," prepared for the City and County of San Francisco, August 24, 1998.

15. Gail Boyd, John Davis, Gary Palhegyi, and Peter Mangarella, Woodward-Clyde Consultants, "Analysis of Stormwater Management Options at Mission Bay," prepared for the City and County of San Francisco, August 24, 1998.

16. Gail Boyd, John Davis, Gary Palhegyi, and Peter Mangarella, Woodward-Clyde Consultants, "Analysis of Stormwater Management Options at Mission Bay," prepared for the City and County of San Francisco, August 24, 1998.

17. For further details, Table J.1 in the Appendix to the Summary of Comments and Responses compares the effluent, overflows, and stormwater volumes that would be generated under the mitigation scenarios to the Base Case. This table will be incorporated into Appendix J, Hydrology and Water Quality, following p. J.7.

18. Gail Boyd, John Davis, Gary Palhegyi, and Peter Mangarella, Woodward-Clyde Consultants, "Analysis of Stormwater Management Options at Mission Bay," prepared for the City and County of San Francisco, August 24, 1998.

19. Gail Boyd, John Davis, Gary Palhegyi, and Peter Mangarella, Woodward-Clyde Consultants, "Analysis of Stormwater Management Options at Mission Bay," prepared for the City and County of San Francisco, August 24, 1998.

20. For further elaboration, Table J.4 in the Appendix to the Comments and Responses Document presents estimated mass pollutant loading from stormwater discharges for both mitigation scenarios. This table will be incorporated into the Appendix J, Hydrology and Water Quality, following p. J.7. Table J.4 mirrors Table V.K.4 on p. V.K.39.

21. For further details, Table J.5 and J.6 in the Appendix to the Comments and Responses Document present estimated copper and zinc loading to near-shore waters for both mitigation scenarios. These tables will be incorporated into the Appendix J, Hydrology and Water Quality, following p. J.7.

22. Regional Water Quality Control Board, San Francisco Bay Region, *San Francisco Bay Basin (Region 2), Water Quality Control Plan*, June 21, 1995.

23. CH2M Hill, *Bayside Overflows*, prepared for the City and County of San Francisco, June 1979, Chapter III, pp. III-3-III-5.

24. Regional Water Quality Control Board, San Francisco Bay Region, *San Francisco Bay Basin (Region 2), Water Quality Control Plan*, June 21, 1995, pp. 3-2, 3-8.

25. Woodward-Clyde Consultants, *Santa Clara Valley Nonpoint Source Study, Volume I: Loads Assessment Report*, prepared for the Santa Clara Valley Water District in association with Kinnetic Laboratory, February 22, 1991, pp. 6-66 to 6-72.

26. Natural Resources Defense Council, *Testing the Waters -- 1998*, 1998, Chapter 2, pp. 1-2.

27. Wendy Iwata, Project Manager, City and County of San Francisco Public Utilities Commission, telephone message, July 15, 1998.

28. Brown and Caldwell, *Preliminary Screening of Alternative Wastewater and Stormwater Treatment Technologies, Mission Bay Project*, prepared for San Francisco Public Utilities Commission, July 7, 1998, p. 1.

29. Lee & Ro, letter to David Knadle, Project Manager at Catellus Corporation, Subject: Alternative Water Quality Control Technologies for Mission Bay Project, February 20, 1998.

30. City and County of San Francisco Planning Department, and San Francisco Redevelopment Agency, *San Francisco Giants Ballpark at China Basin, Final Environmental Impact Report*, Planning Department File No. 96.176E, State Clearinghouse No. 96102056, certified June 26, 1997, pp. II.18-II.21.

31. Beth Goldstein and Leah Orloff, San Francisco Public Utilities Commission, and Chis Phanartzis, Hydroconsult Engineers, memorandum to Bill Dietrich, EIP Associates, through Michael Carlin, San Francisco Public Utilities Commission, July 10, 1998.

32. Regional Water Quality Control Board, San Francisco Bay Region, Order No. 94-149, NPDES Permit No. CA0037664, Reissuing Waste Discharge Requirements for City and County of San Francisco Southeast Water Pollution Control Plant, October 19, 1994.

33. Regional Water Quality Control Board, San Francisco Bay Region, Order No. 95-039, NPDES Permit No. CA0038610, Reissuing Waste Discharge Requirements for City and County of San Francisco, Bayside Wet Weather Facilities Including the North Point Water Pollution Control Plant, San Francisco County, February 15, 1995.

34. Vince De Lange, Bureau of Engineering, Department of Public Works, City and County of San Francisco, memorandum to Bill Keaney, re: SEP Influent/Effluent Flow Discrepancies, February 2, 1996.

35. Public Utilities Commission of the City and County of San Francisco, "The Urban Water Management Plan for the City and County of San Francisco; Retail Operations," March 1996, Table II-3, p. 11.

36. City and County of San Francisco, U.S. Environmental Protection Agency, *Final Environmental Impact Report & Statement, San Francisco Wastewater Master Plan,* Planning Department File No. EE 74.62, State Clearinghouse No. 74040876, May 1974, p. 43.

37. To determine the effects of different scenarios, one consistent set of modelled operational parameters was used. Actual distributions of treated CSO discharges may vary as the system is operated to maximize storage, pumping, and treatment capacities in order to minimize discharges of treated CSOs.

38. Regional Water Quality Control Board, San Francisco Bay Region, *Proposed Regional Toxic Hot Spot Cleanup Plan*, December 1997, pp. 29-63.

39. Regional Water Quality Control Board, San Francisco Bay Region, *Proposed Regional Toxic Hot Spot Cleanup Plan*, December 1997, p. 23.

40. Bay Area Stormwater Management Agencies Association, *San Francisco Bay Area Stormwater Runoff, Pollutant Monitoring Data Analysis, 1988 - 1995*, prepared by Woodward-Clyde Consultants, October 15, 1996, Table 5-2.

41. Will Travis, Executive Director, Bay Conservation and Development Commission, telephone conversation with EIP Associates, July 8, 1998.

42. Roberta Schoenholz, Project Manager, Environmental Department, Port of San Francisco, telephone conversation with EIP Associates, August 21, 1998.

43. Rob Lawrence, Regulatory Branch, U.S. Army Corps of Engineers, telephone conversation with EIP Associates, June 26, 1998.

44. Regional Water Quality Control Board, San Francisco Bay Region, Order No. 95-039, NPDES Permit No. CA0038610, Reissuing Waste Discharge Requirements for City and County of San Francisco, Bayside Wet Weather Facilities Including the North Point Water Pollution Control Plant, San Francisco County, February 15, 1995.

45. Regional Water Quality Control Board, San Francisco Bay Region, *San Francisco Bay Basin (Region 2). Water Quality Control Plan*, June 21, 1995, p. 4-2.

46. Regional Water Quality Control Board, San Francisco Bay Region, *San Francisco Bay Basin (Region 2), Water Quality Control Plan*, June 21, 1995, p. 4-11.

47. Regional Water Quality Control Board, San Francisco Bay Region, Order No. 95-039, NPDES Permit No. CA0038610, Reissuing Waste Discharge Requirements for City and County of San Francisco, Bayside Wet Weather Facilities Including the North Point Water Pollution Control Plant, San Francisco County, February 15, 1995.

48. U.S. Environmental Protection Agency, *Quality Criteria for Water 1986*, EPA 440/5-86-001, May 1, 1986.

49. Regional Water Quality Control Board, San Francisco Bay Region, *San Francisco Bay Basin (Region 2), Water Quality Control Plan*, June 21, 1995, p. 3-2.

50. The fact that the Basin Plan Water Quality Objectives for 1-hour average concentrations (applicable to acute toxicity) relate to dissolved pollutants is deduced from the Basin Plan's reliance on U.S. Environmental Protection Agency Ambient Water Quality Criteria expressed as dissolved pollutants. RWQCB, San Francisco Bay Region, *San Francisco Bay Basin (Region 2), Water Quality Control Plan*, June 21, 1995, Table 3-3, p. 3-9. Marshack, J.B., California Environmental Protection Agency, Regional Water Quality Control Board, Central Valley Region, *A Compilation of Water Quality Goals*, March 1998, Inorganics pp. 5 and 11, Footnotes, p. 1.

51. Regional Water Quality Control Board, San Francisco Bay Region, Order No. 95-039, NPDES Permit No. CA0038610, Reissuing Waste Discharge Requirements for City and County of San Francisco, Bayside Wet Weather Facilities Including the North Point Water Pollution Control Plant, San Francisco County, February 15, 1995.

52. Marshack, J.B., California Environmental Protection Agency, Regional Water Quality Control Board, Central Valley Region, *A Compilation of Water Quality Goals*, March 1998.

53. As noted by one comment, the U.S. Fish and Wildlife Service questions this approach in a *draft* biological opinion prepared for the U.S. Environmental Protection Agency for the California Toxics Rule. U.S. Fish and Wildlife Service, *Draft Biological/Conference Opinion on the Environmental Protection Agency's Proposed Rule for the Promulgation of Water Quality Standards: Establishment of Numeric Criteria for Priority Toxic Pollutants for the State of California,* April 10, 1998.

54. Regional Water Quality Control Board, San Francisco Bay Region, *San Francisco Bay Basin (Region 2), Water Quality Control Plan (Basin Plan)*, June 21, 1995, Table 3-3, p. 3-9.

55. CH2M Hill, *Bayside Overflows*, prepared for the City and County of San Francisco, June 1979, Chapter III.

56. City and County of San Francisco, Department of Public Works, Bureau of Water Pollution Control, *Bay Benthic Report, San Francisco Bay Outfall Monitoring, Southeast-Islais Creek*, November 1986.

57. The preliminary coliform bacteria results available within about 24 hours represent maxima. Final results are used for reporting purposes, and these require another 48 hours of analysis.

58. Arleen Navarret, Senior Marine Biologist, Water Quality Bureau, San Francisco Public Utilities Commission, telephone conversation with EIP Associates, July 1, 1998.

59. Arleen Navarret, Senior Marine Biologist, Water Quality Bureau, San Francisco Public Utilities Commission, letter to EIP Associates, June 19, 1998.

60. Regional Water Quality Control Board, San Francisco Bay Region, *San Francisco Bay Basin (Region 2), Water Quality Control Plan*, June 21, 1995, pp. 3-2, 3-8.

61. Regional Water Quality Control Board, San Francisco Bay Region, *San Francisco Bay Basin (Region 2), Water Quality Control Plan*, June 21, 1995, p. 2-5.

62. Regional Water Quality Control Board, San Francisco Bay Region, *San Francisco Bay Basin (Region 2), Water Quality Control Plan*, June 21, 1995, p. 2-3.

63. Regional Water Quality Control Board, San Francisco Bay Region, *San Francisco Bay Basin (Region 2), Water Quality Control Plan*, June 21, 1995, p. 2-4.

64. Regional Water Quality Control Board, San Francisco Bay Region, Order No. 95-039, NPDES Permit No. CA0038610, Reissuing Waste Discharge Requirements for City and County of San Francisco, Bayside Wet Weather Facilities Including the North Point Water Pollution Control Plant, San Francisco County, February 15, 1995, Items 10 and 18.

65. Regional Water Quality Control Board, San Francisco Bay Region, Order No. 95-039, NPDES Permit No. CA0038610, Reissuing Waste Discharge Requirements for City and County of San Francisco, Bayside Wet Weather Facilities Including the North Point Water Pollution Control Plant, San Francisco County, February 15, 1995.

66. San Francisco Municipal Code (Public Works Code), Part II, Chapter X, Article 4.1, Section 123(e).

67. San Francisco Municipal Code (Public Works Code), Part II, Chapter X, Article 4.1, Section 123(d).

68. Michelle Schaefer, Environmental Coordinator, UCSF, telephone conversation with EIP Associates, August 20, 1998.

69. a) U.S. Department of Health and Human Services Public Health Service, Centers for Disease Control and Prevention, and National Institutes of Health, *Biosafety in Microbiological and Biomedical Laboratories*, 3rd ed., May 1993.

b) U.S. Department of Health and Human Services, National Institutes of Health, *Guidelines for Research Involving Recombinant DNA Molecules (NIH Guidelines)*, January 1996.

70. U.S. Department of Health and Human Services Public Health Service, Centers for Disease Control and Prevention, and National Institutes of Health, *Biosafety in Microbiological and Biomedical Laboratories*, 3rd ed., May 1993, p. 17.

71. For purposes of this SEIR, the term "biohazardous material" is defined on pp. V.I.42 and in Appendix H (p. H.2) to include infectious agents that require Biosafety Level 2 or greater safety precautions or cells that contain recombinant DNA molecules with codes that can be expressed to create a protein.

72. U.S. Department of Health and Human Services Public Health Service, Centers for Disease Control and Prevention, and National Institutes of Health, *Biosafety in Microbiological and Biomedical Laboratories*, 3rd ed., May 1993, p. 22.

73. U.S. Department of Health and Human Services Public Health Service, Centers for Disease Control and Prevention, and National Institutes of Health, *Biosafety in Microbiological and Biomedical Laboratories*, 3rd ed., May 1993, p. 29.

74. Michelle Schaefer, Environmental Coordinator, UCSF, telephone conversation with EIP Associates, August 20, 1998.

75. William R. Attwater, Chief Counsel, State Water Resources Control Board, Memorandum to Regional Board Executive Officers, et al., October 7, 1987, p. 2.

76. Code of Federal Regulations, Title 40, Section 131.12.

77. *Federal Register*, Vol. 63, No. 6, January 9, 1998, p. 1535 et seq.

78. Thomas Mumley, Senior Water Resources Control Engineer, California Regional Water Quality Control Board -- San Francisco Bay Region, "Final Staff Report: Section 303(d) List of Impaired Water Bodies and Priorities for Development of Total Maximum Daily Loads for the San Francisco Bay Region," March 9, 1998.

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CHINA BASIN CHANNEL VEGETATION AND WILDLIFE

Edge Treatments and Loss of Wetlands

Comments

And also the harbor edge should be taken care of in a firmly natural way and not in the way that is stated in the SEIR, such as a riprap, but more natural wetland habitat. (*Torbin Torpe-Smith, Mission Bay Harbor Association*)

We need to go further in terms of. . .protection of habitat than what you see before you today. (*Jon Rainwater, San Francisco League of Conservation Voters*)

Although my concerns are many, I'm speaking specifically to the loss of wetlands. We, the people of San Francisco, are rapidly losing the amenities that have brought diversity, population, industry, and tourism to the City. One of the results of encouragement by our City officials of any and all development is to reduce open space and create a loss of habitat. Our waters and shoreline, our creeks, streams, and open space and the creatures that inhabit these areas need our protection. (*Jean Neblett, Potrero Hill Boosters and Merchants Association*)

This project must benefit all, including the environment. And right now it is not benefiting the environment nearly enough. We should be increasing the habitat for health, environment, especially along the Bay side. (*Michael J. Paquet, Environmental Committee Chair, Surfrider Foundation, San Francisco Chapter*)

However, the EIR assumed [the] most destructive bank treatments from the perspective of the habitat: existing wetland, as well as piling on which the birds perched, would be removed and mud banks lined with stone. If this were to be done, the channel would almost certainly be lost as habitat and the great shore birds would no longer grace this special someplace. (*Robert B. Isaacson, President, Mission Creek Conservancy*)

And if we are going to be dumping riprap on the lower and tidal zone as this plan proposes, we are destroying their food supply. And there is nowhere else that they can go. (*Ruth Gravanis, Golden Gate Audubon Society, and Conservation Committee, San Francisco Group of the Sierra Club*)

I'm concerned about the possible loss or at least degradation of wildlife habitat on Mission Creek. The Mission Bay development plan prepared by the Catellus Development Corp. should be meticulously studied for actions that would lead to such degradation and loss. The S.F. Bay Chapter of the National Audubon Society would probably be happy to assist. Catellus was supposed to create a plan for Mission Bay working with a citizens committee (C.A.C.) with a joint goal to enhance the ecology of Mission Creek. I understand just the opposite is true. The Catellus plan calls for removal of vertical pilings and lining the banks of the creek with large rocks & boulders. Result: Loss of roosting & resting spots & loss of wading access. Goodbye herons, egrets, cormorants, & ducks. (*Donald C. Williams*)

Response

Several comments express concerns regarding the loss of wetland and mudflat habitat resulting from the project's proposed edge treatments of rock rip-rap on the north bank of the channel and in a 2-foot-wide strip on the south bank centered on mean low water. The comments state that the proposed edge treatments "assumed by the EIR" were destructive. (Comments that the proposed treatments do not conform with the Citizens Advisory Committee's [CAC] Design Standards and Guidelines for Mission Bay are discussed under that heading on pp. XII.410-XII.413. Comments that address the removal of pilings that are used as perches for birds are discussed separately under "Perching Sites and Other Measures to Improve Channel Habitats," on pp. XII.422-XII.426.) Some comments express the opinion that the SEIR was flawed because it implied that further degradation of the China Basin Channel habitats resulting from the proposed edge treatments was not significant, and cited the SEIR's failure to mitigate such impacts.

The proposed edge treatment for China Basin Channel analyzed in the SEIR is part of the Project Description, and is described and illustrated on pp. V.L.7-V.L.10 in Section V.L, China Basin Channel Vegetation and Wildlife. To ensure a conservative analysis under CEQA, this treatment was intentionally designed by the project sponsors to reflect rip-rap of the maximum area of slope contemplated. Although conservative, the proposed edge treatments analyzed in the SEIR are not the most destructive of possible treatments, as stated in the comments, because they do allow for retention of some area of mudflat and restoration of salt marsh habitat on the south bank of the Channel. The most destructive treatment would be a continuous band of rip-rap on both edges of the Channel with complete loss of salt marsh and mudflat habitat. As described in the SEIR, the northern edge of the Channel between Fourth and Sixth Streets would be covered by a textured rip-rap system of stone from mean low water to mean high water. This treatment would remove approximately 5,800 square feet (0.13 acre) of wetland habitat dominated by pickleweed and would cover another 1,320 square feet (0.03 acre) of unvegetated mudflat. The south edge of the Channel between Fifth and Third Streets is proposed for a 2-foot-wide band of rock rip-rap centered on the mean low water line (below the area where vegetation can be established). This proposed treatment would cover about 1,600 square feet (0.04 acre) of mudflat. The proposed treatment concept for both sides of the Channel between Sixth Street and the western terminus of the Channel would also be rip-rap, covering about 3,635 square feet (0.08 acre) of mudflat and removing about 375 square feet (0.01 acre) of wetland. The total impact from the proposed treatment would be losses of up to 0.14 acre of wetland and 0.15 acre of mudflat. Existing wetland and mudflat habitat on the south edge of the Channel between Fifth and Sixth Streets would remain, and the southern edge of the Channel between Third Street and Fifth Street above 1 foot higher than mean low water (about 8,000 square feet or 0.18 acre) would be available for restoration of salt marsh wetlands.

The project sponsors are currently considering alternative edge treatments (including approaches that include more wetlands and mudflats) that would create less impacts on wetlands and mudflats than the treatment assessed in the SEIR. If alternative edge treatments removing less wetland and mudflat are found to be feasible and are selected, they would be covered by Mitigation Measure L.1 on p. VI.50.

The SEIR did find that the loss of even a small amount of wetland habitat as a result of the proposed edge treatments would be significant, in the context of a detailed discussion of the values of wetlands, the past losses of wetland extent and values, and state and federal policies requiring "no net loss" of wetlands (pp. V.L.10-V.L.11). Mitigation Measure L.1, on p. VI.50, would reduce these impacts to less-than-significant levels. This measure recognizes that use of biotechnical shoreline stabilization measures (such as coconut fiber rolls and blankets) would avoid or minimize impacts on wetland and salt marsh habitats and allow for habitat enhancement opportunities (see also responses regarding "Perching Sites and Other Measures to Improve Channel Habitats" on pp. XII.422-XII.426). It should also be noted that during the Section 404 (Clean Water Act) and BCDC permit processes (as discussed on p. V.L.11), which would require preparation of a habitat mitigation plan whose implementation would be a condition of permit approval, alternatives would need to be considered that would avoid or minimize impacts on wetlands and mudflats, both "special aquatic sites" according to the 404(b)(1) guidelines. The feasibility of biotechnical shoreline stabilization methods as an alternative to rip-rap has been demonstrated by the Corps of Engineers' Waterways Experiment Station in the Gulf Coast and Eastern Seaboard and by private firms such as EIP Associates in the Bay Area. See also the response in "Mitigation Measures" on pp. XII.426-XII.428.

CAC Design Standards and Guidelines

Comments

The CAC and Catellus agreed on. . .design goals and guidelines some time ago that. . . would protect and enhance the tidal creek, Mission Creek. (*Phyllis Ayer, Wildlife Subcommittee, Sierra Club, and Audubon Society*)

Mission Creek is a key focal point of the residential development of Mission Bay, and provides badly needed open space to offset high density (particularly as respects the Mission Bay North residential area); The Design Objectives adopted by the CAC include "respect and enhance the natural environment and wildlife potential of the area". . .(*Corinne W. Woods, Toxics Subcommittee Chair, Mission Bay Citizens Advisory Committee*)

I think it would be sad to lose an opportunity for the children of Mission Bay in not preserving the mud flats that provide a respite for an otherwise urban environment. . .

So I encourage the CAC's recommendations on the treatment of the shoreline for the Mission Bay Creek. (*Jeffrey Leibovitz*)

The Mission Bay Citizens Advisory Committee, in cooperation with Catellus, adopted design standards and guidelines which include enhancement of the channel habitat to encourage the birds to specifically forage there. (*Robert B. Isaacson, President, Mission Creek Conservancy*)

Another thing that I heard a lot mentioned. . .was wetland issues and mud flats. Again, it's the recommendations [of] the CAC [that] should be followed. (*Commissioner Mark Dunlop, Redevelopment Agency Commission*)

The Mission Bay Citizens Advisory Committee (CAC), in cooperation with Catellus, adopted Design Standards and Guidelines which include enhancement of the Channel habitat[4] to encourage the birds to continue to forage there. However, the EIR assumed the most destructive bank treatment from the perspective of habitat[5]. Existing wetland as well as piling on which the birds perch would be removed, and the mud banks lined with stone. If this were to be done, the Channel would almost certainly be lost as habitat. The great shorebirds would no longer grace this special place. The present habitat should be enhanced, not degraded, to encourage the birds [to] stay.

Mission Creek habitat should not be degraded. The destructive treatments described in the EIR must be prohibited, in accordance with the CAC Guidelines.

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[4]CAC Standards and Guidelines require enhancement of the tidal ecology:
"respect and enhance the natural environment and wildlife potential of the area. . .in the selection of landscape and channel edge materials" [p 10]
"stabilize the water's edge with natural materials and vegetation at appropriate water elevations, sensitive to the tidal ecology of the Channel"
"maintain gently sloping banks in the intertidal area to encourage foraging shorebirds"
"provide perch pilings in the Channel to attract foraging shorebirds" [pp 75,6]

[5]The EIR assumes the most destructive treatment of the habitat.
Existing wetland would be removed. "State wetland policies reflect the high values of wetland habitat. The project would replace a total of approximately 5,880 square feet. . .of wetland habitat on the north bank of the Channel. . .and approximately 375 square feet. . .on the south bank. . .with a rip-rap, hard-edge treatment. . .The loss of even a small amount of northern coastal salt marsh wetlands. . .would cause a net loss of wetland area and functions, contrary to state and federal policies." (SEIR V.L.10 Loss of Salt Marsh Wetland Habitat)
Existing mud banks on which the birds forage would be covered with stone. The project proposes a primarily hard. . .rip-rap system (a layer of stones) extending upslope from the mean low water line. (SEIR V.L.7 Proposed. . .Edge. . . Treatments)
Pilings on which the birds perch would be removed. "It is anticipated that all piles located in intertidal zones would require removal." (SEIR V.L.13)

(*Robert B. Isaacson, President, Mission Creek Conservancy*)

The DEIR fails adequately to address the inconsistency of the proposed Mission Bay Project with the Design Standards and Guidelines for the Mission Bay development formulated with the participation and endorsement of Catellus and adopted by the City's official Citizens Advisory Committee on that development. Catellus Development company ("Catellus"), the Project proponent, has been working with a Citizens Advisory Committee ("CAC") since late 1996 on the design of the Mission Bay development project, a mile south of Market Street. The CAC was appointed by the Mayor and approved by the Redevelopment Agency. The CAC and Catellus adopted Design Standards and Guidelines that call for enhancement of the tidal ecology of Mission Creek to maintain the presence of the sixty-one species of shorebirds, waterfowl, and other birds that currently forage (and in a few cases, nest) there. The Guidelines specifically provide that Mission Bay development should be

designed so as to "respect and enhance the natural environment and wildlife potential of the area, both in the location and scale of open space areas and selection of landscape and channel edge materials" (Design Standards and Guidelines -- Mission Bay (adopted by the CAC 12/11/97, p. 10); "[s]tabilize the water's edge with natural materials and vegetation at appropriate water elevations, sensitive to the tidal ecology of the Channel" (p. 75). . . *(Trent W. Orr, Attorney at Law, representing Mission Creek Conservancy)*

Mission Creek (China Basin Channel), while mostly not included in the Project Area (except for the banks), is surrounded by the development, provides significant open space relief in this extremely high density environment, and is considered in the DS&G as a key focal point of the development. The SEIR should review the proposed development in the context of its effect on Mission Creek, and provide adequate mitigation measures to improve and enhance the Creek. The DSEIR states that the "open space system would highlight distinctive features of the Project Area including China Basin Channel and the Bay." The Proposed Channel Edge and Bridge Treatment (V.L.7-12) does not reflect either the Design Objectives of the DS&G (to respect and enhance the natural environment and wildlife potential of the area, both in the location and scale of open space areas and selection of landscape and channel edge materials) or the Open Space Guidelines for North Channel Esplanade (DS&G p. 75) or Mission Creek Park (DS&G p. 76). *(Jack Davis, Chair, Design Subcommittee, Mission Bay Citizens Advisory Committee)*

Response

Regarding the consistency of the China Basin Channel edge treatments with the Design Standards and Guidelines for Mission Bay, as adopted by the Mission Bay Citizen's Advisory Commission/1/, the Open Space Design Guidelines include measures cited by the comments such as "develop a softscaped edge along the Esplanade adjacent to the Channel. Stabilize the water's edge with natural materials and vegetation at appropriate water elevations, sensitive to the tidal ecology of the Channel" and "provide perch pilings in the Channel to attract foraging shorebirds."/2/ Other guidelines for Mission Creek Park include: "Provide softscape planting along the Channel edge to elevation of mean low tide with vegetation compatible with each tidal zone."/3/ The CAC Guidelines are not an adopted plan or policy of the City. If the cited guidelines and objectives are adopted as part of the Design for Development documents for the project, the Redevelopment Agency would review the Channel edge treatment for consistency with these policies as part of the design review process for this portion of the open space program. The project sponsors' initial concept was a conservative depiction of potential Channel edge approaches. As discussed previously, the project sponsors are considering alternative edge treatments that would have less impact on wetland and mudflat habitats. Rip-rap may not be used in all locations of the areas depicted for hard-edge treatments in the SEIR; these issues will be refined through the design review process. In addition, the project sponsors intend to maintain all existing pilings unless they interfere with project development. (Refer to the response "CAC Design Standards and Guidelines" on pp. XII.35-XII.36 in Plans, Policies, and Permits for a discussion of the policy consistency issues and CEQA's significance criteria regarding conflicts with adopted environmental plans and goals of the community.)

Since the publication of the CAC Guidelines, the project sponsors have worked with parties interested in this issue, including the Mission Creek Conservancy, on revised Channel edge guidelines to the included in the Design for Development. Those guidelines include additional detail regarding planting, bank treatments, and stabilization methods.

As discussed in the previous response, the SEIR identifies loss of natural edge salt marsh wetlands as a significant effect of the project. Mitigation Measure L.1 (pp. VI.50-VI.51), if adopted, would allow for restoration of wetland habitat and other natural-edge treatments that would be in keeping with the CAC Design Standards and Guidelines. To further clarify that nothing in the mitigation measure should limit the flexibility to require more natural approaches to the Channel edge treatments, the last sentence of Mitigation Measure L.1 (prior to "Guidelines for Implementation of a Salt Marsh Restoration Project") has been revised as follows:

> **Prepare and implement a salt marsh wetland habitat mitigation plan in accordance with the San Francisco District, U.S. Army Corps of Engineers Habitat Mitigation Planning Guidelines. Determine the details of the plan through the Section 404 permit process. Nothing in this mitigation measure is intended to constrain the flexibility needed to meet permitting agency requirements, or adjust to variability in field conditions, new information or technology, or other factors. Similarly, this condition is not intended to conflict with or constrain use of more natural alternative Channel edge treatments that are determined feasible and consistent with adopted Redevelopment Agency standards and guidelines applicable to Mission Bay as contained in Design for Development documents. Applies to Mission Bay North and Mission Bay South.**

Bird Displacement Due to Human Activities

Comments

And there are 61 species of birds there. I don't think that's a minor wildlife. (*Phyllis Ayer, Wildlife Subcommittee, Sierra Club, and Audubon Society*)

One of the major flaws in the document is the implication that further degrading of the channel will have no significant impact on the environment. In fact, any loss of habitat is unacceptable. The birds cannot simply just go elsewhere, as this document states. There isn't enough "elsewhere" left in the Bay Area for the birds to go. If there were, they probably wouldn't be using this degraded channel in the first place. . .And especially given our location on the Pacific flyway, we have to consider not only our resident wildlife but also all of the migratory birds that require stopping and resting and feeding places to make it on the rest of their journey to other states and to other countries. It's our fair share of our international protection of wildlife. (*Ruth Gravanis, Golden Gate Audubon Society, and Conservation Committee, San Francisco Group of the Sierra Club*)

Mission Creek (China Basin Channel) provides a rich foraging habitat[1] for over sixty species of birds[2]. The most majestic, Great Egrets and Great Blue Herons, have wingspreads over six feet. However, the influx of people associated with the development may drive these great shorebirds from Mission Creek[3]. That would be a loss for the birds, and a great loss for the people who will live and work at Mission Bay.

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[1]Mission Creek provides a rich foraging habitat. "Because of their more exposed nature, these areas (other feeding areas in the Bay in the immediate vicinity of the Channel) do not provide the same quality of resting habitat that is sheltered from unusually high tides, storms and currents, as does China Basin Channel." (SEIR V.L.14)

[2]Many birds forage on Mission Creek. "Bird studies. . .documented the use of China Basin Channel by 61 bird species. . . The results of. . .studies are generally consistent in that bird census data indicate that a wide range of species is present. . . " (SEIR V.L.5 Wildlife)

[3]Influx of people may displace the shorebirds. "Human disturbance in the Channel area after build-out of the project could also result in displacement of water birds or mammals from China Basin Channel because of the addition of up to about 30,000 employees, about 11,000 residents, and other visitors in the Project Area, and resulting higher levels of human presence, litter, noise, pets and potential harassment ofwildlife. . .Studies. . .demonstrate that harassment of wintering water birds by people and their pets can result in losses of feeding opportunities, leading to reproductive failure during the next breeding season." (SEIR V.L.14 Disruption of Aquatic Wildlife)

(Robert B. Isaacson, President, Mission Creek Conservancy [letter and public hearing])

The DEIR fails to take account of the importance and uniqueness of Mission Creek as a rare urban oasis for wildlife on San Francisco's densely developed eastern waterfront and thus to acknowledge that its destruction by development of the Project would be a significant environmental impact under CEQA requiring on-site mitigation. . .As we have shown, readily available and fully feasible mitigation measures could improve and enhance this rare resource rather than destroy it, as is proposed with the Project. Given its proximity to San Francisco neighborhoods and schools far from any comparable and accessible wetlands site, it is obvious that Mission Creek's loss as viable wetland habitat would constitute the significant loss of an important educational, recreational and open space resource that should be cherished and enhanced for San Francisco's children and adults alike, not denuded and harshly engineered. Under the CEQA Guidelines, a project will normally be considered to have a significant environmental impact if it would have a "substantial, demonstrable negative aesthetic effect" (Guidelines Appendix G(b)), which the replacement of a life-filled wetland environment with a sterile engineered channel certainly would; or if it would "[s]ubstantially diminish habitat for fish, wildlife, or plants" (App. G(t)), which, in the context of San Francisco, and particularly its east side, it would; or if it would "[c]onflict with established recreational, educational, . . . or scientific uses of the area" (App. G(w)), which, again, the destruction of this rare area long enjoyed and studied by birders, biologists, and others clearly would.

The DEIR arrives at the conclusion that the loss of the current birdlife (and other wildlife) at Mission Creek would not be a significant environmental impact by reference to the overall Bay Area avian population rather than to the importance of Mission Creek as a rare urban ecological resource. Thus, while the DEIR acknowledges that Mission Creek currently has pickleweed habitat, a type of wetland habitat with "high wildlife values" (DEIR V.L.3); provides "important fish habitat" (V.L.5.); provides resting and foraging habitat for both resident and migratory birds (V.L.6); and provides better resting habitat for waterfowl and shorebirds than any other habitat within two miles, it concludes that the destruction of that habitat and the near-complete displacement of current avian (and marine mammal) populations would not be a significant impact of the Project (V.L.14-15). The reasoning behind this is

that the habitat and wildlife populations at Mission Creek are relatively small compared to other sites in the Bay Area and, with respect to the birds in particular, that this is resting and foraging, not breeding, habitat, and they can move elsewhere. This analysis fails entirely to acknowledge this area's importance as one of the very few sites on the largely industrialized and now redeveloping eastern side of the City that still has a functioning wetlands ecosystem.

Knowledge of the regional setting is critical to the assessment of environmental impacts. *Special emphasis should be placed on environmental resources that are rare or unique to that region and would be affected by the project.* 14 CCR § 15125(a) (emphasis added). . .

It is scarcely enough for the EIR simply to write off the biological resources of this area on the assumption that the wildlife will relocate to other areas. (Moreover, the DEIR presents no evidence to support the conclusion that the birds can move elsewhere without creating harmful competition for food and space and risking the avian diseases associated with overcrowding.) CEQA demands that the threatened loss of this area be fully and fairly examined in light of its actual nature as a rare biological, recreational, educational, scientific, and aesthetic resource set in a densely developed area of the City that the Project proposes to make even denser. It further demands that this loss, once properly acknowledged as significant, be mitigated in the manner outlined above. Mission Creek is a resource that should be enhanced for the enrichment and enjoyment of generations to come, not degraded without the least attention having been paid to its great value and uniqueness in the urban landscape. (*Trent W. Orr, Attorney at Law, representing Mission Creek Conservancy*)

I have friends in the area of the Catellus Dev. . .in the Mission Creek area and have framed the development in a way to severely degrade the tidal environment so that birds will no longer rest & feed on Mission Creek. . .Please use your influence to see my friends can continue to enjoy the natural beauty of the area who live there. And when I'm there I can enjoy it also! (*Anne G. McDermott*)

On page V.L.5 the DEIR recognizes the ". . .**high numbers of grebes, cormorants, herons and certain species of diving ducks observed in the Channel** and surveys. . .indicate that **the Channel may provide important fish habitat**. . ."[commentor's emphasis]. Also on page V.L.14, the DEIR states that adjacent resting habitat areas are not as good as that of China Basin Channel because they do not provide the "same quality of resting habitat that is sheltered from unusually high tides, storms and currents as does the China Basin
Channel. . ."

However, on page V.L.6 the DEIR then states that "from a regional wildlife management perspective, the Channel provides minimal support for wildlife. . ." This is clearly contradictory. If the Channel supports high numbers of waterbirds and is an "important fish habitat" how can it be declared an area that provides "minimal support"?

The DEIR apparently reaches this conclusion by stating that the only really important waterbird habitat is breeding habitat. Specifically, the DEIR states "[R]esting and foraging habitat is. . . less critical to water birds than nesting or breeding habitat. . .(V.L.6)". This is an amazingly inaccurate conclusion. For a waterbird species to survive it needs feeding and resting habitat just as much as it needs breeding habitat. In fact, very few waterbirds nest in the Bay Area. Most waterbird species breed in the Arctic. Yet no one would call the San Francisco Bay Area one of little importance to waterbirds.

San Francisco Bay provides resting and feeding habitat to hundreds of thousands of migratory waterfowl and to over a million shorebirds and waders every year during the migratory season. If these migratory birds are deprived of these feeding and resting habitats, they will die just as quickly as they would if their breeding habitat were destroyed. Foraging and resting habitats are critical to the survival of migratory birds and are just as important factors as breeding and nesting. And, in fact, good resting habitat is one of the rarest habitats in the Bay. As the DEIR states, "[T]he open waters of the Bay. . .do not provide the same quality of resting habitat [as does China Basin Channel] that is sheltered from unusually high tides, storms, and currents.(V.L.14)" Thus the statement that "the channel provides minimal support for wildlife and is not capable of sustaining significant populations of the species observed because of the lack of suitable breeding habitat. . .(V.L.6)" is simply scientifically wrong.

Furthermore, Double-crested Cormorants do nest near China Basin Channel (China Basin Channel). They nest on the Bay Bridge and their use of China Basin Channel for foraging may play an important role in the survival of these birds and their young. The State Department of Fish and Game lists double-crested Cormorants as a Species of Special Concern and impacts to this species should be mitigated.

Thus, we believe that the DEIR should have concluded that China Basin Channel is an important habitat (". . .high numbers of grebes, cormorants, herons and certain species of diving ducks observed in the Channel and surveys. . .indicate that the Channel may provide important fish habitat. . ."). Because, then of the importance of this habitat, the DEIR should have concluded that impacts to this habitat require mitigation. The DEIR failed to do so. . .

Secondly, the DEIR clearly states that the increased presence of humans and pets around the Channel will lead to the displacement of the waterbird species (V.L.14). Yet the DEIR proposes no mitigation for this impact, we assume because the DEIR identified the area as lacking habitat value. We have demonstrated previously that that conclusion was erroneous. The China Basin Channel is indeed an important habitat and thus impacts to it must be mitigated. The DEIR needs to be rewritten so as to include mitigation proposals for the impacts of human disturbance. . .

The DEIR also fails to consider the cumulative impacts of the project on wildlife. The DEIR recognizes the general importance of wetland habitat. It recognizes that the project as proposed will mean the elimination of China Basin Channel as a viable habitat for avian species. It does not, however, analyze this impact on a cumulative basis other than to state that surrounding areas provide either (1) similar but less adequate habitat (see above) or, (2), similar habitat at Islais Creek.

It is well known, however, that most Bay habitats are already saturated with wildlife. If China Basin Channel habitat is destroyed for avian species, they cannot just move on to Islais Creek. There are already significant bird populations using the Islais Creek habitat. The destruction of China Basin Channel will simply increase the competition for habitat in Islais Creek, not provide new habitat.

The DEIR does not analyze the cumulative impacts of other losses of sheltered waterbird resting habitat. It does not analyze the impact of the Bay Trail on those sheltered habitats. We believe that the Bay Trail may limit the habitat value of these sheltered areas because of increased human disturbance, thus leading to cumulative loss of habitat. The Bay Trail extends along over 100 miles of the Bay shoreline and is growing rapidly. Thus the combination of the loss of sheltered habitat due to

development, such as at Mission Bay, and to human disturbance, as a result of the Bay Trail and other public access projects, may have significant cumulative impacts.

Because the DEIR concludes that large numbers of waterbirds use China Basin Channel and that the project, as proposed, will make the China Basin Channel unsuitable as resting habitat for those waterbirds, and because we have demonstrated that such an impact is a significant impact, the DEIR thus needs to analyze and mitigate these cumulative impacts.

The mitigation proposed on page VI.50 is completely inadequate because it is vague and only addresses the wetland losses, ignoring the human disturbance impacts. Thus there is no proposed mitigation for the loss of feeding and resting habitat on a cumulative level.

The DEIR must be rewritten to include both the analysis of and the mitigation for these cumulative impacts. (*Arthur Feinstein, Executive Director, Golden Gate Audubon Society*)

Regarding the wildlife which currently uses Mission Creek Channel, we believe that the DEIR makes a number of unfounded assumptions regarding the impact of obliterating shorebird feeding habitat with riprap:

1) that there will be no mortality. How was it determined that a reduction in food supply would not risk mortality? Migratory birds need all the fat reserves they can get to successfully complete their migrations. Birds which nest elsewhere but forage in Mission Creek to feed their young need a bountiful supply to maximize nesting success.

2) that there would be no impact on Mission Creek because the birds could go elsewhere. Where would they go that isn't already being used to capacity?

3) that the habitat is not significant if birds do not nest there. Some birds do nest there, and wildlife survival depends on a lot more than just nesting sites.

The DEIR also minimizes the negative impact of encroaching development on wildlife in the channel. The previous Mission Bay EIR clearly stated that the encroaching development would have a negative impact which should be mitigated by the creation of wetlands habitat nearby. Why would this conclusion be any less valid for the current plan, which calls for even denser development near the channel? Even if the wetlands and mudflats are not impaired, the DEIR should identify mitigation for the disturbance caused by the intensification of human activity. (*Ruth Gravanis, Golden Gate Audubon Society, and Conservation Committee, San Francisco Group of the Sierra Club*)

Response

Many comments discuss the importance of the China Basin Channel habitats for resting and foraging birds, citing the importance of birds and the fact that the observed occurrence of 61 species of birds is significant. Others criticize the SEIR for failing to take into account that China Basin Channel provides a unique and important location for waterbirds on San Francisco's densely developed waterfront, and that its loss as habitat would be significant for the birds and the humans who enjoy them. The SEIR's assertion that displacement of wildlife from the Channel would not be likely to result in mortality

because birds could move elsewhere was questioned. Comments point out that similar habitats nearby, such as Islais Creek, may already be occupied to the limit of the carrying capacity. Also, the SEIR's explanation that breeding and nesting habitat was more critical to waterbirds than foraging and resting habitat was disputed and the importance of foraging habitat for wintering waterbirds to complete their migration was emphasized. It was also pointed out that breeding habitat does exist in the vicinity of the project, specifically that the Bay Bridge provides breeding habitat for double-crested cormorants, a State Department of Fish and Game Species of Special Concern.

The finding that from a regional standpoint the Channel provides only limited support for wildlife populations was also questioned and described as contradictory to other findings of the SEIR on the value of wetland and fishery habitats in the Channel. One comment asks why the conclusion of less-than-significant impacts differed from that of the 1990 FEIR, and several comments requested that mitigation be provided for the human disturbance and displacement of waterbirds resulting from the project. The SEIR was also criticized for failing to account for the cumulative impact of human disturbance in the Bay Area, which could result in the unavailability of similar habitats for wildlife. Some comments confused the SEIR's findings on this issue with its findings on the loss of wetlands. It should be clarified that the SEIR found that the loss of wetlands and mudflats resulting from the proposed edge treatments would be significant and would require mitigation. The potential displacement of birds from the Channel is not considered significant for the reasons discussed below.

The issue of increased human activity and potential displacement of birds was analyzed in detail in the SEIR, with literature reviews and agency consultations regarding impacts of human occurrence on wintering and migrating waterbirds, and extensive surveys of the Channel by qualified wildlife biologists to identify the diversity and density of bird use and observe foraging and resting behavior as affected by construction of the I-280 overpass and human presence (pp. V.L.14-V.L.15 in Section V.L, China Basin Channel Vegetation and Wildlife). The use of the Channel by 61 observed species of birds was documented using data from winter surveys provided by the Mission Creek Conservancy (independently verified by EIP Associates) as well as data from extensive summer surveys conducted by EIP wildlife biologists.

As discussed on p. V.L.5, these data show that the diversity of bird species using the Channel is relatively high, but that the numbers of individuals of most species in the Channel are low. The bird species observed resting in large numbers in the Channel during winter storm periods (greater scaup, surf scoter, sanderling, and mew gull) are winter residents in the Bay Area, feeding mostly on mollusks, crustaceans, and aquatic insects. Western and glaucous winged gulls, also observed in large numbers in the Channel during the winter, may occur throughout the Bay Area year-round. These gulls are primarily scavengers and carrion feeders, although they may feed on mussels, clams, and

small vertebrates. The small area of the Channel and the relatively low diversity and biomass of benthic invertebrates (as discussed on pp. VL.4-V.L.6) does not allow for the abundance of forage that would be required for the Channel to be a significant contributor to the health and viability of large numbers of migratory waterbirds on the Pacific Flyway, hence the statement that the resources of the Channel are limited from a regional viewpoint.

The SEIR does not minimize the significance of San Francisco Bay mudflats, salt marshes, and fisheries to the survival of migratory birds. In fact, the SEIR points out that human disturbance of foraging wintering waterbirds can lead to reproductive failure by the birds during the next breeding season (p. V.L.14). The SEIR concludes, however, that the limited resources of the Channel do not provide a critical component of the forage requirements of migrating and wintering waterbirds of the Pacific Flyway and San Francisco Bay Region. The primary foraging resource that the Channel does provide is for fish-eating resident birds during brief periods when schooling fish are in the Channel, but this is a phenomenon that is prevalent in aquatic habitats in the vicinity and is not unique to the Channel. Temporary displacement from portions of the Channel (the portion nearest the Bay is wide enough that the interior of the mouth is substantially distant from any landward human activity) would not be expected to result in mortality or any significant impacts on waterbird populations.

Regarding the occurrence of nesting habitat in the Channel, under current conditions, there is no nesting habitat in the Channel for waterbirds except possibly for common gull species, such as western gulls, adapted to urban environments./4/ The second sentence at the top of p. V.L.6 has been revised as follows:

> **Relatively high counts of migratory waterfowl and shorebirds indicate the Channel provides resting and foraging habitat (but no breeding or nesting habitat <u>except possibly for common gulls adapted to urban environments)</u> during spring and fall migrations.**

Herons, egrets, and cormorants nest in communal rookeries elsewhere in the Bay Area, and migratory waterbirds (as one comment correctly noted) primarily nest in Canada and the Arctic. Although another comment is correct in stating that double-crested cormorants nest on the Bay Bridge, that is not close enough to the Project Area for any project activities to affect their nesting habitat or nesting behavior.

The value of the Channel as sheltered resting habitat during winter storms was also discussed in detail on p. V.L.6, and the impact of disturbance from humans and their pets resulting from the project was analyzed on pp. V.L.14-V.L.15. The analysis was conducted in the context of the following factors: existing levels of human disturbance, adaptability of wildlife to disturbance, occurrence of resting

habitat with similar qualities in the vicinity, and the patterns of human occupation in relationship to the need for sheltered resting habitat.

The adaptability of waterbirds to existing levels of human disturbance was considered in the impact assessment. Large numbers of waterbirds have frequently been observed in the Bay area by EIP biologists and others next to heavily used airport runways and highways, such as the previously cited occurrence of nesting cormorants on the Bay Bridge. All of the birds observed by EIP biologists listed in Appendix Table K.2 were resting in the Channel during periods of varying degrees of human disturbance, and were often found in close proximity to humans. During the EIP surveys, seismic retrofit and construction of the I-280 ramps at King Street were ongoing, with intensive levels of noise, human presence, and heavy- equipment activity. Waterbirds and marine mammals in the vicinity of this construction activity were observed to be resting and feeding with little or no apparent concern. Similarly, waterbirds were observed apparently undisturbed in proximity to people congregating on the shoreline, near boats traversing the Channel, and in proximity to the daily activities of people living in houseboats on the Channel. Given the long period during which build-out of the Mission Bay project would occur, it appears likely that wildlife using the Channel would have time to adapt to increasing levels of human disturbance.

The SEIR, however, took a conservative approach to the issue and analyzed the effects in the unlikely event that human activities caused by the project resulted in temporary displacement of the wildlife resting in the Channel. It concluded that other habitats existed nearby (within range of the wildlife using the Channel) that provide similar qualities of sheltered resting habitat, and focused on Islais Channel as an example. The analysis does recognize the cumulative losses of important habitats in the Bay area (p. V.L.10 refers to the "minimal remaining extent and quality of wetlands due to past losses"). This is taken into account when analyzing the availability of nearby habitats. Resting habitat, unlike foraging habitat, is dependent on the space available in a given area, not productivity. Even taking into account the well-documented negative effects from stress and disease resulting from forced overcrowding of waterbirds, resting habitat is not in short supply, and there is still available space that is sheltered from storms for resting waterbirds. Islais Creek is one nearby example, but other sheltered resting areas exist, such as South Basin, Central Basin, and India Basin.

Substantially more resting areas occur regionally, within range of migratory waterbirds, such as the abandoned Cargill salt ponds in Sonoma County south of Highway 37 and in Hayward south of Highway 92, and channels and sloughs of Bair Island near Redwood City (all of which are now permanently preserved as open space and in various phases of habitat restoration). See also the discussion under "Cumulative Losses" on pp. XII.428-XII.429. With regards to the cumulative impact of human disturbance resulting from the Bay Trail, it should be noted that the EIR (1989) for the Bay

Trail identified mitigation measures to lessen the impacts on wildlife from human disturbance, and Bay Trail planning policies require measures such as no additional lighting, no dogs, and other restrictions to accommodate wildlife values./5/ Furthermore, the Bay Trail would not go around the shoreline of the Channel; rather, it would cross the Channel at Third Street, a major arterial that already experiences high levels of car and foot traffic.

Another factor regarding the potential displacement of wildlife from resting habitat that was considered during the SEIR significance evaluation process, but not discussed in the SEIR, is the patterns of human occupation during times when sheltered resting habitat is most needed. Waterbirds and shorebirds in the project vicinity, the vast majority of which forage and rest primarily in the Bay itself or adjacent mudflats, would most likely require the sheltered resting habitats of the Channel during intensive winter storms. The high winds, intense wave activity, and forceful currents during storms can drive waterbirds into seeking refuge in sheltered locations. However, the same factors and heavy rainfall during such events would tend to minimize human activity along the Channel shoreline. Most people will seek refuge themselves from intense storms by staying indoors or in sheltered locations, thus the Channel would remain available as a refuge of resting habitat for waterbirds with minimal disturbance by human activities during those times.

In summary, for the reasons discussed above, the SEIR concluded that displacement of wildlife because of human activities associated with the project was not a significant impact resulting from the project, in accordance with the CEQA criteria that an impact is significant if it causes ". . .a fish or wildlife population to drop below self-sustaining levels" or "has the potential to substantially reduce the habitat of a fish or wildlife species." Because the breeding populations of waterbird species using the Channel encompass thousands of individual birds spread widely over the Bay Area or over the entire Pacific Flyway, the displacement and temporary reduction of habitat for the relatively few birds of a population in the Channel would not be considered substantial and would not reduce the population to levels below that of sustainability. CEQA does not require mitigation measures for impacts considered less than significant. This conclusion does not differ from that of the 1990 FEIR, which stated that "the small number of displaced birds, notably herons and egrets, would likely continue to forage in other parts of the Bay Area." The 1990 FEIR went on to state that ". . .there is no evidence that this decline would endanger the total population of herons or egrets in the Bay Area" (p. VI.M.9). New wetlands were incorporated into the approved 1990 project, but wetlands were not required as mitigation for any impacts, including disturbance by humans which was considered a less-than-significant impact. With the project, the Channel would remain as habitat in the densely populated San Francisco Bayshore that would be available for educational and recreational purposes, hence there would be no significant "aesthetic or sociological" impact.

Perching Sites and Other Measures to Improve Channel Habitats

Comments

[T]he Mission Creek China Basin Channel is not within the project boundaries and is not being improved as wildlife habitat. (*Dick Millet, Potrero Hill Boosters and Merchants Association*)

We're asking that the Mission Bay habitat be enhanced, not degraded, which is in accord with the Citizens Advisory Committee's guidelines. And specifically that wetland biologists and hydrologists be engaged by Catellus to provide the habitat plan that would be reviewed and approved by the Citizens Advisory Committee. (*Robert B. Isaacson, President, Mission Creek Conservancy*)

Alternative treatments that are hospitable to the shorebirds can be done at minimal cost and with no loss of housing or any other use in the development program.

There should be no rip-rap, the shoreline could be stabilized by using a biotechnical approach.

There should be perching piles, concrete piles can be placed in lieu of the present deteriorated timber piles to give the shorebirds roosting places.

There should be development of small wetlands on the north and south shores, development of small islands will increase the shoreline and give the foraging birds places protected from harassment by people and animals. The Mission Creek Conservancy has specific plans for such mini-wetlands.

The channel habitat should be maintained without alteration, the value of the Channel habitat as a sheltered resting place for migratory water birds and marine mammals could be adversely affected by construction and operation of this project if Catellus is allowed to engineer the channel. (*Marian E. Fricano*)

Mission Creek habitat should be enhanced. A Habitat Enhancement Plan should be required as mitigation to offset the negative impacts of the encroaching development, with the following specifics:

a. That a Wetland Biologist and a Hydrologist be engaged by Catellus to formulate the Habitat Enhancement Plan, with participation by a Mission Creek Conservancy representative.

b. That the Habitat Enhancement Plan follow the Design Standards and Guidelines adopted by the Mission Bay Citizens Advisory Committee (CAC)[4].

[c]. That the Plan be subject to approval by the Mission Bay Citizens Advisory Committee in concert with approvals of the various resource agencies[6].

[d]. That implementation of the approved Habitat Enhancement Plan be included in Catellus' review/approval process with City Agencies.

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[4]CAC Standards and Guidelines require enhancement of the tidal ecology:
"respect and enhance the natural environment and wildlife potential of the area. . .in the selection of landscape and channel edge materials" [p 10]
"stabilize the water's edge with natural materials and vegetation at appropriate water elevations, sensitive to the tidal ecology of the Channel"

"maintain gently sloping banks in the intertidal area to encourage foraging shorebirds"
"provide perch pilings in the Channel to attract foraging shorebirds" [pp 75,6]
[6]Resource Agencies regulating shoreline treatment: SF Bay Conservation and Development Commission, California Department of Fish and Game, US Army Corps of Engineers and US Fish and Wildlife Service.

(*Robert B. Isaacson, President, Mission Creek Conservancy*)

Please follow the spirit of the Mission Bay Citizens Advisory Committee and enhance the wildlife habitat in the channel area by:

1. No rip-rapping: use ecology friendly coconut fiber roles instead;
2. Adding perching piles: replace wooden piles with concrete piles so birds have places to dry their wings; and
3. Developing small wetlands on the north and south banks, especially islands that will give birds space away from people and pets.

(*Eric J. Ganther*)

Mitigation:

1. Require the Developer to submit a Wetland Enhancement Plan for approval by the CAC (or SFRAC).
2. Wetland Enhancement Plan is to comply with the Design Standards and Guidelines adopted Dec '97 as follows:
   "respect and enhance the natural environment and wildlife potential of the area. . .in the selection of landscape and channel edge materials [p. 10]
   "stabilize the water's edge with natural materials and vegetation at appropriate water elevations, sensitive to the tidal ecology of the Channel
   "provide perch pilings in the Channel to attract foraging shorebirds
   "maintain gently sloping banks in the intertidal area to encourage foraging shorebirds" [pp.75, 6]
3. Wetland Enhancement Plan is to be developed by Wetland biologist(s) and Hydrologist(s) approved by CAC, in concert with Catellus' other consultants and representatives from Mission Creek Conservancy.
4. Wetland Enhancement Plan is to include consideration of mitigation of toxic seepage or storm/sanitary sewage overflows by bioremediation through the wetland.
5. Prohibit any planned treatment such as rip-rap, removal of piles or wetland plantings or any other actions that would degrade the present wetland value of Mission Creek until the Wetland Enhancement Plan is approved.
6. Include mechanisms to assure implementation of the Wetland Enhancement Plan.

(*Robert B. Isaacson, President, Mission Creek Conservancy*)

The [Design Standards and] Guidelines specifically provide that Mission Bay development should be designed so as to. . ."[p]rovide perch pilings in the Channel to attract foraging shore birds" (*id.*); "[p]rovide softscape planting along Channel edge to elevation of mean low tide with vegetation compatible with each tidal zone" (p. 76); and "[m]aintain gently sloping banks in the intertidal area to encourage foraging shore birds" (*id.*). Despite this clear direction in the Design Standards and Guidelines, Catellus has framed its development plans to *degrade* the tidal environment of Mission Creek severely, so that the birds would no longer rest and feed on Mission Creek. . .Existing mud banks on which the birds forage would be covered with stone. The project proposes the hard rip-rap system (a layer of stones) extending upslope from the mean low water line. DEIR V.L.7. Moreover,

all of the intertidal pilings on which the birds perch would be removed. DEIR V.L.13. In sum, the Project would degrade the Mission Creek channel habitat to the extent that most of the birds that currently use the area (as well as harbor seals and sea lions) would be permanently displaced, and all that would remain of the existing small oasis for wildlife in the heart of our city would be a biologically impoverished engineered channel. DEIR V.L.14. . .

Such measures are readily available. Alternative treatments of Mission Creek and its banks hospitable to the existing avian population can be done at minimal cost and with no loss of housing or any other use in the Project. Such treatments would enhance the existing habitat and increase the chances of the birds continuing here in spite of the large numbers of people the Project would bring to the area. These treatments would be within designated Open Space areas and would not encroach on other uses. They would cause minimal reduction in areas accessible to people while significantly enhancing the quality of open space for people's use and enjoyment. These treatments include: (1) eliminating channel bank rip-rap, instead stabilizing the shoreline using a biotechnical approach such as installing coconut-fiber rolls (which the DEIR, VI.51, admits is feasible); (2) replacing the present deteriorated timber piles with concrete piles to maintain roosting places; and (3) developing small wetlands along the north and south shores, small islands of vegetation that would increase the shoreline and give the foraging birds places protected from harassment by people and animals. The Mission Creek Conservancy has plans for such mini-wetlands. . .

To ensure that these and other appropriate mitigations are undertaken for the Mission Creek habitat, MCC proposes that a Habitat Enhancement Plan be required to offset the negative impacts of the encroaching Project development, with the following specific features: (1) a wetland biologist and a hydrologist would be engaged by Catellus to formulate the Habitat Enhancement Plan, with participation by a Mission Creek Conservancy representative; (2) the Habitat Enhancement Plan would follow the Design Standards and Guidelines adopted by CAC; (3) the Plan would be subject to approval by the CAC in concert with approvals of the various resource agencies; and (4) the approved Habitat Enhancement Plan would be included in Catellus' specific applications to relevant City agencies to ensure its inclusion as a binding condition of approval and thus its proper implementation.

Given the clear requirements of the CAC's Design Standards and Guidelines specific to the Project, the 1990 Mission Bay Plan, and the City's Sustainability Plan with regard to preserving natural environments and biodiversity across the City and at Mission Creek in particular, such mitigation measures, aimed at preserving the existing bird life and other biological resources at Mission Creek (and not only at some theoretical off-site mitigation area) must be presented for public review and adopted before CEQA will have been adequately observed as a proper legal basis for Project approval. (*Trent W. Orr, Attorney at Law, representing Mission Creek Conservancy*)

While Mission Creek itself is not part of the project, it is a significant feature of the project. I would expect most to agree that the creek will be more inviting with less sewage and storm overflow, and more wildlife. The wildlife on the creek is a unique feature, and should be enhanced, not ignored.

II.31 Summary. "The addition of up to 30,000 employees and 11,000 residents after build-out would result in higher levels of human activity, litter, noise, pets, and potential harassment of wildlife." We agree with this finding; we suggest that it be mitigated rather than ignored. Suggestions for keeping wildlife in the channel and improving the habitat include creating a stormwater wetlands; planting fruit, nut and berry producing trees and shrubs that provide food for the birds; maintaining the soft edge on

the Channel rather than riprapping the edge; and keeping the piles in the Channel in place to allow the Channel to act as a buffer between the birds and the people on shore. (*Jennifer Clary, Mary Anne Miller, Norm Rolfe, San Francisco Tomorrow Mission Bay Committee*)

The Proposal Needs To Be Altered To Assure That the Habitat Values Of Mission Creek Are Maintained And Improved. BayKeeper concurs in and incorporates by reference the comments of the Mission Creek Conservancy regarding the critical need to mitigate the project's adverse impacts on waterfowl and other wildlife that already use Mission Creek. The project should seek to improve upon what is currently there by eliminating all plans to rip rap the Mission Creek shoreline, by restoring wetland values to the shoreline areas there, maintaining perches and generally maximizing the aesthetic and recreational values which everyone using open space along a functioning wetland and shallow water Bay ecosystem would then enjoy. (*Michael R. Lozeau, Executive Director, San Francisco BayKeeper*)

Response

Many comments state that the proposed project would not improve or enhance the Channel as habitat, and call for improvement measures to enhance habitat values. These include adding concrete pilings to provide perches for birds, planting trees and shrubs that provide food for birds, developing small wetlands on the north and south Channel shores, maintaining the Channel without alteration, eliminating rip-rap and using biotechnical methods for stabilization, and engaging a wetland biologist and hydrologist to formulate a habitat enhancement plan subject to approval of the Citizens Advisory Committee.

This category overlaps with comments about mitigation (many comments present these ideas as mitigation; see also the responses in "Mitigation Measures" on pp. XII.426-XII.428), and with comments related to losses of wetland and mudflat habitat, as well as the importance of the Channel for birds. Creating small wetlands on both edges of the Channel could be viewed as mitigation for loss of salt marsh and mudflat habitat, if the wetlands were created in a manner that replaced the habitat values and extent being lost. This suggestion could be accommodated within existing Mitigation Measure L.1 (p. VI.50 in Chapter VI, Mitigation Measures) for loss of wetland habitat.

Other suggestions are not really mitigation measures, but details on procedures for preparing and implementing a plan to enhance habitat values ("retain a wetland biologist and hydrologist," "that the Habitat Plan follow the Design Standards and Guidelines adopted by the Mission Bay Citizens Advisory Committee," etc.). These suggestions would be relevant to the project approval and permit process for the channel edge open spaces. Catellus is evaluating enhancement alternatives and has had discussions with the Mission Creek Conservancy over possible wetland restoration and enhancement measures. These studies and dialogue may continue through the design review process and as part of the public interest review during the Section 404 permit process.

Another group of these habitat improvement suggestions addresses impacts not considered significant in the SEIR analysis. The removal of old pilings was not considered significant because there is no evidence that a shortage of perching sites for waterbirds is a limiting factor to their sustainability, or that removal of perching sites would "substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, or threaten to eliminate a plant or animal community" (CEQA Section 15065). Furthermore, birds would find other places to perch if the pilings were removed, such as bridges, moored boats, promontories (when not used by people), or other objects near the water. The planting of trees and shrubs to provide food for birds would also be a measure that would improve habitat values, but is not necessary to mitigate significant environmental impacts. The Project Area was not considered, in the Initial Study, pp. A.47-A.48, to provide significant resources for the upland species that would benefit from such plantings. Nevertheless, the suggestions in the comments to replace old pilings with new concrete pilings (as long as this was considered during the permit process and the pilings were located so as not to hinder navigation or create safety hazards), and to plant food-bearing trees and shrubs, would be enhancements for the Channel habitats, and could be considered as improvement measures by decision-makers.

Mitigation Measures

Comments

The loss of salt marsh wetland habitat is a significant impact, and should be mitigated on-site, not at some theoretical off-site mitigation area. (*Jack Davis, Chair, Design Subcommittee, Mission Bay Citizens Advisory Committee*)

Because, then of the importance of this habitat, the DEIR should have concluded that impacts to this habitat require mitigation. The DEIR failed to do so and thus the DEIR needs to be rewritten with appropriate mitigation for impacts to wildlife that use China Basin Channel habitat.

This mitigation needs to take two forms. One is mitigation for impacts to wetlands. The second is mitigation for impacts to avian species due to human disturbance (V.L.14).

While the DEIR does consider and propose mitigation for wetland impacts the discussion of this wetland mitigation is inadequate. The discussion should first consider the ability of the project to avoid all impacts to wetland, as is required by the Clean Water Act's 404(b)(1) guidelines. The DEIR is negligent in not presenting the 404(b)(1) guidelines as a constraint on the project.

We believe that this project can take place without any existing wetland habitat being impacted and ask that the project be redesigned to avoid all wetland impacts.

The DEIR assumes there will be wetland impacts (V.L.10) but its mitigation proposal for that impact (L.1) is so vague that it is meaningless. For example, there is no indication of where the mitigation will take place. Mitigation opportunities along the San Francisco shoreline are few, and if mitigation takes place outside San Francisco boundaries the wildlife impacted at Mission Bay will not receive the

benefits of the mitigation. Furthermore, the DEIR does not indicate the amount of mitigation, i.e. amount of wetland acres, which would be created. While it does state that the Army Corps usually requires as mitigation the creation of larger wetland areas than those impacted, this statement alone is too vague to allow the public to judge whether the mitigation ratio is adequate. Thus the DEIR needs to be more specific about mitigation location and the amount of mitigation that is proposed. . .

We suggest that such mitigation consist, at a minimum, of sufficient buffers placed around China Basin Channel so as to allow the Channel to continue to provide suitable resting and foraging habitat, and that pilings be retained for water bird perches. The buffer need not always be of the same distance, but some parts of the shoreline should have at least a 75-150 foot buffer (see studies of Dr. Michael Jocelyn that indicate birds respond to human disturbance at distance ranging from 75-150 feet). (*Arthur Feinstein, Executive Director, Golden Gate Audubon Society*)

But we don't have to do that [destroy their food supply]. . .those losses can be avoided. But if there's going to be any loss of habitat along this channel, the mitigation plan should be specified, specified before the comment period closes so we can comment on the adequacy of the mitigation. (*Ruth Gravanis, Golden Gate Audubon Society, and Conservation Committee, San Francisco Group of the Sierra Club*)

The SEIR's failure to mitigate the proposed project's rip-rapping of Mission Creek channel . . .will eliminate critical foraging, resting and perching habitat for local waterfowl. (*Michael R. Lozeau, Executive Director, San Francisco BayKeeper*)

Response

Some comments cite the SEIR's failure to mitigate the proposed rip-rapping and resulting habitat loss. Several comments criticize Mitigation Measure L.1 for loss of salt marsh in the DEIR as being too vague, and not specifying the location of the replacement wetland, indicating that they preferred it to be restored on-site. One comment mentions the SEIR's failure to cite the Clean Water Act Section 404 (b)(1) guidelines requiring an analysis of alternatives to avoid wetland impacts. Others suggest that a Habitat Enhancement Plan be required with features such as retaining a wetland hydrologist and biologist to explore opportunities for enhancement and restoration, a requirement that the plan follow the CAC Design Standards and Guidelines with the participation of the Mission Creek Conservancy, that the plan be subject to CAC approval, and that it be included as a binding condition of project approval (these are discussed under "Perching Sites and Other Measures to Improve Channel Habitats" on pp. XII.422-XII.426). Another comment recommends the provision of buffers around China Basin Channel to provide suitable foraging and resting habitat.

The impact of loss of salt marsh and mudflat habitat is addressed by Mitigation Measure L.1 (p. VI.50). See also the discussion under "Edge Treatments and Loss of Wetlands" on pp. XII.408-XII.410. The mitigation measure was purposely designed to not be too specific so as to constrain and potentially conflict with later recommendations and requirements of the regulatory agencies with jurisdiction during the Section 404 and BCDC permit processes. If the mitigation measure included

specific requirements, there could be future conflicts and policy inconsistencies if regulators disagreed or required different features. The permit process is a public process that allows input from concerned citizens as well as professional agency biologists who may have a unique perspective because of their involvement in wetland restoration efforts throughout the Bay Area. It is likely that accepted mitigation policies such as "in-kind, on-site" (requiring the mitigation wetland to provide similar values to the same wildlife populations impacted by the project) would require the habitat to be replaced onsite, but the regulators will ultimately tailor a mitigation plan that best meets the regulatory requirements and specifically addresses the impacts of the project. The Section 404 (b)(1) guidelines will play an integral part of the proceedings. Under current guidelines, the project sponsors will be required to demonstrate that no alternative treatments exist which are "less damaging to the aquatic environment" without consideration of mitigation. The Section 404 (b)(1) guidelines are discussed in detail on p. V.L.11.

Regarding the placement of buffers around the Channel, this suggested mitigation does not address an impact considered to be significant (see responses to comments on "Bird Displacement Due to Human Activities," pp. XII.413-XII.421). Additionally, it should be noted that the proposed project does propose open space areas of between 60 feet and 250 feet on both sides of the Channel that would buffer the habitats from industrial, retail, and residential activities.

Cumulative Losses

Comments

Wetlands should be expanded to natural historical levels and effect analysis and comparisons should be based on historical natural levels, not the degraded levels that exist now. (*Michael J. Paquet, Environmental Committee Chair, Surfrider Foundation, San Francisco Chapter*)

The DEIR fails entirely to examine the impacts of the loss of the wetlands habitat at Mission Creek considered cumulatively with the loss of wetlands elsewhere in the surrounding area.

CEQA requires that an EIR examine the effects of a proposed project that, even if insignificant when considered in isolation, rise to a level of significance when considered cumulatively with the impacts of other projects approved or reasonably foreseeable in the surrounding area. Pub.Res.C. § 21083(b); 14 CCR § 15130. Here, despite widespread knowledge that Bay wetlands are a dwindling resource in need of rigorous protection, and an open admission that the loss of any wetland habitat is significant (DEIR V.L.12), the DEIR contains no discussion whatsoever of the Project's impacts on wetlands resources when considered cumulatively with other Bayfront projects potentially affecting wetlands in the area, including plans for the stadium and mall at Candlestick Point. Without this analysis, the EIR on Mission Bay is legally deficient. (*Trent W. Orr, Attorney at Law, representing Mission Creek Conservancy*)

Moreover, both Islais Creek and China Basin Channel constitute natural habitat areas consisting of wetlands and other habitat types that are becoming very rare in San Francisco. The fact that these areas of unique biological resources are quite probably toxic hot spots should be of extra concern. Again, any impact on them should be considered significant in the EIR. (*Kate White, Program Director, Urban Ecology, Inc.*)

Response

One comment suggests that the SEIR analysis be based upon the historical natural levels of wetlands, not the degraded levels that exist now. Another suggested that the SEIR failed to assess the impacts of wetlands losses in China Basin Channel in the context of the cumulative historic losses of wetlands in the region.

The SEIR found that the loss of even a small amount of wetland area was significant given "the minimal remaining extent and quality of wetlands due to past losses" (p. V.L.10 of Section V.L, China Basin Channel Vegetation and Wildlife). One of the primary reasons that the loss of 0.14 acres of salt marsh wetland habitat was considered significant was that over 90% of the wetlands occurring historically in the Bay Area have been lost to development and agriculture in the past. Therefore, the SEIR analysis did take into account the historical natural levels and cumulative losses of wetlands in the San Francisco Bay Region. However, it should be noted that this is applicable in the context of background on the significance of impacts only, because CEQA requires that the project be assessed with regard to existing conditions at the time of project application.

Regarding current and future cumulative wetland losses in the Bay Area, the situation has changed entirely. Regulatory requirements have become more stringent, and enforcement and public awareness have intensified to the point where current regulatory policies make it virtually impossible for a project in the Bay Area to be approved unless it can demonstrate that wetland losses are either avoided or replaced with no net loss of wetland habitat. In fact, salt marsh wetland acreage in the highly urbanized vicinity of the City will be increasing over the next few years. The San Francisco International Airport (SFIA) is restoring 20 acres of salt marsh wetlands at Crissy Field, with completion in 1999./6/ From the spring to the fall of 1999, another 3.4 acres of salt marsh will be restored in India Basin by SFIA./7/ SFIA is also planning to restore 25 acres at Hunters Point, but the schedule for that project is uncertain./8/ The Port of San Francisco has recently put a salt marsh restoration plan out to bid for implementation; it expects that 5 acres of salt marsh will be restored on Pier 98 by the end of 1998./9/ The cumulative result of these efforts will be a net gain of more than 8 acres of salt marsh within the City of San Francisco by the end of 1999, with an additional 25 acres to follow.

Common Species, Mudflats, and Invertebrates

Comments

Your report in stating that urban landscaping and ruderal vegetation support only commonly widespread plant and animal species adapted to urbanized environments, and that on that basis those species need not be considered, betrays things all too common on [the] part of members of our own species, especially well-educated ones. And that is a prejudice in favor of the rare and of the remote and a complete ignorance of what, why, how and where other species are present among us, and the bearing of those species on the quality of our own lives and the possibilities for our species' future. . .Birds are especially important to us, and we need to pay attention to those 61 species of birds that are still at Mission Bay. We cannot preserve habitat except species by species. And we need to know that there are at least 250 species of Lepidoptera there among them, at least 20 species of butterflies. There are thousands of other species of invertebrates. E.O. Wilson has called invertebrates the little things that run the world. However, the end of invertebrates would end all of earth's essential processes, processes on which our species is entirely dependent. (*Barbara Deutsch*)

Also this document really downplays the significance of mud flats, the tidal mud flats. More and more people are beginning to understand that if we want these beautiful birds, the herons and the egrets and [curlews] and sandpipers, and all of those critters, we have to preserve the mud flats. That's where they eat. That's the only place that most of them eat. They poke their little nose down in the mud and they bring up those little invertebrate morsels. (*Ruth Gravanis, Golden Gate Audubon Society, and Conservation Committee, San Francisco Group of the Sierra Club*)

Response

This first comment suggests that the SEIR is prejudiced in favor of "the rare and remote" because of the conclusion that the vegetation exisiting on the site supports only common and widespread species. The comment also suggests that the 61 species of birds on the site need to be considered, that 250 species of Lepidoptera (butterflies and moths) are ignored, and stresses the importance of invertebrates to the earth's essential processes.

The reference to the common and widespread nature of certain urbanized species is not due to any prejudice in favor of rare species, but is provided because CEQA states that a Lead Agency shall find that a project may have a significant impact if it has the potential to reduce the number or restrict the range of a rare or endangered plant or animal./10/ The SEIR reference also responds to other CEQA significance criteria: substantial reduction of the habitat of a fish or wildlife species, a fish or wildlife population dropping below self-sustaining levels, or elimination of a plant or animal community. Thus the SEIR portrays the urban-adapted plants and wildlife of the Project Area as common and widespread to demonstrate that the site does not provide any unique resources critical to the survival of those species' populations or communities because they are ubiquitous, and the urban habitats that support

them are in plentiful supply. A detailed discussion on common species of invertebrates, fish, and birds and the effects of the project on them is presented in the SEIR on pp. V.L.4-V.L.6 and V.L.10-V.L.15.

There is no discussion of the 250 species of Lepidoptera and the 20 species of butterflies mentioned by the comment because the Project Area does not provide enough of the necessary nectar and larval food plants to make lepidopterans a significant component of the Project Area's fauna. The value of invertebrates cited by both comments is addressed in the SEIR. Invertebrates are of vital importance to the earth's food web, and make many other contributions to a healthy ecosystem. The SEIR provides a detailed discussion of the benthic invertebrates of the area on pp. V.L.4-V.L.5. The value of mudflats as a forage resource for birds feeding on benthic invertebrates is presented, with the conclusions that the mudflats near the mouth of the Channel support the highest diversity and density of invertebrates, while the interior stretches of the Channel show signs of more degradation because of past contamination. The mouth of the Channel, where foraging values are highest, will experience the lowest level of impact from the project; no rip-rap is proposed there, and the distance from congregations of human activity on shore is the greatest. Furthermore, the mitigation proposed for loss of wetlands would result in increased productivity for the benefit of the benthic invertebrates and the foraging waterbirds, because of increased plant biomass, vegetative structural diversity, and organic matter.

Wetland Impacts

Comments

I think it's critical and I think the testimony is quite clear and it's obvious from the situation that different treatment of the wetlands does not require us to reduce the size of this project. It does not require us to reduce the number of units or the size of the development. It really ought to. . .receive greater attention than it has in this EIR. . .[T]he prior EIR of 1990 identified this as a critical issue that required mitigation. And it would seem to me to be rather short-sighted of us at this point to skip over that prior conclusion and say somehow that that's been obviated by something that's happened in between, which it hasn't. So I hope that we can take a more serious look at this question about what to do about the habitat, how to treat it and what kind of mitigation matters we can take to preserve the habitat and perhaps to enhance it. (*Commissioner Dennis Antenore, Planning Commission*)

The wetlands issue, I think, is also very important. I'd like to see that fleshed out more with an explanation as to why there aren't going to be habitat restoration efforts. I thought the 1990 report was prepared to include it. (*Commissioner Richard H. Hills, Planning Commission*)

Response

The first comment is correct in stating that a different edge treatment for China Basin Channel that results in less wetland loss would not necessarily require a reduction in size or density of the project.

This issue was addressed in detail in the SEIR on pp. V.L.7-V.L.12. Both comments are also referred to the response under "Edge Treatments and Loss of Wetlands," on pp. XII.408-XII.410, Mitigation Measure L.1 (p. VI.50), and the response under "Mitigation Measures," on pp. XII.426-XII.428. The SEIR did identify this as a significant impact that requires mitigation (in the form of habitat restoration), as did the 1990 FEIR.

NOTES: Vegetation and Wildlife

1. San Francisco Redevelopment Agency, *Design Standards and Guidelines, Mission Bay*, Draft C, prepared by Catellus Development Corporation; as adopted by the Mission Bay Citizen Advisory Committee on December 11, 1997, revised March 30, 1998.

2. San Francisco Redevelopment Agency, *Design Standards and Guidelines, Mission Bay*, Draft C, prepared by Catellus Development Corporation; as adopted by the Mission Bay Citizen Advisory Committee on December 11, 1997, revised March 30, 1998, p. 75.

3. San Francisco Redevelopment Agency, *Design Standards and Guidelines, Mission Bay*, Draft C, prepared by Catellus Development Corporation; as adopted by the Mission Bay Citizen Advisory Committee on December 11, 1997, revised March 30, 1998, p. 76.

4. Human disturbance impacts on nesting gulls would not be likely to result in nest abandonment and would not be considered significant because gulls are known to easily adapt to human activity and urban nesting habitat for gulls is common, widespread, and readily available.

5. Niko Letunic, Bay Trail Planner, Association of Bay Area Governments, personal communication with EIP Associates, June 25, 1998.

6. Lyn Calerdine, Assistant Deputy Director, Planning and Environmental Affairs, San Francisco International Airport, personal communication with EIP, June 24, 1998.

7. Lyn Calerdine, Assistant Deputy Director, Planning and Environmental Affairs, San Francisco International Airport, personal communication with EIP, June 24, 1998.

8. Lyn Calerdine, Assistant Deputy Director, Planning and Environmental Affairs, San Francisco International Airport, personal communication with EIP Associates, June 24, 1998.

9. Carol Bach, Project Manager, Port of San Francisco, personal communication with EIP Associates, June 24, 1998.

10. State CEQA Guidelines, Section 15065(a).

COMMUNITY SERVICES AND UTILITIES

Comment

Our concern is to make sure this newest community has affordable housing, home ownership as well as schools, parks, and police and fire station. (*Victoria Winston, Bay Area Organizing Committee and St. Dominic's Parish*)

Response

The comment raises concerns that the proposed project provide affordable housing and various community services. Affordable housing is discussed above, under "Proposed Mission Bay Affordable Housing Program," in Business Activity, Employment, Housing, and Population on pp. XII.57-XII.65. The demand for school facilities is discussed on pp. V.M.29-V.M.32 of Section V.M, Community Services and Utilities. As noted there, a 2.2-acre site for a public school is included in the project. The trigger for transfer of the school site is in Measure M.1, on p. VI.52. The San Francisco Unified School District will determine whether and when to design and construct a school facility in the Project Area. The project includes about 47 acres of public open space; the expected locations of various parks are shown on Figure V.M.3, on p. V.M.24. Property adjacent to the existing, closed fire station on Third Street at Mission Rock Street is proposed to be dedicated to the City to provide space for a combined police/fire station, and Catellus would contribute a portion of the funding toward construction of the station (see pp. V.M.6 and V.M.10).

Open Space

Quantity of Open Space in Redevelopment Plans

Comments

We need to go further in terms of open space. . .than what you see before you today. (*Jon Rainwater, San Francisco League of Conservation Voters*)

At this time, the primary concern of the Recreation and Park Department with respect to the proposed Mission Bay Development is the proportion of population density (related to both residential and nonresidential uses) to open space. Under the California Environmental Quality Act (CEQA), a project could potentially have a significant effect on the environment if it will conflict with adopted environmental plans and goals of the community where it is located, induce substantial growth or concentration of population, and conflict with established recreational uses of the area.

The Recreation and Open Space Element of the City's General Plan describes the limited opportunities to acquire new park land and develop much needed recreation facilities due to the scarcity and high cost of vacant land. Objective 2 of the element contains the following policy: *Provide an adequate total quantity and equitable distribution of public open spaces throughout the City*. The discussion following the policy describes the need to provide enough public open space in total to serve the City's

population and to provide an evenly distributed system of open space throughout the city so that people do not have to travel too far to reach parks and recreation facilities. . .

According to the 1990 census, there are approximately 305,584 households in San Francisco and approximately 5,591 acres of public parks and open space. Therefore, the proportion of open space per residential population is approximately 797 square feet per household. Even without the Presidio, the proportion would still be approximately 502 square feet per household. Under the proposed Mission Bay Development, the proportion of open space per household would be approximately 336 square feet, substantially below the city's average. This lack of open space will place an extraordinary burden on the parks in surrounding neighborhoods (Potrero Hill, South of Market). (*Joel B. Robinson, Acting General Manager, San Francisco Recreation and Park Department*)

The DEIR fails to acknowledge that the Project does not provide sufficient open space consistent with the requirements of the San Francisco General Plan.

The DEIR incorrectly states that "Quantity of open space per resident population is not addressed in the Recreation and Open Space Element" of the San Francisco General Plan. DEIR V.M.21. However, Policy 1 of that element of the General Plan explicitly states that the National Park and Recreation Association ("NPRA") recommends 10 acres of open space per thousand population in cities. Policy 1 reveals that, across the City, we had only slightly more than half that recommended level, 5.5 acres per thousand population, at the time this element of the General Plan was prepared. While acknowledging that existing development patterns, population density, and small land mass preclude San Francisco's achieving the NPRA 10-acre-per-thousand standard, Policy 1 expressly establishes the policy of *increasing* "the per capita supply of public open space within the City" to the extent it reasonably can. In other words, when given the opportunity, as it is with a major development like Mission Bay, it is the City's official General Plan policy to provide public open space in excess of 5.5 acres per thousand, in order to increase the City's overall per capita supply of open space. That ample open space is a necessary component of a development -- much of it residential -- with the proposed density of Mission Bay is beyond serious question.

However, as noted, the DEIR wrongly denies that the General Plan addresses the issue of per capita provision of open space and thus fails entirely to explore or seek mitigation for the Project's failure to provide anywhere near the existing 5.5 acres per thousand of open space, let alone increase the City's per capita open space as required by Policy 1. The DEIR reveals that the Mission Bay Project area is expected to house some 10,855 residents. DEIR V.C.33. The Project will provide some 47 acres of open space in total. DEIR V.M.22. This works out to 4.3 acres of open space per thousand population. The Project area would also employ over 28,000 more people than currently work in the area (DEIR V.C.23), making the daytime per capita open space per thousand population far lower, even after taking into account those who would both live and work in the area. The open space provided by the Project is patently inconsistent with Policy 1 of the City's Recreation and Open Space Element. The DEIR's failure to reveal, evaluate, and mitigate this clear inconsistency with established General Plan policy as a significant Project impact is a violation of CEQA. CEQA Guidelines, Appendix G(a).

To give a fair and accurate description of the impacts of the Mission Bay Project on open space in San Francisco, the EIR must provide a breakdown showing the quantity and location of open space in each Project area. . .(*Trent W. Orr, Attorney at Law, representing Mission Creek Conservancy*)

Open Space
III.15 Project Description. "Approximately 47 acres of public open space would be provided as part of the project."

With a projected population of 11,000, the City's open space currently averages 5.5 acres per 1000, about half of the recommended state average. This project creates a deficit of open space that is contrary to our City's General Plan. If additional acreage in the project area cannot be converted to open space, we would recommend that the project area be expanded to include the Port-owned parcel that was slated to become wetlands in the last Mission Bay plan. (*Jennifer Clary, Mary Anne Miller, Norm Rolfe, San Francisco Tomorrow Mission Bay Committee*)

The inconsistency with the Recreation and Open Space Element (ROSE) of the General Plan has not been adequately assessed. It is City Policy to increase the per capita supply of open space. As currently proposed, the Mission Bay Plan will reduce the City's per capita supply. How will this impact be compensated for? How will the maintenance be provided to make up for the additional wear and tear on existing parks? Where will the Mission Bay's residents meet their open space needs? (*Ruth Gravanis, Golden Gate Audubon Society, and Conservation Committee, San Francisco Group of the Sierra Club*)

The SEIR should specifically compare the amounts and locations of proposed public open space in Mission Bay with the Guidelines and the open space categories (V.M.20) shown in the Recreation and Open Space Element.

Amount: The DSEIR states that the "(q)uantity of open space per resident population is not addressed in the Open Space Element" (V.M.21). That is not correct. The Open Space Element Objective 2, Policy 1, states that the National Park and Recreation Association (NPRA) standard is 10 acres of open space per 1,000 population, that City, State and Federal property permanently dedicated to open space uses in San Francisco totals 5.5 acres per 1,000 San Francisco residents, and "(g)iven the City's existing development patterns, high population density, and small land mass, the NPRA standard will not be possible to achieve within the City limits. *Nevertheless, to the extent it reasonably can, the City should* **increase** *the per capita supply of public open space within the City"* (emphasis added), and . . . "the City should work toward eliminating . . . deficiencies and improving the distribution of open space throughout the City."

The amount of public open space proposed in Mission Bay, with an estimated resident population of 10,900 (V.M.9), a 500 student school and 43 acres of open space (excluding 4 of the 8 acres on the UCSF site, which needs to serve 2,650,000 sq. ft. of instruction, research and support space, as well as the 5,557,000 gross sq. ft. of Commercial Industrial and Office uses in Mission Bay South[1]) is grossly inadequate.[2] It would be helpful if the SEIR could publish Map 2, page I.3.11 of the Recreation and Open Space Element (bad copy attached) which clearly shows that this area is already significantly underserved compared with the rest of the City.

Mission Bay North, with an estimated resident population of 5,300 and only 6 acres of public open space, and where the private open space will only be 35 sq. ft. per unit in blocks N1 and N2 (see DS&G p. 36) compared with 70 sq. ft. per unit of private open space in the rest of Mission Bay, is particularly underserved.[3]

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[1]28,300 employees (at 1/290 gsf) x .14 acre/1000 employees = 3.962 acres of open space needed to serve the campus and the R&D/Office population.
[2]10,900 residents on 47 acres = 4.31 acres/1000 residents. 10,900 residents on 43 acres = 3.94 acres/1000 residents.
[3]5,300 residents on 6 acres of open space = 1.132 acres/1000 residents. At 5.5 acres/1000 residents, Mission Bay North would need 29.15 acres of public open space.

(*Jack Davis, Chair, Design Subcommittee, Mission Bay Citizens Advisory Committee*)

Quantity of Open Space: *"Therefore, the proposed project . . . would have . . . more acres of open space than the approved Mission Bay Plan"* SEIR V.M.22.

That statement is incorrect. Removal of the 11 acre wetland results in the proposed project having **fewer** acres of open space than the approved Mission Bay Plan. (*Robert B. Isaacson, President, Mission Creek Conservancy*)

The public open space plan is substandard. It does not comply with the San Francisco General Plan. This substandard ratio of open space to developed space and to the number of people living and working in the project will make this area of San Francisco a less desirable place to live, work and play. (*Janet Carpinelli, President, Lower Potrero Hill Neighborhood Association*)

Response

The comments suggest that the proposed project does not include an appropriate amount of open space to satisfy the needs of the new residents based on *San Francisco General Plan* Open Space Element policies, and that the SEIR is in error in stating that the *San Francisco General Plan* provides no quantified standard establishing appropriate amounts of open space per resident. One comment states that the development program analyzed in the SEIR includes less open space than the development program previously approved for the former Mission Bay area; another comment states that China Basin Channel (Mission Creek) provides additional necessary open space for the Project Area given the proposed density of development. One comment asks how maintenance of existing parks will be increased to accommodate increased use from Mission Bay residents and employees.

The comments cite Open Space Element Objective 2, Policy 1, which calls for providing enough public open space in the City to serve the City's population, distributed evenly so that open space is within easy travel distances. The discussion of this policy in the General Plan references National Park and Recreation Association (NPRA) standards that establish ratios of types of parkland recommended per 1,000 people. When totaled, the NPRA standard for all types of parkland is 10 acres per thousand persons. The NPRA standard was used in assessing open space in the 1990 FEIR./1/

The referenced NPRA standard was current at the time the 1990 FEIR was certified and at the time Objective 2, Policy 1 was added to the Open Space Element of the General Plan. Since that time, the NPRA has changed its approach to assessing the need for open space in a community.

Neither the NPRA nor the Recreation and Open Space Element establish numerical standards for the amount of open space appropriate for new development. As discussed below, the SEIR presents a reasonable approach, based on the approach suggested by the General Plan in assessing the adequacy of the open space to be provided for a new development. The SEIR addresses open space demand in terms of availability of open space within distances recommended in the General Plan (see pp. V.M.21-V.M.22 and V.M.26-V.M.28). The SEIR discusses open space demand and relates the project's proposed open space to need for open space created by new residents and employees using the provisions of the Open Space Element that call for various types of open space to be provided within specified distances. The SEIR notes that the project would fulfill the demand for passive recreation space, and would generally fulfill the demand for active recreation space, although not always within the distances recommended by the Element (see pp. V.M.26-V.M.27).

The NPRA no longer suggests a uniform national standard. In 1995 the NPRA updated the *Park, Recreation, Open Space and Greenway Guidelines*, taking a different approach to setting a standard for open space demand. Instead of using the same standard for every community, the new approach recognizes that every community is different, and proposes a "level of service" methodology, based on community-wide surveys, for each jurisdiction to estimate its residents' demand for different types of parkland./2/ Community differences include cultural, social, economic, and environmental characteristics that should be taken into account when determining park and recreation guidelines. The Guidelines also recommend that the open space system for a community be developed reflecting the unique resources of the community, such as developing recreation opportunities around local wetlands or creeks. Therefore, the NPRA's new approach eliminates the use of a single quantitative national standard. The current approach is appropriate for citywide, long-term planning purposes, but not for addressing project-level environmental impact assessment. The new approach taken by the NPRA appears consistent with the discussion of the former NPRA standard in the City's Open Space Element. The discussion under Policy 1 notes that the former standard would be unrealistic for San Francisco's densely-developed urban area with its small land mass of less than 30,000 acres./3/

As noted by some comments, the Recreation and Open Space Element of the General Plan does address quantity of open space per resident. The Element does not, however, establish a policy for how much open space per resident a new development should provide. The demand for various types of open space was assessed in the SEIR according to provisions of the Element, as described above. The middle paragraph, third sentence from the end, on p. V.M.21, has been clarified to read:

> **The Recreation and Open Space Element, while discussing quantity of open space per capita ~~resident population is not addressed in the Recreation and Open Space Element~~ generally, does not establish a policy on the quantity of open space desirable in any new residential development in the City.**

Policy 1 of Objective 2 establishes a policy of increasing the City's per capita public open space, then assessed at about 5.5 acres per thousand persons, where it is reasonably feasible to do so.

The per capita amount of open space cited in the General Plan includes not just neighborhood and district open space but also large urban parks. The General Plan estimates that half of city-owned acreage of 3,300 acres is large open space used by all city residents and half is smaller open spaces used by nearby residents (Recreation and Open Space Element, p. I.3.7). Thus at the time the General Plan was written, the smaller, localized open spaces made up about 40% of the city total, or about 2.2 acres per 1,000 persons. By comparison, the project, as noted by a comment, would provide 4.3 acres per 1,000 new residents, a substantially greater per capita amount.

The comment by the Recreation and Park Department includes the information that San Francisco currently has about 5,591 acres of public parks and open space. Despite the City's 7.5% population increase between 1990-97, to 778,068 (p. V.C.10 of Section V.C, Business Activity, Employment, Housing, and Population), the per capita amount of open space has increased substantially, from the 5.5 acres per 1,000 cited in the General Plan, to about 7.2 acres per 1,000 in 1997. This suggests that the City has been successful in achieving the General Plan goal of increasing per capita open space to the extent it reasonably can.

It seems reasonable to assume that the policy of increasing the City's overall per capita open space was not intended to be applied on a development-by-development basis. To exceed the 5.5 acres per 1,000 person amount, an individual development would have to provide open space in excess of the former NPRA standard of 5.0 acres per 1,000 persons for neighborhood and district open space. Given the General Plan's recognition that the former NPRA standard is not possible for the City to achieve, it seems unlikely that the policy intended individual developments to exceed the neighborhood and district park standard. If, however, Policy 1 of Objective 2 was intended to be applied to a large development program such as Mission Bay, then the project would not respond to this provision of the Open Space Element. The City decision-makers, including members of the Planning Commission and the Board of Supervisors, are charged with interpreting and applying provisions of the General Plan as part of their actions on the proposed project; these decision-making bodies will determine whether or not Policy 1 intends that major development projects should provide enough open space to meet or exceed the 5.5 acres-per-thousand-persons ratio suggested in the Open Space Element. It will use that determination in evaluating the project, along with other Recreation and Open Space policies.

The formula used in the San Francisco Recreation and Park Department comment to assess the amount of open space available on a citywide basis compared to numbers of households in the City would

suggest that the Mission Bay area alone, if compared to the City as a whole, would provide substantially less open space per household. It is not clear from where this formula was derived or whether a ratio of households to square footage of total citywide open space, applied to a project, provides a meaningful estimate of project open space demand. Even if this were an appropriate standard to use, then the most similar comparison would not be to divide the number of Mission Bay households into the amount of open space provided in the Mission Bay Project Area, but to add the Mission Bay Project Area open space to the citywide total, and divide that total by the new citywide total number of households that includes the 6,090 Mission Bay dwelling units. That comparison results in 797 square feet of open space per household based on 1990 census information, and 781 square feet of open space per household including both Mission Bay dwelling units and proposed open space, an approximate 2% reduction.

It is not clear what assumptions went into the formula offered by Recreation and Park staff. It is unclear, for example, if the formula accounts for region-serving open space located in San Francisco, such as the City's 1,000-acre Golden Gate Park and the 620 acres in the Golden Gate National Recreation Area, or that it accounts for how new residents would use existing open space in the Project Area or how existing residents would use new open space in and near in the Project Area. It may not be appropriate to relate total households in the City to citywide open space when substantial amounts of that open space serve a population that extends far beyond the city limits. Residents of the Mission Bay Project Area would use open space in nearby areas, such as the Potrero Hill Playground and the South Beach Park; residents of South Beach, South of Market and Potrero Hill would be expected to use open space in the Project Area. Due to their shoreline locations, the proposed open space along the Channel and along Terry A. François Boulevard adjacent to the Bay would serve the city-wide population. Thus, it seems less appropriate to assess the Project Area open space in relation only to the Project Area residents.

The conclusion, based on commentor's applying the formula to Mission Bay, that an extraordinary burden would be placed on parks in surrounding neighborhoods because the project's proportion of open space per household would be substantially below the city average, is thus subject to question. It may be more reasonable to conclude that much of the project's demand would be absorbed in the form of incrementally increased use of the regional/national open space in the City that is included in the formula (e.g., Golden Gate Park, Golden Gate National Recreation Area including the Presidio, Candlestick Point State Recreation Area).

One comment asserts that the State CEQA Guidelines Appendix G, section G(a) should be used as a basis for evaluating significance. Appendix G is advisory, as noted in Guidelines Section 15064(e), which cites Appendix G for examples which "may" be deemed to be a significant effect on the

environment, and therefore need not be used as the basis for determining significant impacts. Nevertheless, the SEIR analysis of open space demand fulfills the analysis requirements of this Appendix section, and the project would not result in a significant open space demand.

One comment asks for a breakdown of quantity and location of proposed open space. Figure XII.2 shows possible open space locations for the project based on Figure V.M.3, on p. V.M.20, with approximate acreage for each location. These are preliminary numbers but they provide a good indication of the expected distribution of open space throughout the Project Area.

An overall comparison of the proposed amount of open space to that proposed in the previously adopted Mission Bay Development Agreement is somewhat complex, primarily because the Project Area for the presently proposed Redevelopment Plans is different from that included in the previous project. The project as defined for the SEIR does not include the port-owned property east of Third Street and north of Mission Rock Street, nor does it include the Caltrain station and track area between Fourth and Sixth Streets in Mission Bay North. The previous project area also included a portion of China Basin Channel, now not included in the Project Area. As noted in the SEIR on p. V.M.26, a direct comparison of the open space proposed in the present Project Area with that proposed in the *same* area under the 1990 Plan results in 7.5 additional acres of open space in the current project. Adding the water areas of the Channel would not change this conclusion, because the Channel remains open area whether or not it is included in the definition of "Project Area," and therefore would be appropriately added to both scenarios. The 11 acres of open space originally included on port property in the 1990 Plan would have provided a greater amount of total open space in the general vicinity of the current Project Area.

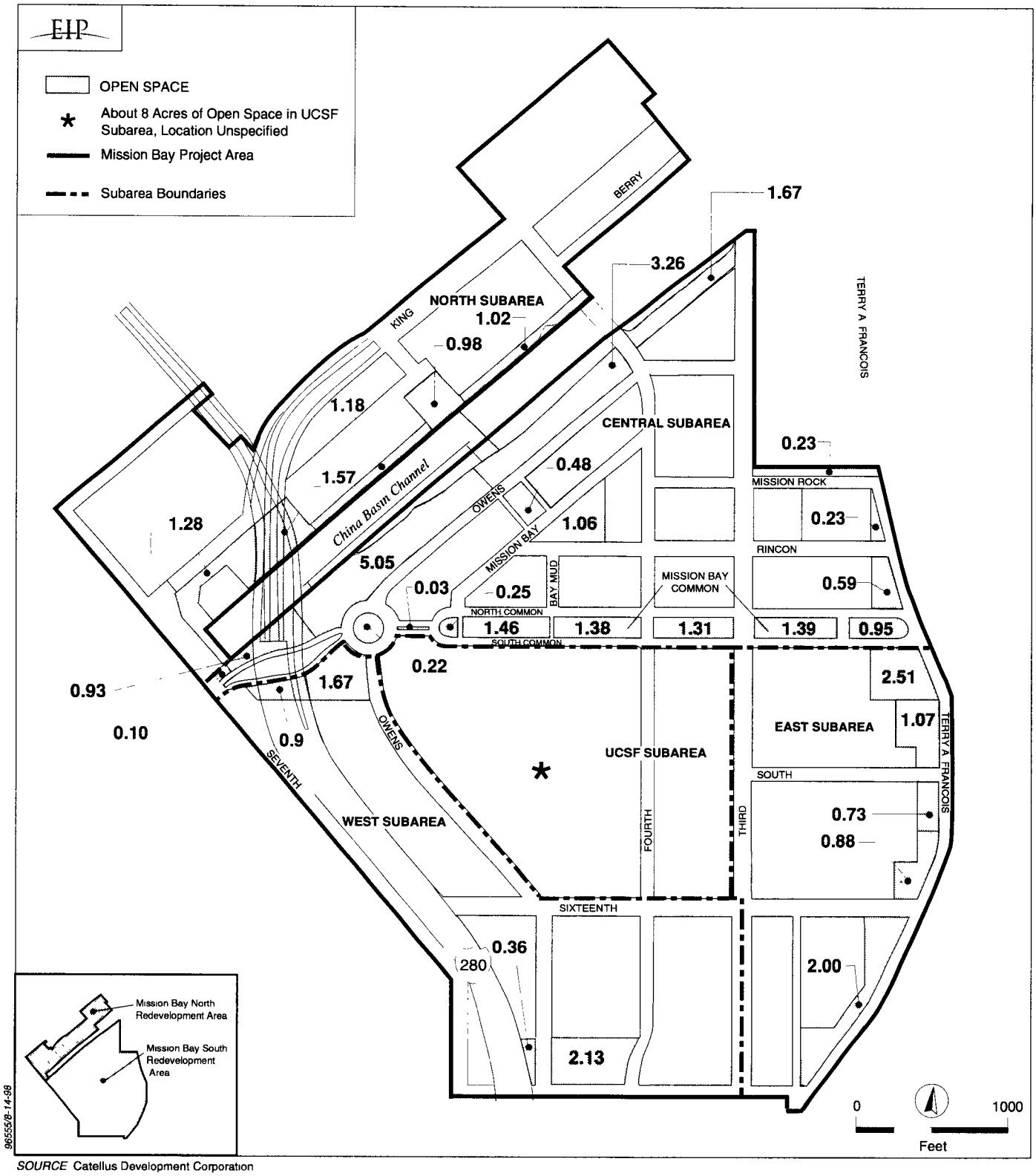
If the project would cause increased use of existing public open space outside the Project Area, this increased use might establish a need for additional maintenance. Maintenance staffing and costs are economic issues generally not required to be addressed under the provisions of CEQA./4/ For informational purposes, it is noted that the project is proposed to include a Community Facilities District to fund open space maintenance within the Project Area.

Quality of Proposed Open Space

Comments

We are concerned about the treatment of open space. . .Heaven forbid we allow parking in open space. (*Dick Millet, Member, Potrero Hill Boosters and Merchants Association*)

The public open space is substandard. The design does not comply with the San Francisco General Plan.



SOURCE Catellus Development Corporation

MISSION BAY SUBSEQUENT EIR

XII.2 APPROXIMATE ACREAGE OF PROPOSED OPEN SPACE

The substandard ratio of open space to development space and the number of people working in and living in [the] project will make this area of San Francisco less desirable to live, work, and play.

A substantial percentage of the open space -- is along busy roadways, and the next two are under the 280 freeway. And this seems to be drive-by open space concept, not appropriate for actual use. (*Janet Carpinelli, President, Lower Potrero Hill Neighborhood Association*)

Page III.15: "Open Space": The total open space acreage is exaggerated by designating wastelands underlying freeway ramps and adjoining railroad tracks as "open space." The public hardly needs such generous bequests. Redesignation as "Public Facilities (transportation)" would be more honest and would better reflect the overall scale and balance of the project. . .

Page V.M.23: Proposed Open Space: "A portion of this park would be under the freeway, and therefore [. . .] would accommodate certain active forms of recreation [. . .]" The only active recreation the underside of a freeway, designated open space or not, has ever attracted is graffiti tagging. Similar remarks apply to the suggestion that the southern "park" underneath the freeway might blossom into a softball field. It is insulting to the public to include such wasteland in the "open space" account. (*Richard Mlynarik*)

Making matters worse, the DEIR fails to address with any specificity the issue of the quality of open space provided by the Project. This is an especially critical issue given the severe underprovision of the required quantity of open space. How much of the 47 acres of "open space" would be under the freeway? How much is within the Mission Creek Harbor Association leasehold?. . .plus an unbiased description of the quality of this open space based on shading and sun exposure, proximity to busy roads, and other relevant characteristics. (*Trent W. Orr, Attorney at Law, representing Mission Creek Conservancy*)

Quality of Open Space: The error cited above appears to be more than one of counting. The Open Space section of the EIR "sells" the project, rather than analyzing it. It reads like a travel brochure.

In reality, with some exceptions, the areas devoted to open space were crudely selected as those which couldn't support revenue producing uses.

Even the deficiencies are glossed over with slick verbage. "*A portion of this park would be under the freeway, and therefore would not be useful for certain types of passive recreation, such as quiet conversations, sunbathing, and viewing. This space would accommodate certain types of active recreation, . . . skateboarding, rollerblading, or basketball.*" Where is the mention of toxic byproducts of the freeway traffic above? Who will rollerblade under a freeway? Who will play basketball there? "*The rest of this park is planned as a grassy, landscaped area around the existing pump station.*" Who is going to picnic next to a sewage pumping station which is next to multiple sewer outfall gates?

The development plan trivializes the need for quality open space. To "sell" this in the EIR without mentioning its deficiencies is at odds with the bulk of the EIR, which is admirably thorough and even handed. It's too bad that evenhandedness didn't rub off on the authors of the open space section. (*Robert B. Isaacson, President, Mission Creek Conservancy*)

LOCATION: Of the 6 acres of proposed open space in Mission Bay North, approximately 3 acres would be "at the western end of the Channel on the north side . . . adjacent to and surrounding the existing (sewer) pump station" (V.M.23). Since a portion of this park would be underneath the 280 freeway, and therefore not useful for passive recreation, its value to the residents of Mission Bay North is substantially diminished. In addition, under Variant C (VII.20), if the existing at-grade rail crossing at King Street cannot be kept open or moved to Berry Street, and a service road needs to be constructed from Mission Bay North to the Hooper Street at-grade crossing to mitigate the significant problems associated with the lack of westbound access, the amount of open space in Mission Bay North would be further reduced, and an even higher percentage would be under the freeway. This should be addressed in the SEIR. (*Jack Davis, Chair, Design Subcommittee, Mission Bay Citizens Advisory Committee*)

A substantial percentage of the open space is along busy roadways and next to or under the 280 freeway. This seems to be a drive-by open space concept, not appropriate for actual use. (*Janet Carpinelli, President, Lower Potrero Hill Neighborhood Association*)

The open space is inadequate, is often in shadow from buildings and is, in several cases, located adjacent to or under freeways and busy roads. (*Janet Carpinelli, President, Lower Potrero Hill Neighborhood Association*)

Response

A number of comments question the designation of space under freeway structures as "open space." The usefulness of open space near busy roadways or railroad tracks was questioned by others. Including parking space in a park area as part of the open space total was questioned. Finally, the quality of open space that may be shaded by new buildings was questioned.

The proposed open space under the I-280 freeway at the west end of the Channel is described in the SEIR as not being useful for quiet recreational activities (see p. V.M.23). This does not mean that the space would be unusable. Noisy recreational activities would also be incompatible with quiet conversations and contemplative viewing; therefore, it is appropriate to designate relatively noisy areas for noisy recreational activities such as skateboarding or rollerblading. Under similar circumstances, a neighborhood-serving park in a residential neighborhood on Claremont Avenue in Oakland, located under the State Route 24 structure and BART tracks, has a dog run and basketball courts and is regularly in use for both intended purposes.

As with the open space under the freeway structure, the open space proposed along Mariposa Street west of the proposed new intersection with Fourth Street would be relatively noisy near the street, as discussed in Section V.G, Noise and Vibration, on p. V.G.18. The text on p. V.M.26, at the end of the first partial paragraph, has been expanded to include this information in the Community Services section:

> **The other park, approximately 2.5 acres in size, would be located just north of Mariposa Street and west of the proposed Fourth Street extension; it would be a green, flexible-use,**

community park large enough to accommodate a soccer field. This location would be relatively noisy from traffic on nearby streets (see "Cumulative (Year 2015) Traffic Noise," in Section V.G, Noise and Vibration: Impacts, above); therefore, more active noisy uses, such as a soccer field, could be appropriately placed nearer the streets, with quieter recreational uses, such as picnic areas, placed further from the streets.

The portion of the open space near the Channel in Mission Bay South that would be large enough to accommodate a softball field would not be under the freeway structure, but would fit in the portion of the open space that would be east of the freeway. The last sentence in the second paragraph on p. V.M.27 has been clarified to read:

Open space areas that could be available for formal active recreation include: the western end of the linear park south of the Channel, east of the I-280 freeway structure, if a softball or soccer field were developed; . . .

The open space at the west end of the Channel would also be adjacent to the Caltrain tracks that parallel Seventh Street in this area. A fence is proposed to be constructed along the tracks for safety purposes to keep people using the open space from straying onto the tracks. This would delineate the usable open space as well as providing for pedestrian safety. The open space adjacent to the tracks would not be used for transportation purposes and thus, should not be designated public facilities (transportation), as suggested by one comment. Were this area to be re-designated for and used for transportation purposes, this would not constitute a significant environmental effect, but would be a change in the proposed land use of the project.

Calculations of open space areas routinely include accessory parking that is part of that open space. For example, Golden Gate Park is about 1,000 acres. This acreage includes several parking areas such as the lot behind the bandstand in the Music Concourse and the parking at Stow Lake. Parking in McLaren Park near the golf driving range is also included in this park's size. Similarly, the parking area for the new boat launch ramp facility at Pier 52 would serve a recreational facility; thus, it is appropriate to include it in calculating the amount of open space for the bayfront park along Terry A. François Boulevard. As noted in the SEIR on p. V.M.25, the parking lot would be about 1 acre in size, reducing the usable area of the park from 6 to about 5 acres.

Shadow on proposed open space is discussed in Visual Quality and Urban Design, under "Shadow and Wind," on pp. XII.81-XII.84.

Open Space on the Waterfront

Comment

The ROSE [Recreation and Open Space Element] also calls for assuring "that new development adjacent to the shoreline capitalizes on its unique waterfront location . . ." (page I.3.25). It is the presence of wildlife that makes this part of the shoreline unique. (*Ruth Gravanis, Golden Gate Audubon Society, and Conservation Committee, San Francisco Group of the Sierra Club*)

Response

The comment cites the Recreation and Open Space Element's policy calling for development on the waterfront to use this unique location, noting that what makes the shoreline unique along Mission Creek is the presence of wildlife.

The project proposes public open space along both shores of the Channel, making appropriate use of its waterfront location. Open space is also proposed adjacent to Terry A. François Boulevard along the Bay shore, responding to the Recreation and Open Space Element.

Mitigation for Open Space

Comment

Possible mitigation measures to address this potential adverse impact could include providing additional open space, particularly larger areas for athletic fields and recreational uses requiring more space. (*Joel B. Robinson, Acting General Manager, San Francisco Recreation and Park Department*)

Response

The comment suggests mitigation for alleged deficiencies in the amount of open space provided by the proposed project. The SEIR analysis of open space proposed does not show that the project would result in a significant environmental impact; therefore, no mitigation measures are required for this potential impact under CEQA. Decision-makers may consider the extent and usability of open space in the final project proposal in their deliberations on whether to approve the project and whether and what conditions to impose on that approval.

Utilities

Wastewater

Comment

The Technical Review Committee will be further refining the feasible alternatives, and they have suggested that:

> Reclamation and reuse of wastewater, if wastewater is separated from stormwater, is possible to achieve in Mission Bay on a year round basis. This water could be used for HVAC, toilet flushing, irrigation, and possibly (if Title 22 exemptions can be achieved), to provide a constant source of freshwater to flush Mission Creek. It would also reduce the amount of wastewater that needs to be sent to the Southeast Plant, freeing up capacity in wet weather for stormwater storage and treatment. . .

The Technical Report states that "an onsite reclamation facility to serve recycled water to the Mission Bay development would need to be constructed for recycled water to be used in the project." One of the biggest obstacles to building an onsite facility is finding the land. We have reviewed the Assessor's records, and attach a map showing Assessor's Blocks 3807 and 3808, which are directly across 7th Street from the Channel Pump Station. Lot 12 in Block 3807 is City owned, and currently occupied by Sunset Scavenger. The area between Block 3807 and Block 3808 is the underground continuation of Channel Street (also known as China Basin Channel or Mission Creek). We strongly recommend that use of Lot 12 and Channel Street between 7th and Carolina Street for a water reclamation facility be investigated as part of the Mission Bay Planning process, and that the City make a commitment to providing land to make use of alternative technologies possible in and around the project area. *(Corinne W. Woods, Chair, Toxics Subcommittee, Mission Bay Citizens Advisory Committee)*

Response

The comments suggest that reclamation and reuse of wastewater could be achieved in Mission Bay and recommend parcels for an on-site facility. Wastewater has generally not been considered to be a natural resource that should be conserved. However, based on expected statewide water shortages in the next century, many water supply agencies, including the San Francisco Public Utilities Commission, are considering reclaimed wastewater as an additional water source. The City has prepared a Draft Recycled Water Master Plan, implementation of which will somewhat reduce the City's demand for potable water, as discussed in the SEIR on pp. V.M.40-V.M.42. About 70% of the demand for recycled/reclaimed water is expected to be for landscape irrigation./5/ Thus, the City is already planning for use of a portion of citywide wastewater. The SEIR analyzes water demand under two scenarios, assuming that no recycled water is available, and assuming that most of the commercial and industrial land uses in the Project Area would use recycled water. Therefore, the SEIR addresses the potential impacts of not using reclaimed wastewater. As noted below in responses under "Reclaimed Water, UCSF," on pp. XII.447-XII.450, the San Francisco Public Utility Commission has indicated that it could supply the proposed project assuming conservation measures are included; Measure M.2, on p. VI.53, identifies water conservation measures that are proposed to be included in the project.

UCSF's laboratory research buildings are constructed pursuant to state law that requires a potable and a separate "industrial" water supply system; the industrial supply serves the emergency showers in the laboratories and therefore also must contain potable water. To use non-potable, reclaimed water for toilet flushing, and possibly for building cooling systems, would require a third set of pipes in each building. If UCSF were to comply with the City's's dual piping ordinance, and if the campus were

able to use non-potable water in all of its facilities for toilet flushing and building cooling systems, the total non-potable water demand for the project would increase from 0.98 million gallons per day (mgd) to about 1.18 mgd. This would reduce the project's overall percentage of citywide potable water consumption from about 2.35% to about 2.1%. This difference would not constitute a significant change in water consumption. This issue is discussed further below.

Neither a separate wastewater reclamation plant nor a separate wastewater treatment and reclamation plant have been suggested for the Mission Bay Project Area in the Draft Recycled Water Master Plan, as noted below under "Reclaimed Water, UCSF." The Draft Recycled Water Master Plan proposes to use treated effluent from the City's Oceanside Water Pollution Control Plant and provide further treatment at a tertiary treatment plant to supply recycled water. Significant effects on water supply were not shown in the water supply analysis; therefore the SEIR does not call for mitigation in the form of a reclaimed water plant in the Mission Bay Project Area. If a reclaimed water plant were to be added to the project, it would not reduce the total flows to the Southeast Water Pollution Control Plant, nor would it reduce the total pollutant loads discharged from the Southeast Plant by a substantial amount. Secondary-treated effluent would be pumped back to the Project Area's reclamation plant for further treatment, reducing the volume of effluent discharged to the Bay from the Southeast Plant by a small amount, compared to existing and projected overall volumes of wet and dry weather flows, as discussed in Hydrology and Water Quality, under "Wastewater Flows" on pp. XII.322-XII.327. If a treatment and reclamation plant were to be added to the project to treat and reclaim up to about 1 million gallons per day (considerably less during wet weather when demand for landscape irrigation would be less), it would reduce volumes and pollutant loads discharged from the Southeast Plant by a small amount compared to existing and projected discharges (less than 1.5% of total dry weather flows). As the Southeast Plant has the capacity to treat sewage from the Project Area, a separate plant is not needed and has not been included in the project nor included in mitigation measures in the SEIR. The site suggested in one comment as potentially available for a reclamation facility is not within the Mission Bay Project Area and would not be directly available to Catellus or the City for this purpose.

Reclaimed Water, UCSF

Comments

Under CEQA Guidelines (Sections 15126(f) and 15127), a Draft EIR must also identify significant irreversible environmental changes "if the project would wastefully consume resources". Wastewater, which could be treated and reused for irrigation or other benign uses, is a resource that would be wastefully consumed by the Mission Bay project as designed. Section IX.B of the EIR should identify a significant irreversible environmental change because of the project's failure to include technologies to recycle and reuse the vast amount of wastewater that would be generated by the project, and this impact should be mitigated accordingly.

The wasteful consumption of resources from the project, as proposed, will be especially egregious in regard to the UCSF campus, which is not proposed to include dual piping to allow for the later reuse of gray Water. Such dual piping is required in large projects under City regulations, but the University of California has refused to honor this local regulation. Although the University may be allowed to ignore this regulation under State law, the EIR should acknowledge that this wasteful planning for the consumption of resources would occur, as is required under CEQA. Again, appropriate mitigation measures should be included. . .

Third, the UCSF facility in Mission Bay should include dual piping to allow for the eventual recycling of gray water in the project. As noted above, such piping is required under City regulations, but the University has stated that it will not comply with such regulations. The failure to install dual piping would lead to avoidable but irreversible consumption of resources in a wasteful manner. (*Kate White, Program Director, Urban Ecology, Inc.*)

The report states that UCSF and the Giants could also use reclaimed water generated in Mission Bay. The Technical Review Committee stated that even if UCSF is not legally bound by City ordinance to provide dual piping and incorporate use of reclaimed water, the University as well as the Giants, should "not be allowed to opt out". (*Corinne W. Woods, Chair, Toxics Subcommittee, Mission Bay Citizens Advisory Committee*)

Under San Francisco's Water Recycling Master Plan prepared in 1992 and updated in 1996, the Mission Bay project should have an on site reclamation facility to provide a year-round recycling program, including the new Giants Stadium and University of California San Francisco (UCSF) campus. (*Mike Thomas, SAFER!/CBE Organizer; Lesley Barnhorn, Legal Intern; and Scott Kuhn, Staff Attorney, Communities for a Better Environment*)

Response

The comments suggest that the project would result in wasteful consumption of water resources, particularly related to the exemption of the University of California San Francisco (UCSF) from local requirements to provide for use of reclaimed water. The water demand calculations are based on typical volumes for the land uses proposed. There is no evidence in the SEIR or cited background documentation that the project would result in wasteful consumption of resources. Wastewater has generally not been considered to be a natural resource that should be conserved. The water supply analysis, on pp. V.M.39-V.M.42, discusses water use under two scenarios: use of reclaimed water and potable water, and use of only potable water. In these analyses, the SEIR accounts for the expectation that UCSF would not use reclaimed water. Total water demand from the project, including that estimated for UCSF, would amount to about 3% of the total citywide demand if only potable water were used in the Project Area. This amount would not result in a significant or wasteful use of water resources.

The San Francisco Public Utilities Commission has indicated that it could supply water to the Project Area, assuming that reasonable water conservation measures are used (see "Water Demand" on p. V.M.39). Water conservation methods are described in Section VI.M, Mitigation Measures:

Community Services and Utilities, in Measure M.2 (p. VI.53). They include use of water conserving appliances, water-efficient laboratory techniques, water- conserving irrigation systems, drought-resistant landscaping, and public information materials.

As noted above, under *Wastewater*, the City is planning to use recycled wastewater on a citywide basis in the future. The Draft Recycled Water Master Plan estimates that industrial users would comprise about 8% of the total demand for reclaimed water./6/ The estimated recycled water demand for Mission Bay in the Recycled Water Master Plan is about 0.76 million gallons per day, substantially less than the 0.98 mgd demand estimated in the SEIR, without accounting for any demand from UCSF facilities. Thus, the project would use more reclaimed water than assumed in the citywide plan, and would not be using potable water in a wasteful manner.

Since publication of the Draft SEIR, Catellus and its engineering consultants have studied alternative water supply sources in more detail, particularly sources that could reduce flows of wastewater to the Southeast Water Pollution Control Plant (Southeast Plant). One possible opportunity is to use water from sites where permanent dewatering wells have been installed to remove groundwater around deep permanent structures such as the Moscone Convention Center or the BART tunnels. Currently, dewatering efforts from those structures results in groundwater discharged into the City's combined sewer system for disposal. Based on the Catellus investigation of the quantity of groundwater available at these locations that could be used as recycled water, it does not appear to be feasible to implement within the Project Area due to the cost of constructing a conveyance and distribution system to and throughout Mission Bay. Catellus is working with the City in exploring other potential sources of high-quality groundwater.

On p. V.M.40, the following has been added before the last sentence in the second paragraph under "Reclaimed Water System:"

> **If a new source were located, some reclaimed water service could be provided earlier than the availability of recycled water from the Oceanside Water Pollution Control Plant and the westside wells.**

The City cannot compel UCSF to provide dual piping because the University is a state agency and is not subject to most local ordinances. City decision-makers may choose to discuss the matter with UCSF representatives during the Mission Bay project decision- making process. While failure to provide for potential future reclamation of water may be considered a missed opportunity for conservation, it would not constitute wasteful use of the resource and therefore would not be a significant impact under CEQA. The San Francisco Giants Ballpark is not part of the Mission Bay project and is already approved and under construction.

The *Draft Recycled Water Master Plan* calls for a recycled water treatment plant on the west side of the City near the Zoo./7/ Storage reservoirs are proposed including at Lincoln High School in the Sunset District and in McLaren Park in the southeast area of the City. Distribution facilities would include pump stations, transmission pipelines, and service vaults to serve local users; service vaults are shown in a number of locations, one in the Mission Bay area, on Figure 2-3 of the *Draft Recycled Water Master Plan*. No reclaimed water treatment plants are suggested for the Mission Bay Project Area. Non-residential buildings of over 40,000 sq. ft., other than those that are part of the UCSF site, are expected to include dual piping for use of reclaimed or recycled water, in compliance with Ordinances 390-91 and 391-91, as explained in the SEIR on p. V.M.40.

Police Services

Comment

Police. The DSEIR states that "police vehicles would not have to cross any bridges or pass under the freeway to gain access to proposed development south of the Channel" (V.M.7.) Since the Bayview Station is on Williams Street, in Bayview-Hunters Point, it is south of the Islais Creek Bridge on 3rd Street, which is the main access road from Bayview-Hunters Point to Mission Bay South. (*Corinne W. Woods, Mission Creek Harbor Association, and Waterfront Chair, Bay View Boat Club*)

Response

The comment asks how police vehicles could access the Project Area from the Bayview Station without crossing bridges that could be damaged in a major earthquake. The Bayview Station is located on Williams Street, and is south of Islais Creek. The most direct route would be via Third Street, crossing the Islais Creek bridge. However, vehicles can also use Bayshore Boulevard, west of the creek without using the bridge, to César Chavez Street and from there access Third Street or travel over Potrero Hill using Pennsylvania Avenue or other local streets, to reach Mission Bay South. This route would require that vehicles cross under the I-280 freeway structure at one of several available points. The third sentence of the third full paragraph on p. V.M.7 has been revised to read as follows:

> **Similarly, Mission Bay South is now served by the Bayview Station, which is located such that police vehicles would not have to cross any bridges ~~or pass under the freeway~~ to gain access to proposed development south of the Channel. Routes west of Islais Creek, that do not cross any bridges to reach Mission Bay South, would require vehicles to pass under I-280 on César Chavez Street, 25th, 20th, 18th, Mariposa, or 16th Streets. The typical route north to Mission Bay uses Third Street, crossing Islais Creek, and does not go under any freeway structures.**

Cumulative Impacts

Comment

The cumulative analysis in the Draft EIR is confusing, inconsistent and inadequate.

First, there is no cumulative impact analysis whatsoever in the Community Services and Utilities Section (Section M) of the Draft EIR. While the stormwater section (Section K) does have a cumulative impacts analysis, CEQA requires a cumulative impact analysis for all impact areas. The EIR must be revised to include this analysis for all municipal services, including wastewater treatment. The EIR should be recirculated to allow for public review of this new analysis. (*Kate White, Program Director, Urban Ecology, Inc.*)

Response

As explained in the discussion of Public Health Services: Impacts on p. V.M.13, demand for staff or equipment is not considered to be a physical environmental impact, although the cost of these additional services could be a fiscal concern for decision-makers. As noted in CEQA section 21100(d), significant effects are limited to changes in physical conditions; thus social and economic effects are not required to be analyzed in EIRs.

The analysis of effects of a project on some community services is prepared based on the need for new facilities in the localized area of the project. For example, the analysis of need for fire services considers the need for an additional fire station, or the need for additional facilities at an existing local station that already serves a project site. The analysis in the SEIR shows that an additional fire station would be needed to serve Mission Bay South. This new fire station would not contribute cumulative impacts throughout the City; the localized effects are accounted for in the analysis of the proposed project. The analysis in the SEIR also indicates impacts related to police services and public health services are similarly localized; the discussion in the SEIR shows that new structures for police and public health services would not be needed as a result of the proposed project.

Water supply, solid waste disposal, and sewer facilities are analyzed on a citywide cumulative basis where appropriate. For example, water demand from the project is related to both citywide and regional forecast cumulative water supply quantities provided by the San Francisco Water Department. Solid waste volumes are assessed in relation to the capacity of the regional landfill that accepts San Francisco's solid waste for disposal. Sewer facilities are discussed in relation to the City's Bayside sewer system and wastewater treatment plants. The effect of additional sewage and stormwater runoff that uses the sewer system and treatment plants is discussed in Section V.K, Water Quality and Hydrology, as noted by the comment.

Interim Uses, Detention Basins

Comments

Detention basins. On V.K.55-56 and V.M.52-53, there is discussion of interim improvements, such as detention basins, to control drainage to the combined sewer system. In addition to constructing fences around interim surface detention basins (Mitigation Measure M.4 on VI.53), vector control, particularly control of mosquitos, is critically important. We already have a serious mosquito problem, and don't want it to get any worse. We would also like to see something other than ugly chain link fence used around the detention basins. (*Corinne W. Woods, Mission Creek Harbor Association, and Waterfront Chair, Bay View Boat Club*)

The drainage scheme proposed for the interim parking lots envisions that "parking lots would drain to one or more surface detention basins south of the ballpark lot and north of UCSF." Section V.K56 suggests detention basins would be located "between the Giants and UCSF parking lots." It is not clear whether detention basins would jointly serve the ballpark parking lots and UCSF parking lots or whether lots would have their own detention basins. It is not clear to us that detention basins need to be located "between the Giants and the UCSF parking lots" and we request that the analysis consider the use of on-site detention basins within each of the ballpark parking lots.

The drainage plan for the interim parking lots assumes "one acre-foot of detention would be needed for every 10 acres of parking." What is the source of this assumption? (*John F. Yee, Senior Vice President and Chief Financial Officer, San Francisco Giants*)

Response

The comments request mosquito control for the proposed interim parking lot stormwater detention basins, and request that proposed fencing around these basins be made more attractive than typical chain-link fencing. Comments also request clarification of the location and sizes of proposed detention basins.

The interim parking and drainage plan is illustrative only. As noted on p. V.K.56, "The ultimate system, however, could vary and might include more than one basin." Page V.M.53 states that "These parking lots would drain to one or more surface detention basins south of the ballpark lot and north of UCSF." Figure III.B.4, on p. III.18, provides a diagram of one scheme that would provide for stormwater drainage for portions of the interim ballpark parking areas as well as the interim UCSF parking. The analysis of stormwater and water quality effects of drainage from interim parking uses is not dependent upon an assumption that there would be a single detention basin for all parking areas; therefore, the request in the comment that on-site detention basins be provided within each ballpark parking lot is not precluded by the SEIR discussion.

It is not known whether water would remain in detention basins long enough to breed mosquitos, as the portion of the insect's life cycle that is dependent on water is about 7 days and the detention basins may

drain completely in a shorter time than 7 days after most storms. If water were to pond for long periods, mosquitos might breed.

The San Francisco Department of Public Health does not have a citywide mosquito abatement program. Mosquito complaints are accepted by the Environmental Health Management Division, and Health Department staff will assess a potential site and recommend abatement procedures upon receipt of a complaint./8/ If recommended abatement steps are not taken by the property owner, the Health Department staff could enforce abatement through the nuisance provisions of Section 94 of the Public Health Code./9/

Phasing of Infrastructure

Comments

[O]pen space should not be postponed until after the project's substantially completed. It should be developed in phases. (*Mary Anne Miller, Representative, San Francisco Tomorrow*)

> Notwithstanding the "Concept of Adjacency", the severe deficiency of open space in Mission Bay North should be mitigated by development of a portion of South Channel Park between 4th and 5th streets concurrent with the development of Residential Areas N-3, N-4 and N-4a (Assessors Blocks 3804-05, 3796-03, 3797-02, 3805-01). A swing pedestrian bridge or alternative pedestrian access across Mission Creek Channel at the 5th Street alignment should be included as part of the project approval process. (See III.36 for mechanism)

Both in Design Subcommittee meetings and in meetings of the full Citizens Advisory Committee, we were repeatedly assured that the inadequacy of public open space in Mission Bay North would be mitigated by:

A. Development of the portion of South Channel Park between 4th and 5th Streets concurrently with the development of Mission Bay North Residential blocks (N-3, N-4 and N-4a);
B. Development of a swing pedestrian bridge at the 5th Street alignment to facilitate access from Mission Bay North to South Channel Park.

SOUTH CHANNEL PARK The DSEIR does not mention the development of South Channel Park in conjunction with the development of Mission Bay North Residential. In fact, the document refers specifically and repeatedly to the "concept of adjacency", with respect to infrastructure and transportation as well as open space development (III.36, V.M.28). This should be addressed. (*Jack Davis, Chair, Design Subcommittee, Mission Bay Citizens Advisory Committee*)

Response

Development of public open space in the Project Area is proposed to be phased along with development of building parcels, as described on p. V.M.28. In Mission Bay North, public open space would be constructed when the adjacent parcel is developed. Mission Bay South is proposed to be divided into two "zones," divided by The Common. Development in each zone would trigger a requirement to

provide open space in the zone in a defined ratio of 0.46 acres of open space to 1.0 acre of developable area until all designated open space has been developed. Thus, the 8.5-acre park proposed for the south Channel edge would be completely developed at the point when about 18 acres of residential or hotel space was developed in the northern "zone" of Mission Bay South.

Based on this information, open space would not be postponed until other development in the Project Area was nearly complete, but would be constructed in phases along with build-out of the Project Area.

The adjacency concept for infrastructure, including open space, does not include development of open space in Mission Bay South related to building construction and development of parcels across the Channel in the Mission Bay North Redevelopment Area. See "Phasing of Infrastructure" in Transportation, on pp. XII.178-XII.180, for a discussion of houseboat access.

However, to ensure that some level of South Channel Park development occurs early in the Mission Bay South development process, development of the portion of the South Channel Park between Third and Fourth Streets would be triggered by issuance of the first building permit in Mission Bay South for Catellus-owned property, regardless of which zone this first building would be located in. The following new sentence has been added as the next-to-last paragraph on p. V.M.28, carrying over to p. V.M.29:

> **In addition to the zone system for establishing development of public open space in Mission Bay South, issuance of the first building permit in Mission Bay South for Catellus-owned property would trigger a requirement to develop the portion of South Channel Park between Third and Fourth Streets.**

The pedestrian bridge crossing the Channel at approximately Fifth Street is discussed in Transportation, under "Fifth Street Pedestrian Bridge," on pp. XII.147-XII.150.

NOTES: Community Services and Utilities

1. As explained in the 1990 FEIR, the 10 acre per 1,000 person standard is derived by totaling assumed demand per 1,000 persons for all types of parks - 2.5 acres of neighborhood parks, 2.5 acres of district parks and 5.0 acres of large urban parks. The 1990 FEIR compared open space that would be provided by the project to the NPRA standard for neighborhood and district park demand (5.0 acres per 1,000 population) and found that the project would not meet the neighborhood and district park demand criteria. (1990 FEIR, pp. VI.D.68-69, 79, 81.)

2. Mertes, James D., Ph.D., CLP and James R. Hall, CLP, *Park, Recreation, Open Space and Greenway Guidelines,* National Park and Recreation Association, 1996, pp. 47-49.

3. City and County of San Francisco, *San Francisco General Plan*, Recreation and Open Space Element, p. I.3.7

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

5. San Francisco Department of Public Works/San Francisco Water Department, *Draft (updated) Recycled Water Master Plan*, revised July 1996, p. 3-1.

6. San Francisco Department of Public Works/San Francisco Water Department, *Draft (updated) Recycled Water Master Plan*, revised July, 1996, pp. ES-6 and 3-1.

7. San Francisco Department of Public Works/ San Francisco Water Department, *Draft (updated) Recycled Water Master Plan*, Revised July 1996, Section 2.

8. Scott Nakamura, Manager, Hazardous Waste and Public Services Sections, San Francisco Department of Public Health, telephone conversation with EIP Associates, June 29, 1998.

9. Scott Nakamura, Manager, Hazardous Waste and Public Services Sections, San Francisco Department of Public Health, telephone conversation with EIP Associates, August 7, 1998.

MITIGATION MEASURES

Approval and Implementation of Mitigation Measures

Comments

And I just come as the rest of the committee to support the Draft EIR and along with the proposal that was put by Ms. Woods in regards to some of the mitigating circumstances that have to be taken care of. (*Stan Smith, Secretary/Treasurer, San Francisco Building Construction Trades Council; Vice-Chair, Citizens Advisory Committee for Mission Bay*)

We are concerned that nowhere in the EIR is it explicitly stated that the list of mitigation measures is considered to be a prerequisite to the implementation of the Mission Bay Project. . .

There are numerous mitigation issues that we feel must be addressed prior to project implementation. (*David Siegel, Lower Potrero Hill Neighborhood Association; Mission Bay Citizens Advisory Committee*)

Another thing I might suggest is a mitigation monitoring report, a reporting program be prepared so that we can see all of the mitigation and who's doing it and how it's going to be done and what the timetable is and how it's going to be implemented and how it's going to look when it's done. (*Jennifer Clary, Board of Directors, San Francisco Tomorrow*)

In conclusion, the Mission Bay DEIR should be amended to ensure that the Project has the fewest possible negative impacts on our communities and the natural resources they rely on. (*Mike Thomas, SAFER!/CBE Organizer; Lesley Barnhorn, Legal Intern; and Scott Kuhn, Staff Attorney, Communities for a Better Environment*)

Table VI.8, page VI.84: 1990 FEIR H.2: This energy-conservation measure should be adopted, in line with the US commitment to reduce global warming. (*Richard Mlynarik*)

The Mission Bay Citizens Advisory Committee supports:. . .

Strongly support Mitigation Measures K.1 to K.6 in the DEIR. (*Corinne W. Woods, Chair, Toxics Subcommittee, Mission Bay Citizens Advisory Committee*)

The last item. We strongly support mitigation measures K-1 to K-6 in the EIR. (*Corinne W. Woods, Chair, Toxics Subcommittee, Mission Bay Citizens Advisory Committee*)

Response

The SEIR identifies possible mitigation measures to reduce or avoid potential significant adverse effects of the project; the measures are found in Chapter VI,Mitigation Measures. As part of considering the Mission Bay project for approval, decision-making bodies will consider all of the mitigation measures identified in the SEIR and will either include the mitigation measures as conditions of approval; reject them, giving reasons for rejection (CEQA Guidelines Section 15091); or impose modified or substitute

measures, provided they comply with CEQA. The decision-makers will then adopt a mitigation monitoring program to implement those mitigation measures that have been made conditions of approval. The monitoring program will, as required by Public Resources Code, Section 21081.6, set forth each mitigation measure, the timing of the implementation of the mitigation measure, and the agency or city department responsible for implementing and monitoring the mitigation measure. The mitigation monitoring program will be enforceable by city departments or, where appropriate, by other responsible agencies. Other measures that could reduce non-significant effects of the project could also be required as conditions of approval of the project.

The SEIR cannot make mitigation measures mandatory as requested by some comments, because that decision is part of the project approval process, whereas an EIR is an informational document. For further information regarding the funding of mitigation measures, see response under "Funding of Mitigation Measures," below.

Funding of Mitigation Measures

Comment

Page VI.6: Transportation Mitigation: The wholesale shift of the capital and operating costs of providing public transportation services to Mission Bay onto already-overloaded transit agencies amounts to a gross and unrecoverable subsidy of the private development entities by the transit riders and taxpayers of the region. For example, it appears that over 40% of Muni's "Third Street Corridor" light rail service will be dedicated to serving Mission Bay, yet no non-negligible portion of the $400+ million capital cost of this project is to be underwritten by the Mission Bay developers. There are likewise significant capital and ongoing operation cost impacts on and no plausible financing plans for the rest of Muni, for Caltrain, and for AC Transit. The transportation mitigations section confines itself to comparatively small-scale consideration of street intersection design, while leaving the burden of multi-hundred-million-dollar transit costs to "other involved public agencies." (*Richard Mlynarik*)

Response

The SEIR identifies mitigation measures in Chapter VI, pp. VI.1-VI.104. These include Measure E.45, which provides for extension and operation of the route of the N Judah MUNI Metro line from the Embarcadero Station to Mariposa Street. Decision-makers will consider whether to impose these measures, including Measure E.45, as conditions on the project; these measures would be set forth in the mitigation monitoring program. At that time, decision-makers must consider the feasibility of each mitigation measure. Feasibility determinations include, among other factors, an assessment of the costs and an assessment of the current or future availability of funding to pay for each mitigation measure. In addition, the mitigation monitoring program will identify the city department or other agency responsible for implementing the mitigation measure.

As is described on pp. III.38-III.39 of Chapter III, Project Description, there are a number of possible sources of funding for necessary mitigation measures.

Delay in Specification of Mitigation Measures

Comments

These comments are directed at the DEIR regarding how the existing project alternatives and the impact of combined sewage overflows (CSOs). . .fail to mitigate significant impacts of the project. . .In Sundstrom v. County of Mendocino, 202 Cal.App.3d 296 (1988), the court held that an agency must identify and analyze mitigation measures in the CEQA document so that the public and governmental decision-makers can review and comment on the measures. CEQA is a public information and participation law that requires an open and transparent environmental review process. Only by subjecting mitigation measures to public scrutiny can the public be assured that those measures will be effective in mitigating project impacts. As the court of appeals recently held, "the City cannot rely on post approval mitigation measures adopted during the subsequent design review process. . . .there cannot be meaningful scrutiny of a [CEQA document] when the mitigation measures are not set forth at the time of project approval." Quail Botanical Gardens Foundation, Inc. v. City Encinitas (4th Dist. 1994) 29 Cal. App.4th 1597, 1605, fn.4 (1994).

In short, Sundstrom makes clear that under CEQA an agency may not approve of a project based upon hypothetical and undefined mitigation measures to be adopted at some future time. Hypothetical measures may by their very nature be perfect -- but CEQA demands real, clearly defined mitigation measures upon which the public may comment, and upon which governmental authorities may base informed, well-considered decisions.

However, the DEIR fails to contain adequate mitigation measures. For example, the DEIR acknowledges CSO impacts are significant, but provides only the following mitigation measures

> K.3 Design and construct sewer improvements such that potential flows to the City's combined sewer system from the project do not contribute to the increased annual overflow volume. (DEIR VI.47)
>
> K.4 Implement alternative technologies or use other means to reduce setteable solids and floatable materials in storm water discharges to China Basin Channel to levels equivalent to, or better than, City treated CSOs. (DEIR VI.47)

This. . .is woefully inadequate under CEQA and Sundstrom. The DEIR fails to require these mitigation measures and fails to provide an adequate discussion of their design and implementation. Thus, the public is left to blindly trust that such measures will actually be implemented. This is a violation of CEQA. Accordingly, the DEIR must be supplemented to include actual mitigation measures and a mitigation monitoring plan to ensure that such measures will be implemented. (*Mike Thomas, SAFER!/CBE Organizer; Lesley Barnhorn, Legal Intern; and Scott Kuhn, Staff Attorney, Communities for a Better Environment*)

[W]e remain hopeful that the project will assist us in decreasing pollution on the east side of the City rather than exacerbating those issues. Unfortunately, the SEIR, perhaps somewhat hesitantly, identifies

this as a significant impact, but unfortunately maintains very vague reference to what the actual mitigation measures might be, and in particular leads my reference to opportunities of wetland projects in the area which could be used to treat some of these pollution issues. . .

The slope is somewhat slippery. The cumulative analysis adds up to roughly 1.4 million gallons of CSO discharges from the cumulative projects.

It also -- excuse me, I take that back, 98 million gallons of extra CSO discharge into the City, 1.4 million gallons to Hunters Point plant.

We urge that the mitigations be clarified for these items and that they be included in the final EIR. (*Michael R. Lozeau, Executive Director, San Francisco Baykeeper*)

The environmental review's failure to describe with any particularity a plan to mitigate the adverse impacts of the estimated increases in polluted rainwater expected to be discharged through new storm drain outfalls to Mission Creek and the east side of the City's shoreline. PROPOSED NEW SOURCES OF STORM WATER DISCHARGES SHOULD NOT BE DISCHARGED TO THE BAY SHORELINE WITHOUT PROMOTING A BENEFICIAL USE, SUCH AS A WETLAND. OTHERWISE, VALUABLE WATER IS BEING WASTED AND DISCHARGED WITH POLLUTION AT LEVELS HIGHER THAN THEY NEED BE.

In particular, the absence from the SEIR of a plan to mitigate both the volume of combined sewer overflows and polluted rainwater discharges through a combination of storm water flow control measures (including, among other measures, building design standards assuring reduced runoff from Mission Bay buildings, surface permeability standards for streets, parking areas, and other generally impermeable areas, and storm water catchment technologies as an element of building design [e.g. the use of cisterns and grey water systems], surface features and as part of the CSO and storm water systems), flow through treatment technologies, and treatment wetlands. . .

Given the size of the Mission Bay project, articulating a clear mitigation plan which sets forth a coordinated strategy to reduce flows into the CSO system and, hence, out of the CSO overflows at Mission and Islais Creeks, must be included in the SEIR. . .

Mitigation measures K.3 and K.4 on [their] face do not provide any information as to how the significant adverse impacts of increases [in] wastewater and storm water flows from the Mission Bay project and/or all reasonably foreseeable projects [would be mitigated]. . .

As regards the reference at K.4 to implementing alternative technologies, there is no possible way an interested person could comment on the cursory list of possible measures. (*Michael R. Lozeau, Executive Director, San Francisco BayKeeper*)

Response

The comments raise concerns that the mitigation measures, especially K.3 and K.4, are not clearly defined. The comments assert that CEQA does not permit a local agency to leave determination of mitigation measures to the future. One comment alleges that the SEIR is inadequate because it fails to

require mitigation measures and fails to provide an adequate discussion of their design and implementation.

As noted in the response regarding "Approval and Implementation of Mitigation Measures" on pp. XII.456-XII.457, an EIR is an informational document and cannot require mitigation measures. The decision whether to require mitigation measures is made as part of a project's approval process.

Mitigation Measures K.3 and K.4 suggest specific, measurable performance standards that are directly related to avoiding the project's contribution to identified cumulative impacts. The measures also suggest various ways in which the performance standards could be achieved. This type of mitigation measure is not hypothetical or undefined; it merely allows flexibility in achieving a measurable, specific goal. The measure was intentionally drafted in this manner because the project is expected to require at least 20 years to build out, and design and construction of the new permanent sewer system in Mission Bay South may not need to begin for many years. Therefore, it is preferable, particularly with measures calling for new and alternative technologies, to allow for selection of the best technologies available at that future time, rather than locking in a particular detailed approach now. The important point is not which of the many different methods may be used to achieve the performance standards, but that, if the measures are adopted, the City can be assured that the standards will be met and the impacts they address will be avoided.

The mitigation measures cited by the comments have been subject to public review during the SEIR process. The public has had the opportunity to review and comment on the appropriateness of the measures as they address impacts of CSOs and untreated stormwater discharges. The possibility of future public input on the specific methods that may be chosen to comply with the measures has not been foreclosed, and there will be opportunities for public input during the project approval process.

See the response regarding "Approval and Implementation of Mitigation Measures" on pp. XII.456-XII.457, for a description of the Mitigation Monitoring Plan.

See the discussion and responses in Hydrology and Water Quality, "Alternative Wastewater Management Strategies" on pp. XII.238-XII.252 regarding wetlands and other wastewater management options. The responses in Hydrology and Water Quality, "Illustrative Mitigation Scenarios," on pp. XII.253-XII.277, provides additional information about two of many possible ways of implementing Mitigation Measures K.3 and K.4 on p.VI.47, which relate to reducing volumes of combined sewer overflows and treating stormwater discharges to China Basin Channel.

VARIANTS

Variant 1: Terry A. François Boulevard Variant/Expanded Bayfront Open Space Proposal

Comments

We believe that the best planned feature of the project is to move west of Terry A. François Boulevard to create regular waterfront open space. (*Dick Millet, Potrero Jill Boosters and Merchants Association*)

If Variant 1: Terry A. François Boulevard Variant is chosen, access to the waterfront for delivery trucks, boat trailers, and other essential waterfront transport must be maintained, possibly via a service road or cut-ins across the Bayfront Park. Parking for the Public Boat Launch Ramp at Pier 52 must be maintained, and parking for non-trailer vehicles should be found. (*Corinne W. Woods, Mission Creek Harbor Association, and Waterfront Chair, Bay View Boat Club*)

Response

One comment notes a preference for the Terry François Boulevard Variant while the other states that if the variant is incorporated into the approved project, provisions would need to be made for maintaining essential waterfront vehicular transport, parking for boat launching, and parking for non-trailer vehicles. As discussed in Section A of Chapter VII, Variants to the Proposed Project (pp. VII.2 - VII.11a), under this variant Terry A. François Boulevard would be relocated to the west and the associated open space relocated east near the shoreline. Access issues and parking for the Public Boat Launch Ramp at Pier 54 are discussed under Transportation, pp. VII.5a and VII.7. The public boat launch ramp would remain and public parking would be developed also; it would accommodate boat-launching and non-boat launching vehicles.

Since the publication of the Draft SEIR, additional detail has been developed regarding the program for bayfront open space to be located west of realigned Terry A. François Boulevard as part of the Terry A. François Boulevard Variant. This detail has been developed as the result of conversations between the Port and project sponsors regarding how to implement that variant, if it were adopted. This bayfront open space proposal would involve the coordination of improvement plans for Catellus and 2 acres of port-owned lands to create an integrated and expanded bayfront open space system; the proposal would also involve the designation of a small commercial site in the bayfront open space within the Project Area for development by the Port of recreation-oriented retail space. This proposal is discussed in more detail in the following revisions to Variant 1 in Chapter VII, Variants to the Proposed Project.

On p. VII.1, the text of the first bullet item has been changed as follows:

- **Terry A. François Boulevard Variant: Under this variant, the alignment of Terry A. François Boulevard would be moved west, away from the Bay, so that a portion of the proposed Bayfront public open space would be ~~directly~~ adjacent to port property fronting the Bay. A proposal for expanded bayfront open space, if adopted, would include development by Catellus of approximately 2 acres of adjacent open space on port property outside of the Project Area, and include provisions within Project Area open space for a 15,000-sq.-ft., port-owned, recreation-oriented retail space that could include related restaurant uses.**

On p. VII.2, the following subsection heading and paragraphs have been added at the end of the page:

Proposal for Project/Port Integrated and Expanded Bayfront Open Space

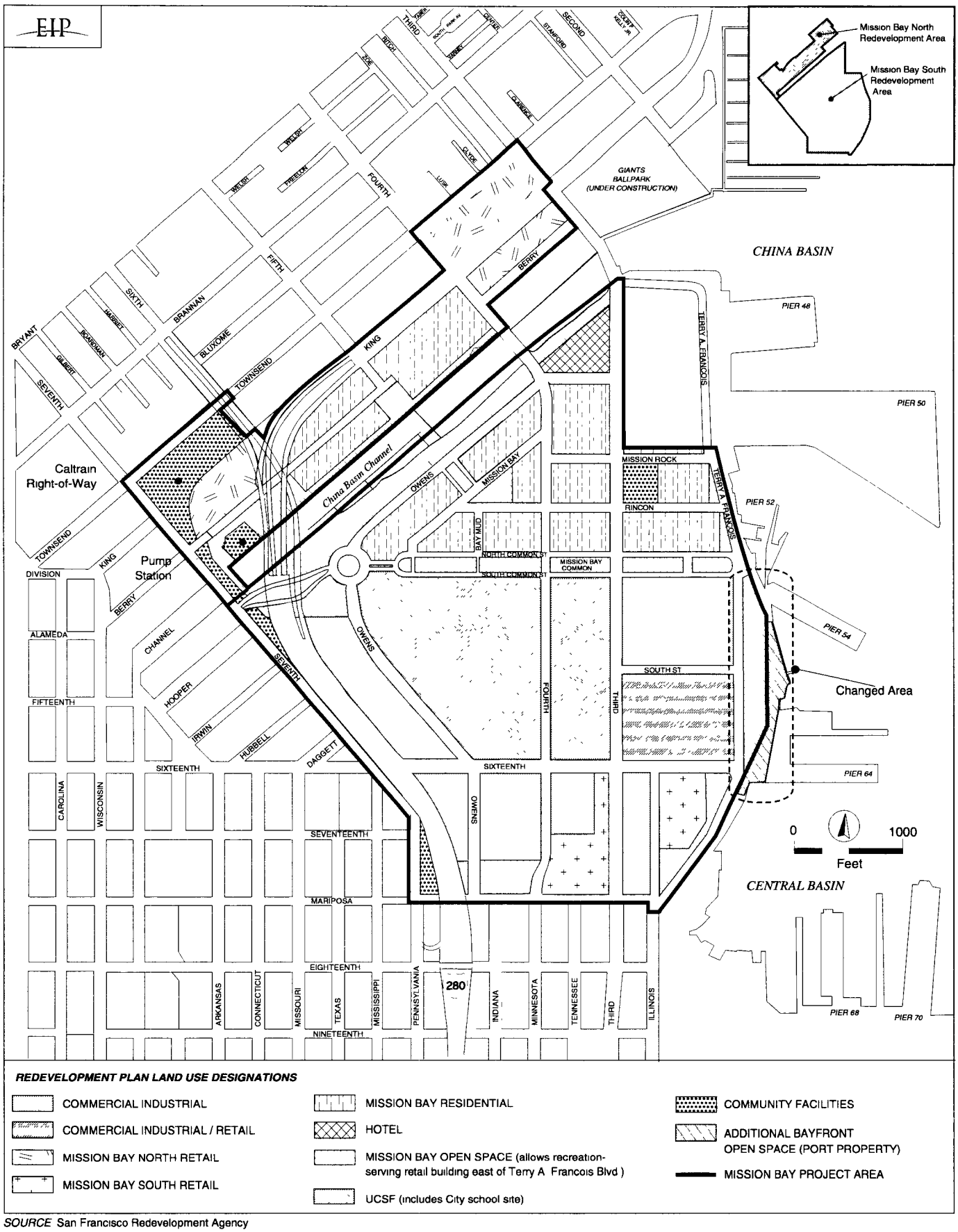
Since the publication of the Draft SEIR, additional detail has been developed regarding bayfront open space proposed to be located west of Terry A. François Boulevard as part of the Terry A. François Boulevard Variant. This proposal arose from conversations between the Port and project sponsors regarding how to implement the variant, including the coordination of improvement plans for Catellus- and port-owned lands to create an integrated and expanded bayfront open space.

Under the expanded bayfront open space proposal, the Terry A. François Boulevard Variant would be modified as follows (see revised Figure VII.A.1). Open space within the Project Area would be integrated with 2 acres of additional public open space on port property outside the Project Area that Catellus also would develop. Development of the open space on port property would involve the demolition of two existing port-owned commercial buildings that currently house a boat repair business and small-boat storage facility. In addition, the Mission Bay South Redevelopment Plan would be revised to allow a port-owned building containing up to 15,000 gross square feet of recreation-serving retail space that could include related restaurant uses to be built within the bayfront open space area inside the Project Area. Other aspects of the Terry A. François Boulevard Variant would remain substantially the same.

Figure VII.A.1, on p. VII.3, has been revised to show the 2 acres of port property outside the Project Area that would be developed as open space and the notes have been revised to provide some related descriptive information.

On p. VII.4, the following sentence has been added to the end of the "Plans, Policies, and Permits" section:

If the proposal for creation of the integrated and expanded bayfront open space system is implemented, then amendments to the Waterfront Land Use Plan would be needed to



SOURCE San Francisco Redevelopment Agency

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FIGURE VII.A.1 (REVISED) LAND USES FOR TERRY A. FRANCOIS BOULEVARD VARIANT

reflect the development of the 2 port acres as an integrated whole with the project's bayfront open space.

On p. VII.5, the following paragraph has been added to the end of the "Land Use" subsection:

If the expanded bayfront open space proposal were implemented, development of the additional 2 acres of open space on port property would enhance the project's open space under this variant. As described in the paragraph above, once the existing Terry A. François Boulevard is closed (thereby eliminating the direct access to waterfront uses existing now), and until such time as the existing waterfront uses were vacated, the project sponsors would provide indirect access via a driveway through the parking lot proposed at the north end of the public open space for the public boat launching ramp to a roadway extending south. Under this proposal, access to maritime service uses on Pier 54 would continue to be limited; removal of two commercial buildings, however, would address the issue of limited access to existing waterfront uses in these areas. However, the access difficulties could persist until the expanded open space were developed. This variant's multipurpose pedestrian path would not change, except that it would be constructed closer to the Bay on port property. It is likely that the 15,000-gross-sq. ft. commercial building would be developed on a footprint not to exceed 7,500 square feet within the bayfront open space inside the Project Area under this variant and would be two stories tall. The Port expects to develop recreation-oriented retail space that could include restaurant use. The Port is proposing a minimum amount of parking to accommodate handicapped users, possibly using valet parking to serve other users.

On p. VII.5, the following sentence has been added to the "Business Activity, Employment, Housing, and Population" paragraph:

Under the expanded bayfront open space proposal, the commercial development would support up to about 43 new retail employees, a 0.1% increase in the project's 29,994 estimated jobs.

On p. VII.5a, the following paragraph has been added to the end of the "Visual Quality and Urban Design" subsection:

Under the expanded bayfront open space proposal, open space would be extended to the bay shore and views of the Bay between Pier 54 and Pier 64 from realigned Terry A. François Boulevard would be unobstructed. Additionally, a small commercial building, most likely two stories in height, would be visible within the bayfront open space inside the Project Area.

On p. VII.7, the following paragraphs have been added to the end of the "Transportation" subsection:

If the expanded bayfront open space proposal is adopted, the retail space would not significantly alter the transportation impacts described for the project. The retail space

would create a total of approximately 130 person trips and approximately 60 vehicle trips more than the project during the p.m. peak hour, and would create about 15 more transit trips than the project during the p.m. peak hour. Most of the additional vehicle trips would occur on 16th Street and Third Street and would not cause any significant impacts beyond those currently described for project conditions.

The parking demand for the additional retail space would be approximately 65 spaces. No on-site parking spaces would be provided beyond a few handicapped and valet or drop-off spaces. Thus, the parking deficit for the project would increase by approximately 1% to approximately 4,820 spaces. Some visitors to the retail space would seek on-street parking in the area. The issues surrounding access to existing boat repair and storage area use, and possibly to other potential future uses, would remain until such time as the Port built the commercial structure and terminated use of the existing port properties.

On p. VII.10, the following paragraph has been added to the "Contaminated Soils and Groundwater" subsection:

If the expanded bayfront open space proposal is adopted, Article 20, Section 1000, et seq., of the San Francisco Public Works Code, commonly known as the Maher Ordinance (see p. V.J.51), would apply to the port property outside of the Project Area. Current discussions of the proposal include provisions to prepare an RMP for the port property based on the program developed for the Project Area and to include this provision in the environmental remediation agreement that would be part of the Mission Bay South Owner Participation Agreement between Catellus and the Redevelopment Agency.

On p. VII.10, the following paragraph has been added to the "Hydrology and Water Quality" subsection:

If the expanded bayfront open space proposal is implemented, the additional open space adjacent to the waterfront as part of this variant would provide an additional potential filtering function for runoff flowing from the rerouted part of Terry A. François Boulevard to the Bay during major storm events.

On p. VII.11, the following paragraph has been added to the "Vegetation and Wildlife" subsection:

If the expanded bayfront open space proposal were to propose any uses affecting the shoreline, a range of permits (Army Corp of Engineers), and approvals (Port of San Francisco, BCDC), along with possible subsequent environmental review would be required. Mitigation Measures L.2 (Herring) and L.3 (Turbidity) would be required as they would under the project. However, there is no sensitive wetland or mudflat habitat along the waterfront between Piers 54 and 64. Existing and long-standing land uses are maritime related and industrial in nature. The intertidal area is covered with rubble and sand. Abandoned piers on pilings extend out into the Bay.

On p. VII.11a, the following paragraph has been added to the "Community Services and Utilities" subsection:

> **If the expanded bayfront open space proposal is implemented, the additional 2 acres of open space on port property developed in a manner that would integrate it with that of the proposed project would enhance the project's open space. It would increase total open space from 47 acres to 49 acres (2 acres outside of the Project Area on port property). The integration could increase the usefulness of the open space for active sports uses and increase access to the shore of the bay for passive and possibly active uses.**

On p. VII.11a, the first sentence of the "Summary of Mitigation Measures" subsection has been revised as follows:

> **The significant impacts of this variant, and of the expanded bayfront open space proposal, ~~are~~ would be the same as those of the project.**

The last partial paragraph on p. II.36 and the first full paragraph on p. II.37 in the Summary have been modified as follows:

> **Under Variant 1, the alignment of Terry A. François Boulevard would be moved west, away from the Bay, so that a portion of the proposed Bayfront public open space would be ~~directly~~ adjacent to port property fronting the Bay. A proposal for expanded bayfront open space, if adopted, would include development by Catellus of approximately 2 acres of adjacent open space on port property outside of the Project Area, and include provisions within Project Area open space for a 15,000-sq.-ft. port-owned recreation-oriented retail space that could include related restaurant uses. Even with the expanded bayfront open space proposal, the realignment of the roadway would limit direct access to maritime uses on and south of Pier 54, until the two commercial buildings were removed and the open space was developed. ~~Future users of these port properties could not be assured of direct access.~~ In the interim, indirect access could be provided through a proposed parking lot and along a service roadway. Under this variant the freight rail track currently in Terry A. François Boulevard would be realigned within the proposed public open space. Project buildings would be separated from the public open space by the realigned Terry A. François Boulevard.**
>
> **Other environmental effects would be similar to those of the proposed project. The significant impacts of this variant, and of the expanded bayfront open space proposal, ~~are~~ would be the same as those of the project. No additional mitigation measures have been identified.**

Variant 3: No Berry Street At-Grade Rail Crossing Variant

Comments

Page VII.1: The No Berry Street At-Grade Crossing Variant is to be preferred: public safety and transportation efficiency dictate minimizing and eliminating grade crossings. (*Richard Mlynarik*)

The SEIR should also illustrate how the maximum development program might be affected by the reduction in city serving retail from 222,000 to 110,000 gsf and the total number of dwelling units in Mission Bay North from 3,000 to 2,870 under Variant 3: No Berry Street At-Grade Rail Crossing Variant. Would the 112,000 gsf of city serving retail move somewhere else in Mission Bay North? Where would the 130 residential units go, and how would this affect the maximum development standards, not to speak of the number and placement of the affordable units? (*Jack Davis, Chair, Design Subcommittee, Mission Bay Citizens Advisory Committee*)

Response

One comment states a preference for the variant while another questions what the effect would be from the reduction in retail and housing on the overall development program and the amount and location of affordable housing under the variant. As discussed in Section VII.C, pp. VII.20-VII.31, Variant 3, the No Berry Street At-Grade Rail Crossing, would not include the at-grade crossing. The Business Activity, Employment, Housing, and Population subsection on p. VII.22 discusses the effect of the reduction of retail and residential development on the overall development program. The variant would reduce project employment by 330 jobs or 1% and reduce residents by 220 people. The development program of Mission Bay North would not be increased to compensate for the elimination of retail space and housing. The SEIR concludes that these changes would be too small to affect overall business activity, employment, housing, and population of the development program. The reduction would result in the elimination of approximately 130 units, including approximately 26 affordable units. This would include both Catellus inclusionary affordable units and Redevelopment Agency-sponsored affordable units. Transportation efficiency is discussed on pp. VII.22-VII.24, while public safety is discussed on p. VII.24 and pp. VII.29-VII.30. The project sponsors are currently considering a modified rail crossing variant that would result in some reduction in the retail program for Mission Bay North, but would not change the number of dwelling units as compared to the project (see "Request for a Modified No Berry Street At-Grade Rail Crossing Variant," pp. XII.467-XII.479).

Request for a Modified No Berry Street At-Grade Rail Crossing Variant

Comments

In these letters Catellus states that it agrees to close the Berry Street crossing in return for getting the new crossing at what was called Wall Street, I believe is now called Common Street. . .

So I think you are going to have to go along with Catellus' agreement to close both King and Berry Street crossing in return for getting a new one. So, once again, the EIR should be revised that way. (*Norman Rolfe, San Francisco Tomorrow*)

The Draft SEIR adequately describes the "No Berry Street At-Grade Rail Crossing" and the associated impacts; however, based on continuing dialogue with the Peninsula Corridor Joint Powers Board (JPB), a slightly modified variant that connects Berry Street to the proposed Common Street has been proposed. This variant is a modification of both Berry Street schemes analyzed within the Draft SEIR. Within this concept, the Berry Street at-grade rail crossing remains closed and the roadway is realigned to create an intersection with the proposed Common Street, connecting it into the ultimate street network. . . (*Don Parker, Vice President, Bay Area Development, Catellus Development Corporation*)

Response

The comment notes a possible modification to the Variant 3 whereby the existing Berry Street at-grade rail crossing remains closed (east of Seventh Street and the rail lines), and Berry Street is extended south to Common Street. The proposed modifications to Variant 3, No Berry Street At-Grade Rail Crossing (p. VII.20) are assessed in this response below as a new variant: Variant 3A, Modified No Berry Street Crossing.

The following has been added to follow the third item on p. VII.1:

- **Modified No Berry Street At-Grade Rail Crossing Variant (Modified No Berry Street Crossing Variant): As with the No Berry Street Crossing Variant (Variant 3), this variant would not include the at-grade railroad crossing at Berry Street that is proposed by the project. The rail crossing across from Hooper Street that is proposed as part of the project would also be proposed under the variant. In contrast to Variant 3, Berry Street would be extended around the end of China Basin Channel to intersect with The Common, immediately east of the Caltrain tracks. The Common would be widened. The intersection of Seventh Street, The Common, and the Berry Street extension would require additional right-of-way from the elimination of two of the five Caltrain tracks that run parallel to Seventh Street between Berry Street and The Common. The three remaining tracks would be shifted about 20 feet east in the area where The Common crosses to Seventh Street. As with Variant 3, due to reduced access to and from the west, city-serving retail development in Mission Bay North on the block west of the I-280 King Street ramp is assumed to be reduced from 222,000 gross sq. ft. with the project to 111,000 gross sq. ft. with the variant. In contrast to Variant 3, this variant would not reduce the number of dwelling units on that block.**

Variant 3A is added to p. VII.31 as Section D to follow Section C, Variant 3. On p. VII.31m, Variant 4 is changed from Section D to Section E.

D. VARIANT 3A: MODIFIED NO BERRY STREET AT-GRADE RAIL CROSSING VARIANT (MODIFIED NO BERRY STREET CROSSING VARIANT)

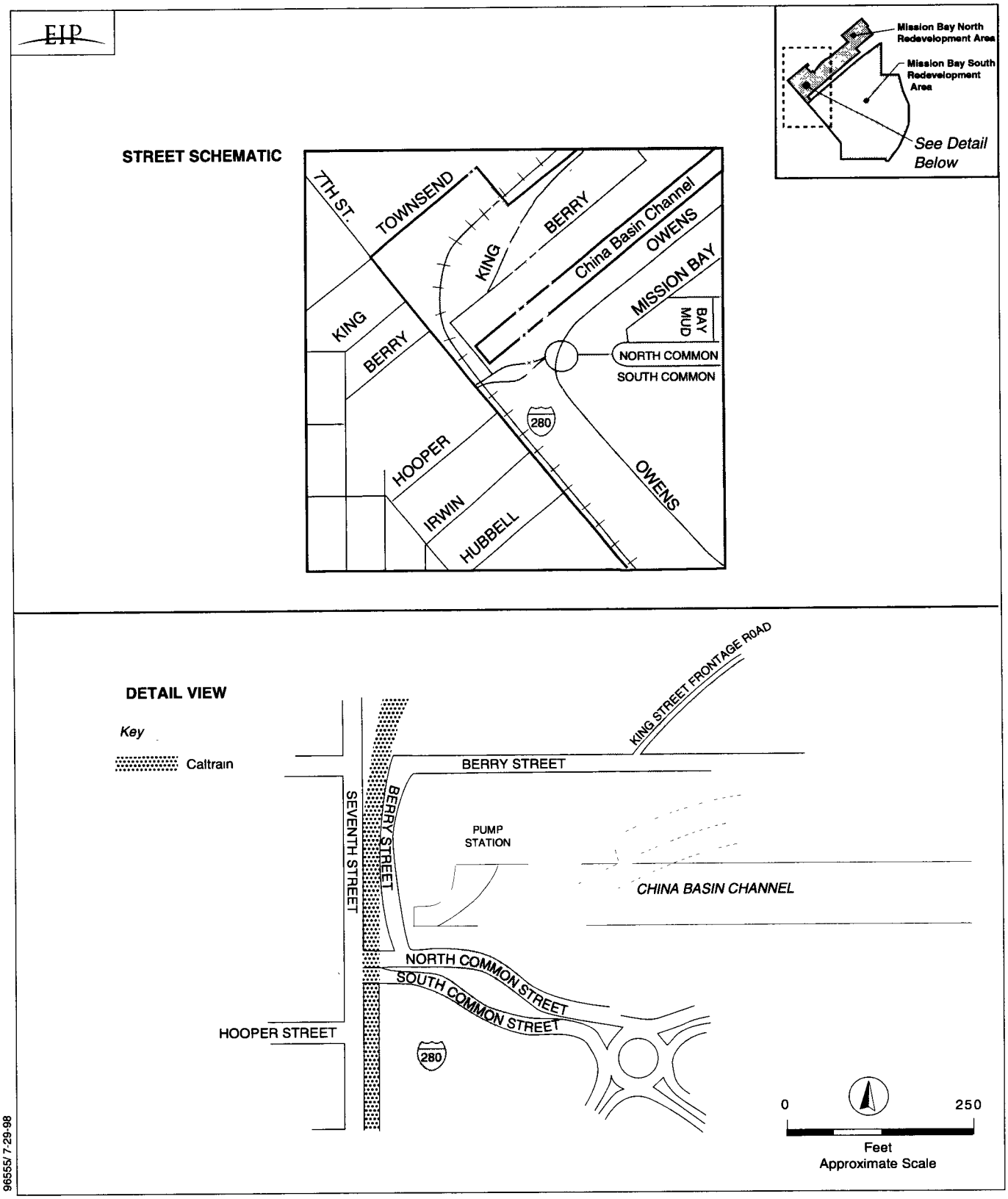
INTRODUCTION

Variant 3, the No Berry Street At-Grade Rail Crossing Variant included in the Draft SEIR, eliminates the at-grade crossing of Berry Street and assumes that the proposed Berry Street crossing of the Caltrain tracks at Seventh Street would not be improved (see pp. VII.22-VII.23). This change from the project in infrastructure would affect, almost exclusively, vehicles traveling to and from Mission Bay North. Under Variant 3, access to the western portion of Mission Bay North would be constrained by physical barriers to the south, north, and west. Access to the mixed-use block west of I-280 would be via Fourth Street to westbound King Street using the frontage road to access the block, or via Fourth Street to King Street to Fifth Street to Berry Street to access the block. Traffic exiting the site would be limited to eastbound Berry Street to Fifth Street to King Street. Third and Fourth Streets would be the westernmost connections to the north for outbound and inbound traffic, respectively. The only direct vehicular connections to Mission Bay South would be at the Lefty O'Doul and Peter Maloney Bridges.

Since publication of the Draft SEIR, the project sponsors developed a second possible solution, which is to extend Berry Street around the western end of China Basin Channel to Common Street near the intersection of Common and Seventh Streets (see Figure VII.D.1). This solution is presented as Variant 3A, the Modified No Berry Street At-Grade Rail Crossing Variant (Modified No Berry Street Crossing Variant). It is described below in more detail.

DESCRIPTION

Under Variant 3A, the Modified No Berry Street Crossing Variant, the Berry Street crossing of the Caltrain tracks at Seventh Street would not be improved (similar to Variant 3), and Berry Street would be extended around the end of China Basin Channel to intersect with The Common, immediately east of the Caltrain tracks. The extension of Berry Street would be comprised of one lane in each direction, with the southbound lane widening to two right turn lanes at the intersection with The Common. The Common would be widened to provide three westbound lanes across the Caltrain tracks in order to allow traffic to clear the intersection more effectively. The eastbound direction would remain two lanes wide. This variant also includes two through lanes and an exclusive right-turn lane on Seventh Street for the northbound approach and two through lanes and an exclusive left-turn lane on Seventh Street for the southbound approach. These lane geometry improvements at the intersection of Seventh Street, The Common, and the Berry Street extension would be accomplished because additional right-of-way would be made available with the elimination of two of the five Caltrain tracks that run parallel to



SOURCE: Wilbur Smith Associates

MISSION BAY SUBSEQUENT EIR

FIGURE VII.D.1 (NEW) MODIFIED NO BERRY STREET AT-GRADE RAIL CROSSING VARIANT: INTERSECTION LANE CONFIGURATION

Seventh Street between Berry Street and The Common. The three remaining tracks would be shifted about 20 feet east in the area where The Common crosses to Seventh Street to provide space for the exclusive turn lanes on Seventh Street.

These roadway modifications would provide emergency access to Mission Bay North from Seventh Street by crossing the median between South and North Common Streets. They would provide direct egress from western Mission Bay North to Seventh Street. Also, they would provide direct access from Mission Bay South to Mission Bay North that would not be dependent on bridges.

Due to reduced accessibility to the northwestern-most block fronting on Berry Street between Sixth and Seventh Streets without the Berry Street crossing, city-serving retail development under Variant 3A would be reduced 50%, to 111,000 gross sq. ft. from the proposed project's 222,000 gross sq. ft. Residential development proposed under this variant would not be reduced from that assumed for the project (as it would with Variant 3). Although realigning Berry Street would reduce the Caltrain easement by 0.5 acres, it would not reduce open space as proposed for the project.

ENVIRONMENTAL ISSUES

As described below and in comparison to the proposed project, the Modified No Berry Street Crossing Variant would have one significant traffic impact and would require an additional mitigation measure, in addition to those measures identified for the proposed project, to mitigate those impacts. Compared with Variant 3, Variant 3a would have the same traffic impact and the same mitigation measure that would avoid the impact, and would not have Variant 3's emergency response impact and associated mitigation measure.

Plans, Policies, and Permits

For this variant, concerns regarding plans, policies and permits are limited to issues relating to the railway and to railway crossings. The project makes two assumptions about access to the Project Area along Seventh Street: 1) the existing at-grade rail crossing at King Street would be relocated near Hooper Street where the crossing would be reconstructed; and 2) the at-grade rail crossing at Berry Street would require approval by the California Public Utilities Commission (CPUC). As with Variant 3, Variant 3A assumes instead that the Berry Street crossing proposed for the project would not be constructed. In addition, Variant 3A assumes that two of the five Caltrain tracks between Berry and Hooper Streets would be removed to provide additional right-of-way. Jurisdiction over existing or new at-grade rail crossings along Seventh Street by the CPUC and the Peninsula Corridor Joint Powers Board (JPB) is as described on pp. VII.21-VII.22.

Land Use

Because of reduced access to and from the west, this variant assumes that retail development at the western end of Mission Bay North would be reduced 50% to 111,000

gross sq. ft. of city-serving retail space as with Variant 3. Residential development would remain as proposed for the project and would not be reduced as it would in Variant 3. The types of land uses in Mission Bay North would remain the same as the project. Land use implications would be similar to the proposed project.

Business Activity, Employment, Housing, and Population

This variant would have less city-serving retail development in Mission Bay North than would the proposed project. As a consequence, there would be 310 fewer jobs in Mission Bay North. This would be about 7% fewer retail jobs for Mission Bay North, but only about 1% fewer total jobs in the Project Area. The differences in retail development and retail employment are not large enough to change the conclusions of the business activity, employment, housing and population impact analysis for the proposed project.

Visual Quality and Urban Design

Visual quality associated with this variant in Mission Bay North would be similar to the project. Height limits would remain the same, but the mass of buildings could be somewhat reduced in the block of Mission Bay North west of the I-280 Sixth Street ramps because of the reduced retail development program.

Transportation

This variant's change in infrastructure would most affect vehicles traveling to and from Mission Bay North, particularly those destined for the mixed-use development parcel located to the west of the I-280 freeway ramp structure. With this variant, access to the western portion of Mission Bay North would be less constrained than that described for Variant 3. The extension of Berry Street to The Common would provide an additional access point between Mission Bay South and Mission Bay North, and provide more direct access to the western portion of Mission Bay North. Access to the mixed-use block west of I-280 would be via Fourth Street to westbound King Street using the frontage road to the block, via Fourth Street or I-280 to King Street to Fifth Street to Berry Street to the block, or via Seventh Street to The Common to the roundabout to the extension of Berry Street to the block. Traffic exiting from this site would travel eastbound Berry Street to Fifth Street to King Street, or southbound to the Berry Street extension, and westbound to The Common to Seventh Street.

As described above, for this variant, retail development was assumed to be reduced in the mixed-use parcel west of I-280 (i.e., the blocks bounded by Seventh Street, Berry Street, the I-280 freeway ramp structure, and the Caltrain tracks) to lessen the traffic impacts on nearby intersections. The retail development assumed in this area of Mission Bay North was reduced to a level that would allow impacted intersections to be mitigated in the same or similar ways as described under project conditions.

The reduced amount of retail space would result in approximately 320 fewer person trips during the p.m. peak hour. Approximately 75 of these person trips would be made on transit. Nearly one-third of the reduction of transit trips, or about 25, would be to and

from the East Bay, suggesting that this variant would have less impact on regional and local transit providers compared to the project./4a/

This variant would also lessen the parking demand created by Mission Bay by approximately 490 spaces, or about 2% less than the total project demand. Table VII.D.1 compares the p.m. peak-hour person-trip generation of the variant with that of the project.

The described network would require traffic generated by the western part of Mission Bay North (blocks west of Fifth Street) to either travel to King Street or The Common to enter and leave the area. Consequently, the intersections of Third and Fourth Streets with King and Townsend Streets, the intersection of Fifth and King Streets, and the intersection of The Common and Seventh Street would be most affected. Levels of service at all but one of these intersections would be worse under this variant than under the project despite a small reduction in trip generation, because vehicles would have fewer access points to and from the west end of the Mission Bay North area. The key intersections for this variant are shown in Table VII.D.2.

TABLE VII.D.1
PM PEAK HOUR PERSON TRIP GENERATION IN 2015
VARIANT 3A COMPARED WITH PROJECT (new)

Area	Project	Variant 3A	Difference
Mission Bay North	11,030	10,710	-320
Mission Bay South	22,470	22,470	0
Total	33,500	33,180	-320

Source: Wilbur Smith Associates

TABLE VII.D.2
YEAR 2015 CUMULATIVE INTERSECTION LEVEL OF SERVICE COMPARISON
VARIANT 3A COMPARED WITH PROJECT (new)

	Project		Variant 3A	
Intersection	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
Fourth and Townsend Streets	14.4	B	32.4	D
Third and Townsend Streets	79.7	F	78.0	F
Fifth and King Streets	28.4	D	37.5	D
Fourth and King Streets	52.1	E	65.6	F
Third and King Streets	99.1	F	104.5	F
Seventh Street and The Common	42.3	E	25.5	D

Source: Wilbur Smith Associates

The intersections of Third and King Streets, and Third and Townsend Streets would operate at LOS F with the project under 2015 cumulative conditions, and would continue to do so with this variant, with slightly higher average vehicle delays. The intersection of Fourth and King Streets would operate at LOS E under the project conditions, and would operate at LOS F under Variant 3A, as described for Variant 3. The delay at the intersections of Fourth and Townsend Streets and Fifth and King Streets would increase, but not to an unacceptable level of service. The intersection of Seventh Street with The Common would operate at LOS E under the project and would improve to LOS D under this variant due to the lane geometry improvements proposed at this intersection under this variant.

In summary, future LOS at one intersection would improve from unacceptable LOS E under the project to acceptable LOS D under the variant, and one intersection would experience LOS F under the variant compared to LOS E under the project. Other intersection levels of service would remain approximately the same as under the project or would degrade under Variant 3A but not to unacceptable levels.

Air Quality

The change in land use under Variant 3A would slightly alter traffic patterns and the number of vehicle trips in the Project Area compared to the project. Vehicular emissions would be reduced by about 1% compared with those of the proposed project. As shown in Table VII.D.3, vehicular emissions of ROG, NO_x, and PM_{10} would exceed the BAAQMD significance thresholds for regional air quality impacts. Trip reduction measures discussed in Mitigation Measure E.47 in Section VI.E, Transportation, would not reduce emissions of criteria pollutants below these BAAQMD significance thresholds. Therefore, as under the project, these vehicular emissions would be an unavoidable significant regional air quality impact.

Due to the level of carbon monoxide emissions expected, three of the 13 intersections modeled for the proposed project were selected for analysis for this variant. The CO concentrations would be slightly lower for the variant than for the project (see Table VII.D.4).

In this variant, the decrease in overall traffic would slightly reduce toxic air contaminant emissions from mobile sources. As under the project, combined emissions of toxic air contaminants would be an unavoidable significant impact.

Noise and Vibration

A comparison of the traffic estimated for this variant with that for the proposed project shows that the variant would have traffic volumes similar to or less than the proposed project at all of the noise study locations. The noise levels for one-hour L_{eq} and 24-hour L_{dn} would be substantially the same at all of the locations studied. All other noise and

TABLE VII.D.3
ESTIMATED VEHICULAR EMISSIONS
FROM VARIANT 3A TRAFFIC IN 2015

Pollutant	BAAQMD Threshold (lb/day)	Project (lb/day)	Variant 3A (lb/day)
Reactive Organic Gases (ROG)	80/a/	865	860
Nitrogen Oxides (NO_x)	80/a/	1,324	1,371
Particulate Matter (PM_{10})	80/a/	1,968	1,958
Carbon Monoxide (CO)	550/b/	12,228	12,163

Notes:

a. The BAAQMD regards this amount of emissions as a threshold of significance for a regional impact.

b. For carbon monoxide, the BAAQMD does not regard 550 lb/day as a threshold of significance, but rather, an indicator to perform microanalysis.

Source: EIP Associates. Based on modeling using the California Air Resources Board's URBEMIS version 5 model.

TABLE VII.D.4
ESTIMATED LOCAL CO CONCENTRATIONS AT
SELECTED INTERSECTIONS IN 2015 FOR VARIANT 3A

	Proposed Project (ppm)/a/		Variant 3A (ppm)	
Intersection	One-Hour	Eight-Hour	One-Hour	Eight-Hour
Third and 16th Streets	11.0	6.3	10.9	6.2
Third and King Streets	13.6	7.6	13.4	7.4
Fourth and Bryant Streets	8.3	5.3	8.4	5.3

Notes:

ppm = parts per million.

a. Refer to Table V.F.5 and associated text in "Criteria Air Pollutants" under Section V.F, Air Quality: Impacts.

Source: EIP Associates.

vibration issues discussed in Section V.G, Noise: Impacts, would remain substantially the same with this variant as for the proposed project.

Seismicity

The Modified No Berry Street Crossing Variant would not alter the geologic, soils, or seismic conditions in the Project Area and would not, therefore, create associated seismic impacts. However, this variant could create minor emergency access issues because of the somewhat circuitous routes between existing police/fire stations and the mixed-use parcel west of I-280 in Mission Bay North (see discussion of emergency access issues under Community Services and Utilities, below). If the fire station is built in Mission Bay South (see Mitigation Measures H.5, p. VI.38, and M.6, p. VI.54), the circuitous routes would still exist for responses from outside the Project Area, but would be eliminated for responses within the Project Area.

Health and Safety

There would be only minor changes in the built land use program under this variant. Therefore, no substantive difference in health and safety impacts would occur, except that by not constructing the at-grade crossing at Berry Street, emergency access response times to Mission Bay North could be longer than under the project but shorter than under Variant 3. Potentially, this could hinder responses to emergencies involving hazardous materials. See the discussion of emergency access under "Seismicity," above, and "Community Services and Utilities," below.

Contaminated Soils and Groundwater

There would be no substantial differences in the effects of contaminated soils and groundwater in the Project Area under this variant, compared with effects described for the proposed project.

Hydrology and Water Quality

The decrease in sanitary sewage associated with the reduced retail space would reduce, somewhat proportionally, the discharge of treated wastewater to the Bay and the consequential pollutant mass loading attributable to the project. However, impacts and mitigation measures for this variant would be the same as those for the proposed project (see Section V.K, Hydrology and Water Quality: Impacts, and Section VI.K, Mitigation Measures: Hydrology and Water Quality).

Vegetation and Wildlife

This variant would not affect China Basin Channel differently than the proposed project.

Community Services and Utilities

The Modified No Berry Street Crossing Variant could create minor emergency access issues in comparison to the proposed project. Issues would arise from the circuitous routes that police and fire fighting vehicles would need to take, in the absence of the proposed project's Berry Street crossing, between existing police/fire stations outside the Project Area and the mixed-use parcel west of I-280 in Mission Bay North. The routes under Variant 3A would require a combination turn at the proposed intersection of Seventh Street, Common Street and the Berry Street extension. However, such routes from existing fire stations would be less circuitous under Variant 3A than under Variant 3. The longer emergency response time under Variant 3A in comparison to the proposed project (shorter than under Variant 3) would not be a new significant impact because the Berry Street extension would provide sufficient access, in contrast to the absence of access under Variant 3. This is not considered a new significant impact because the proposed emergency access routes, although slightly circuitous, would not be subject to closure if the 3rd or 4th Street Bridges were raised or rendered inoperative (which could cause major delays or eliminate access); therefore the mitigation measure described for Variant 3 under "Seismicity" on p. VII.27, would not be needed for Variant 3A. Further, the issue would be ameliorated if the project's fire station were built (see Mitigation Measure H.5 and M.6, pp. VI.38 and VI.54, respectively). The following discussion describes the circuitous nature of the routes and related access issues in more detail.

As described for Variant 3 on pp. VII.26-VII.29, emergency vehicles would access the mixed-use parcel west of I-280 from the east via two routes: (1) from Fourth Street, and (2) from the south around the west end of China Basin Channel from Seventh and Common Streets. One access route would be from the east on Berry Street from Fourth Street along a pedestrian path. It would allow emergency vehicles to pass through to Fifth Street and onto the mixed-use parcel. Another access route to the mixed-use parcel would be from westbound King Street (no eastbound access is planned) to Berry Street, which would be a two-way through street west of Fifth Street.

Under Variant 3A, access to and from Seventh Street would be from Common Street along a two-way extension of Berry Street adjacent to the Caltrain tracks. Similarly, access to the residential blocks west of Fifth Street would be limited, but also would be available from King Street by turning left on Fifth Street. No direct emergency access would be available from the north across the Caltrain tracks. Under Variant 3A, fire and ambulance emergency vehicles would negotiate a combination turn off Seventh Street onto Common Street, across a low raised median at the west end of Common Street, and onto the Berry Street extension. Police vehicles might not be able to cross the median, in which case they would need to drive along South Common Street to the roundabout and back along North Common Street to the proposed Berry Street extension. Because of the circuitous nature of the access route to the west end of Mission Bay North, the response time for all emergency vehicles destined for this part of the Project Area would be longer than the proposed project. Compared to the project, the restriction created by the combination turn or the trip through the roundabout could cause delays in emergency access to the mixed-use parcel west of I-280 or to the residential parcels west of Fifth

Street. The return route from Berry Street to Seventh Street would be direct for all vehicles.

First response fire service from Fire Station No. 8 at 36 Bluxome Street, ambulance service from Fire Station No.1 at 676 Howard Street, and police service from Southern Station at 850 Bryant Street would access the mixed-use parcel via Fourth Street (see Figure V.M.1 in Section V.M, Community Services and Utilities). Without alternate routes from the north or west, emergency vehicles would be delayed by any traffic backups on Fourth Street. If first-response fire service (Fire Station No. 8) were not able to respond to a call, the fire service to Mission Bay North would come from Fire Station No. 29 at 299 Vermont Street, located west of the Project Area. Fire trucks traveling from Fire Station No. 29 to the mixed-use parcel west of I-280 would need to travel along Townsend Street to Fourth Street and then west along King Street or the Berry Street emergency access route, or east on 16th Street to Seventh Street, north to Common Street, across Common Street to the Berry Street extension, and north on the extension to the mixed-use parcel. These somewhat circuitous routes would delay the fire service response time compared to the proposed project.

Secondary ambulance and police service would come from Fire Station No.17 and the Bayview Station, respectively, which are south of the Project Area. Emergency vehicles from these stations would use Third Street or Seventh Street to access the Project Area. This variant could reduce secondary response time under normal (i.e. non-disaster) emergency conditions by providing an alternate route to Mission Bay North around the west end of China Basin Channel, rather than across the Channel on the Third or Fourth Street Bridges. In the event of a severe earthquake that damaged the bridges crossing the Channel, all emergency access from the south, if it were to be provided by Fire Station No.17, would be along this west-of-Channel route.

The Berry Street extension proposed in this variant, in contrast to Variant 3, would reduce the emergency access problem. It would improve secondary access when the typical routes along through-streets experience severe congestion. Also, it would provide a less circuitous route for fire trucks from Fire Station No. 29, avoiding the longer route along Townsend Street. Constructing a new fire station in Mission Bay South as proposed in Mitigation Measures H.5, p. VI.38, and M.6, p. VI.54, would eliminate circuitous access routes and the access issues under this Variant 3A.

Special emergency access issues arise in the aftermath of a damaging earthquake. Debris from older existing buildings nearby could block streets leading to northern access points along Townsend Street, thereby creating delays. The bridges across the Channel may not be passable immediately following a damaging earthquake. In such a situation, a new fire station sited in Mission Bay South to reduce the effects of limited emergency access south of the Channel could be hampered in providing primary or backup capability north of the Channel. The Berry Street extension could provide such access. Primary and backup response also would be available from fire stations at Bluxome Street and at Howard Street, north of the Project Area. The proposed low median near the intersection of Common Street with Berry Street would allow fire vehicles and ambulances sufficient

room to make the combination turn from Seventh Street, across Common Street to the Berry Street extension.

This variant's reduction of city-serving retail space and increase in Commercial Industrial space would not be large enough to substantially alter demand for other community services analyzed for the project.

Growth Inducement

The small differences in Project Area employment under this variant compared with the proposed project would not result in material differences for cumulative citywide and regional growth.

Summary of Mitigation Measures

All significant impacts identified for the project would also occur with this variant, and all mitigation measures in Chapter VI, Mitigation Measures, would apply, with the exception that the at-grade rail crossing at Berry Street would not be a feature of the project nor would Mitigation Measures E.20a, E.20b, and E.20c for the intersection of Seventh Street and Berry Street (see p. VI.12). Further, if Variant 3A were adopted, Mitigation Measure E.31b (p. VI.19) for Seventh and Berry Streets would be modified as follows to remove references to left and right turn lanes that would cross the tracks and add turn lanes to the part of Berry Street west of Seventh Street:

> **Restripe the northbound ~~and southbound~~ approaches to provide a shared left-through ~~left-turn~~ lane and a through lane, and restripe the southbound approach to provide a through lane and a shared right-through lane.**

Mitigation Measures E32a and E.32b (p. VI.19) for the intersection of Seventh Street and The Common are proposed features of Variant 3A and therefore are included in the transportation analysis for this variant.

The mitigation measure for the intersection of Fourth and King Streets under this variant would be slightly different from that proposed for the project, in Mitigation Measure E.38 on p. VI.20. It would be the same as that proposed for Variant 3 on p. VII.24. This measure would include an exclusive left-turn lane, one exclusive through lane, a shared right turn/through lane, and an exclusive right-turn lane for the southbound approach to the intersection of Fourth Street. The project mitigation measure identifies one exclusive left-turn lane, two exclusive through lanes, and one exclusive right-turn lane for the southbound approach of Fourth Street at King Street. Implementation of the mitigation measure for the variant would require the same increase in street width as for the proposed project.

Variant 3A includes reconfiguration of Seventh Street at Common Streets, and, in effect, implements Mitigation Measure E.32 identified for the project. In contrast to Variant 3, the intersection of Fifth and King Streets would not be significantly impacted and would not require mitigation under Variant 3A. Other transportation mitigation measures would be the same as those identified for the project.

Because Variant 3A eliminates the significant emergency access impact found in Variant 3, the associated "Emergency Access" mitigation measure described on p. VII.31 would not be required.

The following new Endnote 4a has been added to p. VII.65:

/4a/ Travel distribution is based on San Francisco Planning Department, Public Utilities Commission and Transportation Authority, *Citywide Travel Behavior Survey,* May 1993, Supplemental Tables.

The following new text has been added after the second full paragraph on p. II.38 in the Summary:

MODIFIED NO BERRY STREET AT-GRADE RAIL CROSSING VARIANT (MODIFIED NO BERRY STREET CROSSING VARIANT)

Like Variant 3, Variant 3A would not include the at-grade railroad crossing at Berry Street that is proposed by the project. Under this variant, Berry Street would be extended around the western end of China Basin Channel to Common Street near the intersection of Common and Seventh Streets. The rail crossing across from Hooper Street that is proposed as part of the project would also be proposed under the variant.

Variant 3A constitutes another way to solve the access difficulties that would be created if no vehicular crossing were built at Berry Street. Due to reduced access to and from the west, city-serving retail development in Mission Bay North on the block west of the I-280 King Street ramp is assumed to be reduced from 222,000 gross sq. ft. with the project to 111,000 gross sq. ft. with the variant. In contrast to Variant 3, this variant would not reduce the number of dwelling units on that block.

The significant impact of Variant 3 on Fifth and King Streets would not occur under Variant 3A. The intersections of Fourth and King Streets would operate at LOS F under Variant 3A, in contrast to LOS E with the project, and this would be similar to Variant 3. Intersections of Third Street with King and Townsend Streets would be affected; they would remain at LOS F, as with the project, but delays would increase. Variant 3A would eliminate the new significant emergency access impact found in Variant 3, although emergency access would be more difficult than for the project.

All significant impacts and mitigation measures identified for the project would also apply to this variant, except those described for the intersections of Berry Street with Seventh

Street and except the Mitigation Measure at Fourth and King Streets that would be modified as for Variant 3.

Request for a Castle Metals Commercial Industrial/Retail Variant

Comments

1900 Third Street LLC requests that a Variant be included in the EIR for the 1900 Third Street property. . .

The requested Variant would reflect a land use and zoning change from the proposed Mission Bay South Retail to Commercial Industrial/Retail. . .

In general, the concept for the Variant is to allow for the same mix of commercial industrial, research and development called for elsewhere in the Mission Bay Project Area, with the option of placing one or two city-serving retail stores in the ground floor and placing neighborhood-serving retail along the buildings' frontage. . .

As stated at the beginning of these comments (and see Part One of these comments), the 1900 Third Street LLC is requesting an EIR variant. The Variant would change the proposed land use and zoning for the 1900 Third Street site to Commercial Industrial/Retail. The 1900 Third Street LLC is also requesting that the Variant land uses and zoning are adopted as part of the approved Mission Bay South Redevelopment Plan. With the variant, please note that several of the maps and some of the data in the DEIR tables and text would be superseded by new data as part of the FSEIR. Since the DSEIR document itself would not be amended, these changes are not specifically cited. (*R. Clark Morrison, Morrison & Foerster L.L.P., representing 1900 Third Street L.L.C.*)

When this process began, it was expected that our site [1900 Third Street on Castle Metals site] would be designated for large-scale retail uses. Further analysis led us to conclude that a commercial/industrial/retail designation would be more appropriate. We have been working with staff to make this change in the redevelopment plan. With respect to the EIR, staff has suggested that we request a variant which analyzes our site as commercial/industrial/retail be prepared and included in the Final SEIR prior to the certification. We think this is a good approach. The variant will have fewer and less significant impacts than big box retail, and the commercial/industrial/retail uses on our site would be housed in several more articulated buildings, would generate almost 80 percent less P.M. peak traffic than retail and would be more compatible with surrounding uses.

Accordingly, we request that the Draft redevelopment plan be revised to show our property with commercial/industrial/retail designation and that the SEIR includes a variant with this designation for our site and adequate environmental analysis so that this designation can be shown in the final redevelopment plan. (*John Wilson, 1900 Third Street L.L.C., Mission Bay Citizens Advisory Committee*)

Response

The comments request assessment of a new variant to the project analyzed in the SEIR that would change the proposed land use designation on the Castle Metals parcel on Third Street between 16th and Mariposa Streets from Mission Bay South Retail proposed in the Mission Bay South Redevelopment Plan to Commercial Industrial/Retail. Variant 5, the Castle Metals Block Commercial Industrial/Retail Variant, is presented and assessed below. Since the change is a variant in the SEIR analysis, no other tables, maps, or discussions in the Draft SEIR would require revision. Revising the Mission Bay South Redevelopment Plan to include the uses under this variant would be the responsibility of the Redevelopment Agency, separate from preparation of the SEIR.

The following has been added as the second bullet item on p. VII.1a:

- **Castle Metals Block Commercial Industrial/Retail Variant (Castle Metals Block Variant): This variant would change the land use designation on the whole block containing Castle Metals from Commercial Industrial and Mission Bay South Retail to Commercial Industrial/Retail. The development program assumed for environmental analysis on the whole block would change from the 366,000 gross sq. ft. of Commercial Industrial, 310,000 gross sq. ft. of city-serving retail, and 3,200 gross sq. ft. of neighborhood-serving retail land uses under the project to 964,000 gross sq. ft. of Commercial Industrial, 50,000 gross sq. ft. of city-serving retail, and 3,200 gross sq. ft. of neighborhood-serving retail land uses under the variant. In addition, this variant would create a new height zone on a portion of the block fronting on Third and Mariposa Streets. It would permit development of up to 90 feet in height on 90% of the area and a (new) tower of up to 160 feet in height on 10% of the area. The rest of the block would remain in Height Zone 6.**

Variant 5 has been added to Chapter VII as Section F, at the end of Variant 4 on p. VII.33, as follows.

F. VARIANT 5: CASTLE METALS BLOCK COMMERCIAL INDUSTRIAL/RETAIL VARIANT (CASTLE METALS BLOCK VARIANT)

DESCRIPTION

The Castle Metals Block Variant would change the proposed land use designation on the entire block bounded by 16th, Third, and Mariposa Streets, and the proposed Fourth Street. As shown in Figure III.B.3, p. III.9, and Figure V.A.6, p. V.A.30, the project proposes two land use designations on the Castle Metals Block: 1) Commercial Industrial in the area fronting 16th Street and the proposed Fourth Street alignment, and 2) Mission Bay South Retail in the other area fronting Third Street and Mariposa Streets. As shown

in Figure VII.F.1, the Castle Metals Block Variant proposes one land use designation for the entire block: Commercial Industrial/Retail.

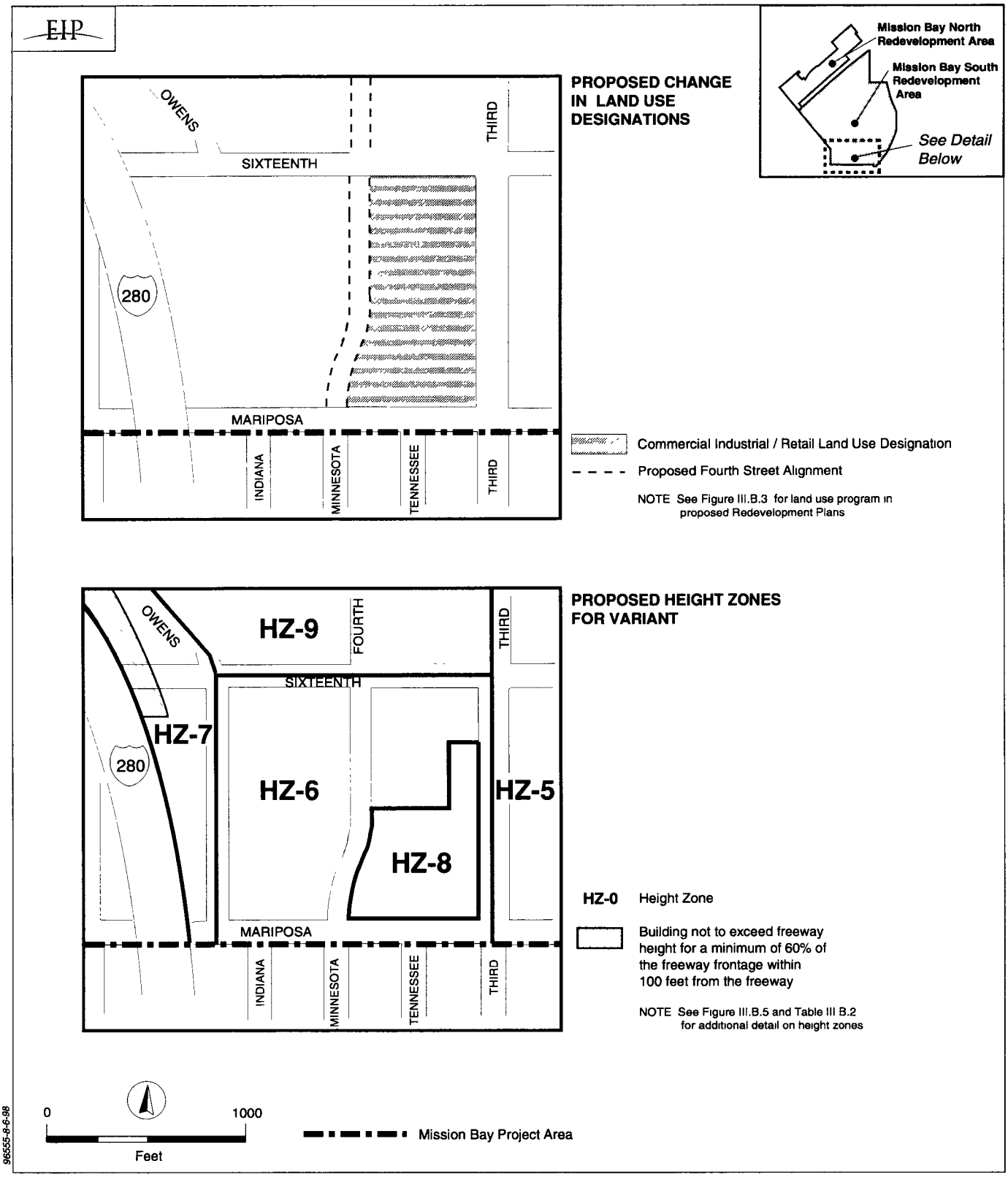
This variant also would change the allowable development program for the Castle Metals Block. The proposed project would permit up to 366,000 gross sq. ft. of Commercial Industrial, 310,000 gross sq. ft. of city-serving retail, and 3,200 gross sq. ft. of neighborhood-serving retail land uses on the block. The variant would permit up to 964,000 gross sq. ft. of Commercial Industrial, 50,000 gross sq. ft. of city-serving retail, and 3,200 gross sq. ft. of neighborhood-serving retail land uses on the block. The variant would not change the amount of allowable neighborhood-serving retail uses.

The variant assumes the following development program for the areas shown in Figure VII.F.1. For the area at 1900 Third Street bounded by Third Street and Mariposa Street, the project proposes 310,000 gross sq. ft. of city-serving retail while the variant assumes development of up to 560,000 gross sq. ft. of Commercial Industrial and 50,000 gross sq. ft. of city-serving retail. For the three parcels at the northeastern end of the block at the intersection of Third Street and 16th Street, this variant assumes development of up to 44,000 gross sq. ft. of Commercial Industrial uses. For the rest of the block (fronting the proposed Fourth Street) the project proposes 366,000 gross sq. ft. of Commercial Industrial uses and 3,200 gross sq. ft. of neighborhood-serving retail uses, and the variant proposes the same.

As with the proposed project, the principal land uses within the Commercial Industrial/Retail designation under the variant include light manufacturing, wholesaling, and offices, as well as retail and personal services. This variant assumes 50% of the commercial industrial uses within the Commercial Industrial/Retail land use designation would be light industrial or research and development, while 50% would be office, the same mix as under the project.

Under this variant, total Commercial Industrial development for the project as a whole would increase by about 11% (6,161,000 gross sq. ft. under the variant, compared to 5,557,000 gross sq. ft. under the project), while total city-serving retail development would decline 32% to 545,000 gross sq. ft., compared to 805,000 gross sq. ft. under the project.

In addition, this variant would create a new height zone as shown in Figure VII.F.1, for the area fronting on Third and Mariposa Streets. The new height zone would allow development of up to 90 feet in height on 90% of the area and a tower of up to 160 feet in height on 10% of the area. The rest of the block would remain in Height Zone 6. The creation of the new height zone would add one allowable new tower to Mission Bay South in comparison to the proposed project. The new height zone would be HZ-8; the height zone covering UCSF would be renumbered HZ-9.



SOURCE. EIP Associates, San Francisco Redevelopment Agency

MISSION BAY SUBSEQUENT EIR

FIGURE VII.F.1(NEW) CASTLE METALS BLOCK COMMERCIAL INDUSTRIAL / RETAIL VARIANT: PROPOSED LAND USE DESIGNATIONS AND HEIGHT ZONES

The primary vehicular access to the Castle Metals block would be from the proposed Fourth Street. Secondary access would be from Mariposa and 16th Streets.

ENVIRONMENTAL ISSUES

As described below, the Castle Metals Block Variant would have the same significant impacts and require the same mitigation measures as the proposed project.

Plans, Policies, and Permits

This variant would expand the area to be designated Commercial Industrial/Retail and reduce the area to be designated Mission Bay South Retail in the proposed Mission Bay South Redevelopment Plan. All other implications regarding plans, policies, and permits would be substantially the same as the proposed project.

Land Use

The variant would increase the amount of Commercial Industrial uses in Mission Bay South, but would not introduce any uses not already proposed for the project. This variant would increase the developable area of land uses proposed in the West Subarea of the Project Area, but would not change the type. As with the project, Commercial Industrial uses in this portion of the Project Area generally would be compatible with other proposed project uses and with existing uses in the adjoining areas. The decrease in the amount of city-serving retail space in this portion of the Project Area would not substantially affect other proposed project uses or existing uses in adjoining areas.

Business Activity, Employment, Housing, and Population

This variant would have more Commercial Industrial development and less city-serving retail development than the proposed project. Those differences in the types of building space in the West Subarea change estimates of Project Area employment. Compared to the proposed project, there would be about 750 fewer city-serving retail jobs, about 960 more office jobs, and about 700 more research and development or light industrial jobs./6/ Overall, there would be about 910 more jobs in the Project Area under the Castle Metals variant. This would be 11% more jobs for the West Subarea and 3% more jobs for the Project Area overall.

The differences in building development and employment would not be large enough to make a difference in the conclusions made for the proposed project. Because there would be somewhat greater Project Area jobs and the same number of Project Area housing units, there would be more Project Area housing demand relative to supply with this variant than would be the case with the proposed project. Although relatively small, this variant's slight increase in the housing supply deficit could result in somewhat greater housing market impacts with the variant compared to the proposed project. As with the

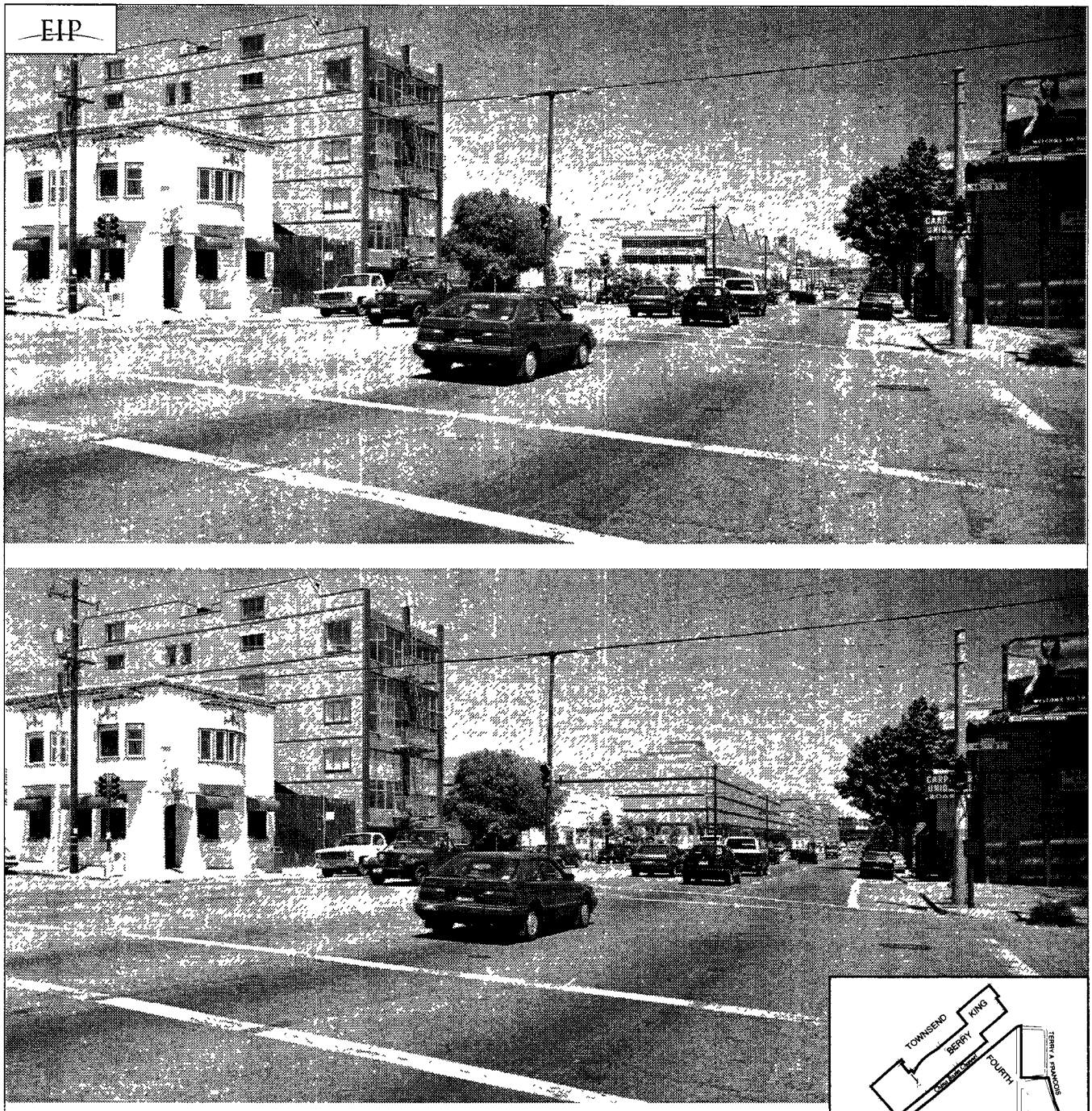
project, the variant housing demand would not be a significant effect under CEQA./7/ However, the Mission Bay South Redevelopment Plan, Section 304.10, "Fees and Exactions: Parcels X2, X3 and X4", stipulates that all standard city fees and exactions would apply to the private property other than properties owned by Catellus, except as provided in an owner participation agreement when the public benefits exceed those of the City's standard fees or exactions. The City's OAHPP, or a housing exaction of equivalent or greater benefit, would apply to office development on the non-Catellus owned property on the Castle Metals block. Therefore, some additional housing supply would be forthcoming.

With a lesser amount of city-serving retail development in the Project Area, it would be more likely that other city-serving retail space would be developed in suitable locations of Nearby Areas to the south and west. Because there would still be substantial retail development elsewhere in the Project Area, the difference in impacts on development patterns between the Castle Metals Variant and the proposed project would be relatively small.

Visual Quality and Urban Design

Under this variant, views of the Castle Metals block bounded by Third Street and Mariposa Street would change from the proposed project's views of retail uses to views of office, light industrial, or research and development land uses. In contrast to the proposed project's height limit of 90 feet on the Castle Metals site, the new height zone would permit buildings up to 90 feet in height for 90% of the developable area and up to 160 feet in height for 10% of the developable area, allowing one additional tower (see the Variant 5 description above). As a result of the variant's change in type and height of land uses, views could be of more intense development with the variant than with the project.

Figure VII.F.2 schematically illustrates existing and potential views under the proposed project looking northwest from Third Street at 18th Street toward the southern Project Area boundary, from the perspective of the motorist or pedestrian. Similarly, Figure VII.F.3 schematically illustrates the same existing and potential views under this variant. The view does not illustrate the proposed extension of MUNI Metro light rail vehicle service in the Third Street median. As shown in the figures, foreground and street-level views with the variant would be dominated by mid- to high-rise buildings (extending up to 160 feet at certain locations). Views of the area are local, with none of the downtown. Views of development would partially obscure views of open sky presently available at this view point, thereby focusing more attention on the proposed development. Although new development would alter the scale and character of the area, as with the proposed project, this variant would not create any significant visual impacts because important scenic views from public areas would not be substantially degraded or obstructed.



Top: Existing View Northwest from Third Street at 18th Street
Bottom: Potential View Northwest from Third Street at 18th Street with proposed project.

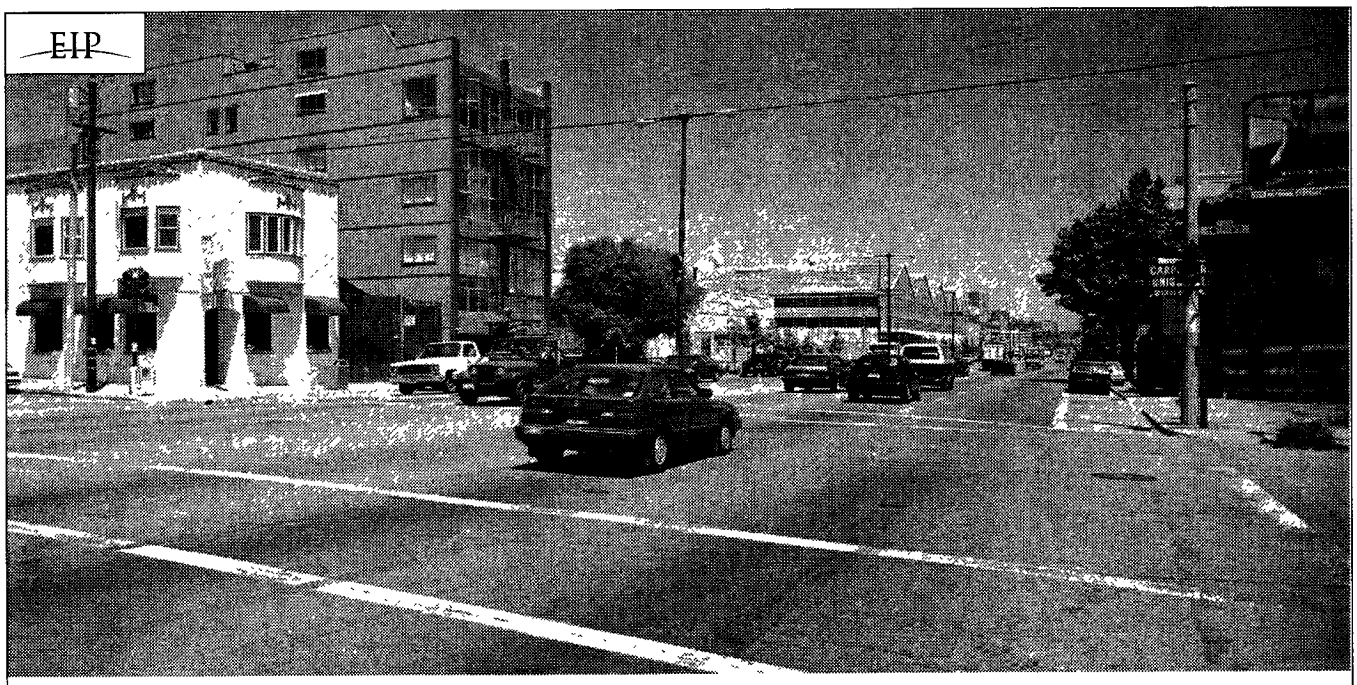
96555/8-6-98

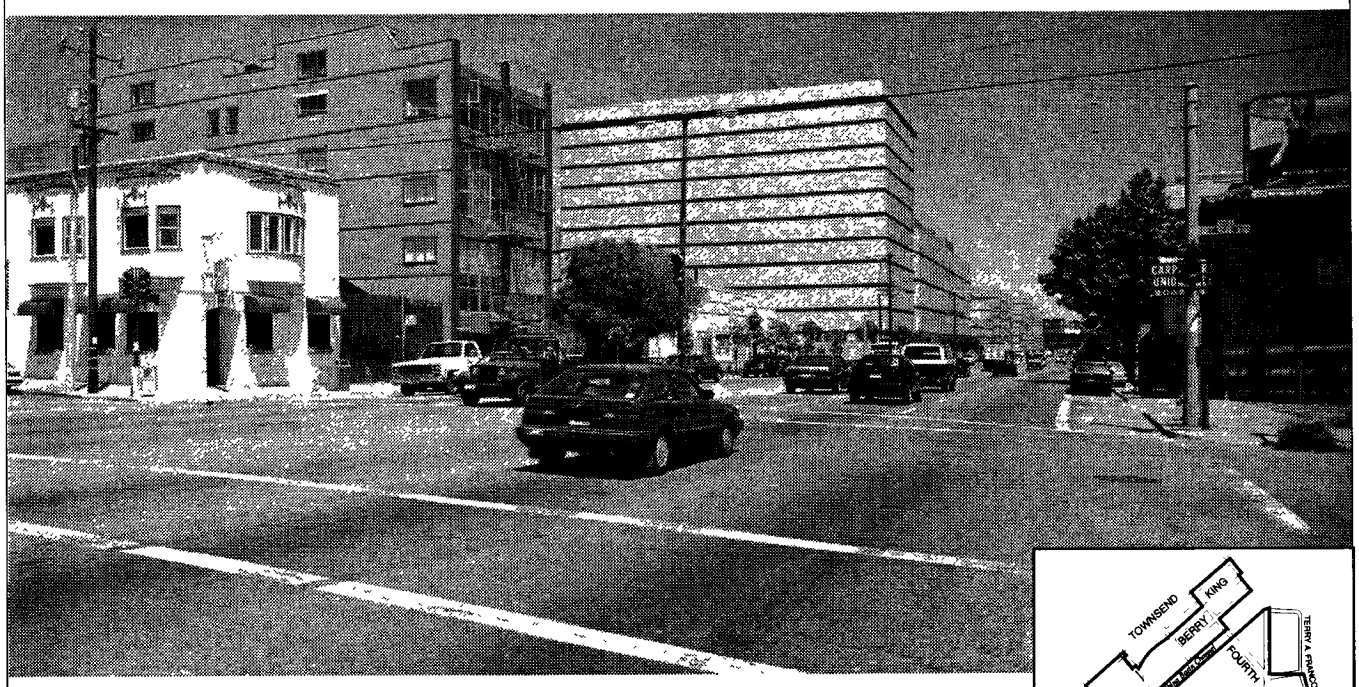
SOURCE Square One Productions

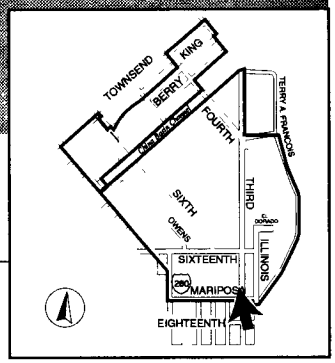
NOTE The visual simulation illustrates general height and massing permitted under the variant, but does not necessarily represent maximum development at any particular location nor specific architecture or urban design

MISSION BAY SUBSEQUENT EIR

FIGURE VII.F.2 (NEW) EXISTING AND POTENTIAL NORTHWEST VIEWS FROM THIRD STREET AT 18TH STREET FOR PROPOSED PROJECT







96555/8-6-98

Top: Existing View Northwest from Third Street at 18th Street
Bottom: Potential View Northwest from Third Street at 18th Street with Variant 5.

SOURCE: Square One Productions

NOTE: The visual simulation illustrates general height and massing permitted under the variant, but does not necessarily represent maximum development at any particular location nor specific architecture or urban design

MISSION BAY SUBSEQUENT EIR

FIGURE VII.F.3 (NEW) CASTLE METALS BLOCK COMMERCIAL INDUSTRIAL/RETAIL VARIANT: EXISTING AND POTENTIAL NORTHWEST VIEWS FROM THIRD STREET AT 18TH STREET

Transportation

The land uses in Variant 5 would generate approximately 1,320 fewer person trips than would the project during the p.m. peak hour, because city-serving retail generates a larger number of trips per unit area than the mix of uses proposed under this variant. In addition, a smaller portion of these person-trips would be made by automobile compared to the mode split of project land uses. Thus, Variant 5 would create about 570 fewer automobile trips during the p.m. peak hour. Table VII.F.1 compares the p.m. peak hour trip generation of Variant 5 to that of the project.

The smaller number of automobiles in the Mission Bay street network suggests that traffic and parking conditions would be slightly better under the variant compared with the proposed project. The total parking demand for Mission Bay under Variant 5 would be approximately 580 fewer spaces, or approximately 2% less than that estimated for the project. Table VII.F.2 compares some key intersection levels of service (LOS) under the variant with those of the project in the vicinity of the 1900 Third Street site. Operation of four of the seven intersections near the 1900 Third Street site would improve to some extent, with one intersection experiencing an improvement in level of service. No intersections projected to operate at LOS E or LOS F would improve to an acceptable level of service under the variant. This variant does not reduce impacts identified under the project below the level of significance.

The number of both inbound and outbound vehicle trips and inbound transit trips generated by the variant would be less than that created by the project, but the office, research and development, and city-serving retail uses would create approximately 50 more outbound total transit trips, 11 more inbound bicycle and pedestrian trips, and about 118 more outbound bicycle and pedestrian trips than the proposed project during the p.m. peak hour. The increase in non-automobile trips under this variant is far less than the relative decrease in automobile trips. The bicycle and pedestrian network would be able to accommodate the additional trips produced under this variant. The additional outbound transit trips created by these land uses represent less than a 1% increase compared to the total project. Some would use MUNI to travel to city locations, most would travel to the East Bay and South Bay; many of these additional transit riders would use MUNI to reach their primary transit carrier. Caltrain would have sufficient capacity to carry the individuals destined for the South Bay, and all of the additional East Bay passengers could be accommodated on BART with a less than 0.2% increase in the p.m. peak hour load factor compared with that for the project. The impact of the additional outbound transit trips would increase the load factor on Third Street light rail in the northbound direction in the vicinity of Mission Bay from 77% to 83%, but this would not be a significant impact. The load factor on Third Street light rail in the southbound direction would decrease slightly from 84% to 82%.

TABLE VII.F.1
PM PEAK HOUR PERSON TRIP GENERATION IN 2015
VARIANT 5 COMPARED WITH PROJECT (new)

Area	Variant 5	Project	Difference
Mission Bay North	11,030	11,030	0
Mission Bay South	21,150	22,470	-1,320
Total	32,180	33,500	-1,320

Source: Wilbur Smith Associates

TABLE VII.F.2
YEAR 2015 INTERSECTION LEVEL OF SERVICE COMPARISON
VARIANT 5 COMPARED WITH PROJECT (new)

	Project		Variant 5	
Intersection	**Delay (sec/veh)**	**LOS**	**Delay (sec/veh)**	**LOS**
16th and Seventh Streets	32.2	D	32.9	D
16th and Fourth Streets	29.2	D	30.8	D
16th and Third Streets	25.2	D	22.0	C
Mariposa and I-280 on-ramp	16.6	C	16.6	C
Mariposa and I-280 off-ramp/Owens Street	35.9	D	31.6	D
Mariposa and Fourth Streets	13.6	B	11.9	B
Mariposa and Third Streets	23.7	C	22.9	C

Source: Wilbur Smith Associates

Air Quality

As described below, the Castle Metals Variant would have the same significant air quality impacts and require the same air quality mitigation measures as the proposed project. The change in land use under Variant 5 would slightly alter traffic patterns and the number of vehicle trips in and around the Project Area. Vehicular emissions would be

reduced by 5%, compared with those of the proposed project. As shown in Table VII.F.3, vehicular emissions of ROG, NO_x, and PM_{10} would exceed the BAAQMD significance thresholds for regional air quality impacts. Trip reduction measures discussed in Mitigation Measure E.47 in Section VI.E, Transportation, would not reduce emissions of criteria pollutants below these BAAQMD significance thresholds. Therefore, as under the project, these vehicular emissions would be an unavoidable significant regional air quality impact.

Due to the level of carbon monoxide emissions expected, three of the 13 intersections modeled for the proposed project were selected for analysis for this variant. The CO concentrations would be slightly lower for the variant than for the project (see Table VII.F.4).

In this variant, the decrease in overall traffic would slightly reduce toxic air contaminant emissions from mobile sources. Toxic air contaminants, such as various organic solvents associated with research and development and light manufacturing operations, would increase. The variant might result in about 11% more emissions of toxic air contaminants from stationary sources than the proposed project, due to the increase in research and development and light industrial uses under the variant. As under the project, combined emissions of toxic air contaminants would be an unavoidable significant impact.

Noise and Vibration

A comparison of the traffic estimated for this variant with that for the proposed project shows that the variant would have traffic volumes similar to or less than the proposed project at all of the noise study locations. The noise levels for one-hour L_{eq} and 24-hour L_{dn} would be substantially the same at all of the locations studied. All other noise and vibration issues discussed in Section V.G, Noise: Impacts, would remain substantially the same with this variant as for the proposed project.

Seismicity

The modification of the land use on the Castle Metals site under this variant would not alter the geologic, soils, or seismic conditions in the Project Area. The seismic hazards and potential effects that would occur in Mission Bay South would be similar to those discussed for the proposed project. The concentration of employees in an area designated as seismically hazardous would be somewhat higher on this specific site under the variant than under the project as proposed, but would not result in any new significant impacts or require additional mitigation.

TABLE VII.F.3
ESTIMATED VEHICULAR EMISSIONS
FROM VARIANT 5 TRAFFIC IN 2015 (new)

Pollutant	BAAQMD Threshold (lb/day)	Project (lb/day)	Variant 5 (lb/day)
Reactive Organic Gases (ROG)/a/	80	865	830
Nitrogen Oxides (NO_x)/a/	80	1,324	1,270
Particulate Matter (PM_{10})/a/	80	1,968	1,889
Carbon Monoxide (CO)/b/	550	12,228	11,738

Notes:

a. The BAAQMD regards this amount of emissions as a threshold of significance for a regional impact.

b. For carbon monoxide, the BAAQMD does not regard 550 lb/day as a threshold of significance, but rather, an indicator to perform microanalysis (see text).

Source: EIP Associates. Based on modeling using the California Air Resources Board's URBEMIS model, version 5.

TABLE VII.F.4
ESTIMATED LOCAL CO CONCENTRATIONS AT
SELECTED INTERSECTIONS IN 2015 FOR VARIANT 5 (new)

	Proposed Project (ppm)/a/		Variant 5 (ppm)	
Intersection	One-Hour	Eight-Hour	One-Hour	Eight-Hour
Third and 16th Streets	11.0	6.3	10.8	6.2
Third and King Streets	13.6	7.6	13.2	7.3
Fourth and Bryant Streets	8.3	5.3	8.5	5.3

Notes:

ppm = parts per million.

a. Refer to Table V.F.5 and associated text in "Criteria Air Pollutants" under Section V.F, Air Quality: Impacts.

Source: EIP Associates.

Health and Safety

This variant would increase the amount of Commercial Industrial space for the project as a whole by about 11%; therefore, hazardous materials quantities estimated for Commercial Industrial activities in "Estimated Hazardous Materials Quantities," under "Hazardous Materials Use, Storage, and Disposal," in Section V.I, Health and Safety: Impacts, would be about 11% greater. This could result in a roughly proportional increase in the magnitude of environmental impacts related to handling biohazardous materials, handling materials that pose substantial hazards of release or explosions, and generating hazardous wastes. With the reduction in retail space, there would be a reduction in hazardous waste associated with retail activities. The nature of these environmental impacts would be essentially the same as with the project, and, as with the project, would be reduced to a level of insignificance if the mitigation measures proposed for the project were implemented.

Contaminated Soils and Groundwater

The 1900 Third Street site is discussed in Section V.J, Contaminated Soils and Groundwater, on p. V.J.40. As noted there, three site assessments have been performed for the Castle Metals site. These assessments show that underground storage tanks have been removed from the site, that soil samples from the site show the presence of metals and petroleum hydrocarbons, and that no specific potential off-site sources of contamination were identified. The assessments recommended no immediate action with regard to potential soil contamination and noted that the provisions of Article 20 of the San Francisco Public Works Code would apply to any actions disturbing more than 50 cubic yards of soil.

This variant would not change the results of the impacts analysis in Section V.J, Contaminated Soils and Groundwater in the SEIR, nor would it suggest that additional analysis should be carried out to account for the proposed change in use on the 1900 Third Street site. In summary, the analysis assumes that prior to development the property owner or developer for the 1900 Third Street site, as for all other sites in the Project Area, would prepare a Risk Management Plan or Plans (RMP) that would include measures to reduce any risks that might result from construction or from occupation and use of the sites. Various measures proposed to be included in the Risk Management Plan or Plans are listed in Section VI.J, Mitigation Measures: Contaminated Soils and Groundwater, on pp. VI.41-VI.45. Also, Article 20, Section 1000, *et seq.*, of the San Francisco Public Works Code would apply to the 1900 Third Street site, as it would to the remainder of the Project Area (see p. V.J.51), and its implementation would be coordinated with implementation of the RMP.

Hydrology and Water Quality

The additional Commercial Industrial floor area and reduced retail space under this variant would have minor effects on the range and degree of hydrology and water quality

impacts described for the proposed project. The increase in Commercial Industrial space could increase the potential discharge of pollutants in wastewater associated with light industry, research and development, or similar activities. Similarly, the decrease in city-serving retail could decrease the discharge of pollutants associated with retail activities. The effects would be similar to those of the proposed project described in "Quality of Municipal Wastewater From the Project" and in "Evaluation of Potential Water Quality Impacts" in Section V.K, Hydrology and Water Quality: Impacts, and would require the same mitigation measures.

Vegetation and Wildlife

The changes in use on the Castle Metals site under the variant would not substantially alter the effects on the Channel or the Bay for the proposed project, as presented in Section V.L, China Basin Channel Vegetation and Wildlife: Impacts, and would require the same mitigation measures.

Community Services and Utilities

This variant would accommodate approximately 910 or 3% more jobs than the nearly 30,000 jobs forecast under the proposed project. An increase in projected employment of this size, and the changes in amount and type of use associated with this variant, would not cause an appreciable change in estimated project demand for community services or utilities or require additional mitigation.

Growth Inducement

The variant would create a small difference in potential development patterns for city-serving retail in Nearby Areas; more city-serving retail space would be expected to be developed in suitable locations of Nearby Areas to the south and west. Overall, the difference in Project Area jobs and in jobs/housing outcomes would not be substantial enough to result in different conclusions about the growth inducement implications of this variant compared with the proposed project. There would be no difference in cumulative citywide or regional growth.

SUMMARY OF MITIGATION MEASURES

The significant impacts of this variant would be the same as those of the project. No additional mitigation measures have been identified.

The following endnotes have been added to p. VII.66:

6. The employment estimate for Commercial Industrial development under this variant assumes 50% of the Commercial Industrial space would be occupied by

office activities and 50% would be occupied by research and development and light industrial activities, consistent with the assumptions of the project analysis of Commercial Industrial development. While less actual office development is expected, the assumption of more office development is conservative for EIR analysis purposes because there are more employees and, consequently, more vehicle trips for office use than for research and development and light industrial.

7. **As with the project, an imbalance of housing to jobs is not a physical environmental effect, but rather an economic and social issue that warrants attention by San Francisco policy makers and other jurisdictions in the Bay Area. Certain indirect project and cumulative effects caused by the imbalances in local employment and housing opportunities would be environmental impacts, primarily transportation and related air quality impacts, and are described in those sections of this SEIR. The geographic distribution of employment and housing is taken into account in the SEIR analysis. For example, commute patterns are considered in the trip distribution factors underlying the transportation and air quality impact analyses. The secondary physical impacts of the Project Area housing supply shortfall (i.e., significant traffic, transit, and air quality effects from both the project and project-plus-cumulative impacts), can be best mitigated through measures directly addressing those effects, such as those that encourage increases in transit use and reduce traffic congestion.**

The following new text has been added after the second full paragraph on p. II.39 in the Summary:

CASTLE METALS BLOCK COMMERCIAL INDUSTRIAL/RETAIL VARIANT (CASTLE METALS BLOCK VARIANT)

Under Variant 5, the land use designation for the entire block bounded by 16th, Third, and Mariposa Streets (the Castle Metals Block) would be changed from Commercial Industrial and Mission Bay South Retail to Commercial Industrial/Retail. Under the project, the Castle Metals Block is assumed to have about 366,000 gross sq. ft. of Commercial Industrial, 310,000 gross sq. ft. of city-serving retail, and 3,200 gross sq. ft. of neighborhood-serving retail uses. Under the variant, the block is assumed to have about 964,000 gross sq. ft. of research, light-industrial, and office uses, 50,000 gross sq. ft. of city-serving retail, and 3,200 gross sq. ft. of neighborhood-serving retail uses. This would increase the amount of Commercial Industrial uses proposed in Mission Bay South. With less city-serving retail being developed in the Project Area, there could be more retail stimulated to the west and south of Mission Bay. A new height zone for the majority of the area would allow development up to 90 ft. high on 90%, and 160 ft. high on 10%, of the developable land area. The change in use would result in less peak-hour auto traffic in the southeastern part of the Project Area. However, no intersections projected to operate at unacceptable levels would improve to acceptable levels with the variant.

Other environmental effects would be similar to those of the proposed project. The significant impacts of this variant would be the same as those of the project. No additional mitigation measures have been identified.

Requested Discussion of Intersection Modification at King and Fourth Streets

Comment

Within the assumptions utilized for the ultimate circulation improvements under the project build-out scenario, Catellus requests that an eastbound left turn at the intersection of King and Fourth Street be analyzed. The provision of intersection improvements to accommodate left-turn movements onto 4th Street, as part of the project, may reduce traffic impacts at the King and Third Street intersection. If this assumption was not included in the traffic model for the project, we believe that additional study be undertaken to determine the effects, if any. (*Don Parker, Vice President, Bay Area Development, Catellus Development Corporation*)

Response

The comment requests that an eastbound left turn at the intersection of King and Fourth Streets be analyzed because it may reduce traffic at the intersection of King and Third Streets. This left-turn lane is not proposed to be included in the Mission Bay North Redevelopment Plan at this time. It is analyzed in the response to this comment for informational purposes only.

Under this modification to the proposed project's street network, which the project sponsors are not currently considering, a new exclusive eastbound to northbound left turn lane on King Street would be provided at the intersection of Fourth Street. This new lane would allow some vehicles bound for the garage on the block bounded by Townsend Street, Third Street, King Street, and Fourth Street to turn right onto Townsend Street from Fourth Street, and then turn right into the parking garage. This change also would require converting the proposed project's exclusive right turn lane on King Street's eastbound approach to the Fourth Street intersection to a shared through-right turn lane. This second change is necessary so that the inside "through" lane can be converted to an exclusive left turn lane.

These geometric changes interrupt the continuation of the three through eastbound lanes on King Street with those on the opposite (east) side of the intersection. To correct this misalignment, the three through lanes must be gradually tapered over a length of 300 feet. The tapering of these lanes would intrude into the northwest corner of the block bounded by King Street, Third Street, Berry Street, and Fourth Street. The intrusion would reduce the space available for planned retail uses at that corner by approximately 1,200 gross sq. ft. The realignment would also require MUNI to shorten by approximately 5 feet its light rail platform currently planned on Fourth Street as part of the Third Street Light Rail Extension Project.

The shortening is necessary to avoid intruding into the southernmost east-west crosswalk across Fourth Street. In addition to providing the left turn movement onto Fourth Street, all traffic would need to be allowed to travel north on Fourth Street between King and Townsend Streets. Traveling north on this block is currently only allowed for MUNI buses. This change in the direction of travel would be a change both from existing conditions and proposed project conditions.

The intersection modifications would not change assessment in the SEIR of the proposed project's impacts for the following environmental topics: Plans, Policies, and Permits, Land Use, Visual Quality and Urban Design, Seismicity, Health and Safety, Contaminated Soils and Groundwater, Hydrology and Water Quality, Vegetation and Wildlife, Community Services and Utilities, and Growth Inducement. Although the intersection modifications would reduce retail employment by three employees, this change would not alter the business activity, employment, housing, and population assessment of the proposed project in the SEIR. However, such changes could affect transportation, air quality, and noise, and the effects in these areas are discussed below.

Providing an exclusive left-turn lane from eastbound King Street to Fourth Street would require that the portion of Fourth Street between King and Townsend Streets accommodate automobile traffic in the northbound direction. It is currently only legally used by MUNI vehicles. Allowing automobile traffic on this portion of Fourth Street, which is approximately 20 feet wide, would likely affect the efficiency of MUNI operations at this location. The 15-Third, 32-Embarcadero, and 91-Owl MUNI bus lines stop on this portion of Fourth Street, for which the entire curb length is designated as a bus stop. It is unlikely that MUNI operations would be effectively maintained on this section of Fourth Street if vehicular traffic were allowed to travel northbound. The existing bus stops could be relocated or combined with some of the other MUNI stops in the vicinity of the Caltrain terminal. This would require modifications to MUNI service, would increase the number of MUNI bus-miles and bus-hours, and could require one additional bus to maintain the additional schedule. Alternatively, Fourth Street could be widened by about 5 feet to the east to provide a total width of 26 feet that would accommodate two northbound lanes: a 14-foot-wide curb lane for buses and a 12-foot-wide lane for automobiles. An additional 1 foot of width could also be added to the east sidewalk. This second option would allow maintaining the existing bus stops along Fourth Street while sharing Fourth Street with northbound automobile traffic. Widening Fourth Street would reduce the developable area on the west end of the block bounded by Townsend, Third, King, and Fourth Streets by about 1,500 square feet.

The intersection of Fourth and King Streets was evaluated with the provision of an eastbound left turn lane under cumulative 2015 conditions. The eastbound left-turn lane would allow traffic traveling

eastbound on King Street to turn left at Fourth Street, and thereby would reduce the number of vehicles that would turn left at the intersection of Third and King Streets.

Table XII.14 compares the level of service of some key intersections under these conditions with those of the project. As indicated in the table, the average vehicle delays at the intersections of Third and Townsend Streets and Third and King Streets would improve by about 10 seconds per vehicle, but LOS would not be different from that of the project as a result of some vehicles turning left at the intersection of Fourth and King Streets to access the development block bounded by Townsend, Third, King, and Fourth Streets. Fourth and Townsend Streets would experience LOS C under this scenario versus LOS B under the project. The intersection of Fourth and King Streets would worsen from LOS E to LOS F, but could be mitigated to an acceptable level of service with the same mitigation measure proposed for the project (an additional southbound lane to provide one exclusive right-turn lane, one shared right-through lane, one exclusive through lane, and one exclusive left-turn lane; Mitigation Measure E.38, p. VI.20).

CO concentrations would be similar to those projected for the proposed project, based on an analysis of traffic volumes and Levels of Service for the intersections in the air quality study. No additional violations of the ambient air quality standards would be expected to occur as a result of the changes to the intersection of Fourth and King Streets.

TABLE XII.14
YEAR 2015 CUMULATIVE INTERSECTION LEVEL OF SERVICE COMPARISON, PROJECT COMPARED WITH MODIFIED FOURTH AND KING INTERSECTION

	Project		Modified Fourth/King	
Intersection	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
Fourth and Townsend Streets	14.4	B	22.9	C
Third and Townsend Streets	79.7	F	70.5	F
Fifth and King Streets	28.4	D	28.3	D
Fourth and King Streets	52.1	E	67.0	F
Third and King Streets	99.1	F	88.0	F

The noise levels for one-hour L_{eq} and 24-hour L_{dn} would be substantially the same at all of the locations studied. A comparison of the traffic estimated for these intersection modifications with that for the proposed project shows that the modifications would have traffic volumes similar to or less than the proposed project at all of the noise study locations. All other noise and vibration issues discussed in Section V.G, Noise: Impacts, would remain the same with these modifications as for the proposed project.

The significant impacts of these intersection modifications would be the same as those of the proposed project. The proposed modifications to the King and Fourth Street intersection would have two adverse transportation effects. First, relocating the bus stops, one of the solutions developed in the transportation assessment above, would affect MUNI operations. The 5-foot widening of Fourth Street discussed in the transportation section would reduce impacts to a less-than-significant level. However, it would also diminish development potential of the adjacent Project Area parcel. Second, the change in cumulative LOS from C to F at the intersection of King Street and Fourth Street would be a further reduction compared to the LOS E predicted for the project.

If adopted and implemented for the intersection modifications, Mitigation Measure E.38 on p. VI.20 identified for the project could restore service at King and Fourth Streets to an acceptable level (an additional southbound lane to provide one exclusive right-turn lane, one shared right-through lane, one exclusive through lane, and one exclusive left-turn lane). The mitigation measures applicable to the project would also apply to these modifications, with the exception of project feature E.8a, which would need to provide an exclusive left turn lane instead of the exclusive right turn lane included in the project measure. Two additional project features are assumed to be included in these modifications and are assumed in the impacts analysis: 1) the northbound approach of Fourth Street to Townsend Street would be widened to provide an additional northbound lane; and 2) the east side of Fourth Street between King Street and Townsend Street would be widened to accommodate an additional northbound lane.

OTHER STATUTORY SECTIONS

Irreversible Environmental Changes

Comment

The Draft EIR's Vegetation and Wildlife Impact analysis (page V.L.10) acknowledges that the project would result in the replacement of a total of 5,880 square feet (0.13 acre) of northern coastal salt marsh (pickleweed) wetland habitat on the north bank of China Basin Channel and approximately 375 square feet (0.01 acre) of salt marsh on the south bank. The Draft EIR goes on to say that the loss of even a small amount of northern coastal salt marsh wetlands or other special aquatic sites would cause a net loss of wetland area and function, contrary to state and federal policies. However, the Irreversible Environmental Changes Section fails to mention anything about these losses of habitat resulting from the project. Despite Mitigation Measures L.2, even if Section 404 and 401 permits are granted by the U.S. Army Corps of Engineers, this existing habitat would be altered in the long-term. This change should be acknowledged in Section IX.B of the EIR. (*Kate White, Program Director, Urban Ecology, Inc.*)

Response

The comments raise concerns about the potential loss of wetlands and habitat on the north side of the Channel. As described on pp. V.L.10-V.L.11, northern coastal salt marsh wetlands and salt marsh wetland habitat would be disturbed or removed by the project. Without mitigation, these would be significant impacts. Mitigation Measures L.1 and L.2, if adopted, would mitigate these impacts to a less-than-significant level by requiring replacement of wetlands and habitat. Thus, the project impact is avoidable and should not be included in the list of irreversible environmental changes.

Further information regarding wetland and habitat impacts is presented in the responses in Vegetation and Wildlife, "Edge Treatments and Loss of Wetlands" and "Wetlands Impacts" on pp. XII.408-XII.410 and pp. XII.431-XII.432, respectively.

D. STAFF-INITIATED TEXT CHANGES

This section presents staff-initiated text changes for the Mission Bay Draft SEIR. Changes related to the rescission of the 1990 Mission Bay Plan are presented first. These changes occur in four chapters of the Draft SEIR, but they are grouped together so that the reader can review all the revisions pertaining to this topic. Subsequent changes are grouped by chapter and, where a further level of detail is helpful, by section, and follow the order of the SEIR. In a few instances, a change for a particular chapter is presented in the context of related revisions rather than under its chapter or section heading. Cross-references by page number are provided for these revisions.

RESCISSION OF THE 1990 MISSION BAY PLAN

Subsequent to the publication of the Mission Bay Draft SEIR, the San Francisco Planning Department identified a slightly modified approach to amending the 1990 Mission Bay Plan and Article 9 of the City Planning Code. In the Draft SEIR, it was stated that to maintain consistency between the Redevelopment Plans and the San Francisco General Plan, one of the necessary actions would be to amend the 1990 Mission Bay Plan and Article 9 to excise the areas now included in the Redevelopment Plans. Instead, the 1990 Mission Bay Plan would be rescinded and re-adopted as Mission Bay Guidelines for the three blocks that were part of the 1990 Mission Bay Plan but which would not be covered by the Redevelopment Plans (as described on p. V.A.6 and presented in Figure V.A.1). Article 9 of the City Planning Code would also be amended to apply to those three blocks only. All references to the 1990 Mission Bay Plan in Article 9 would be revised to refer to the Mission Bay Guidelines.

The last sentence on p. II.1 has been revised to read:

> **The *San Francisco General Plan* ~~(including the *Mission Bay Plan* and the *Central Waterfront Area Plan*)~~, the *Waterfront Land Use Plan*, and the San Francisco Planning Code and Zoning Map would be amended to conform with the proposed Redevelopment Plans; the *Mission Bay Plan*, Part II of the *Central Waterfront Area Plan*, would be rescinded.**

The second-to-last paragraph on p. II.5 has been revised to read:

> **To maintain consistency between the Redevelopment Plans and San Francisco's General Plan, the General Plan would be amended. ~~most importantly~~ The *1990 Mission Bay Plan* (Part II of the *Central Waterfront Area Plan*), would be rescinded and re-adopted as Mission Bay Guidelines for the parcels not covered by the Redevelopment Plans. ~~as would~~ Article 9 of the San Francisco Planning Code would be amended to apply to those parcels only.**

The last sentence on p. III.1 has been revised to read:

> **The *San Francisco General Plan* ~~(including the *Mission Bay Plan* and the *Central Waterfront Area Plan*)~~, the *Waterfront Land Use Plan*, and the San Francisco Planning Code and Zoning Map would be amended to conform with the proposed Redevelopment Plans; the *Mission Bay Plan*, Part II of the *Central Waterfront Area Plan*, would be rescinded.**

The last sentence on p. III.42, which continues on the following page, has been revised to read:

> **The 1990 *Mission Bay Plan*, which is Part Two of the *Central Waterfront Area Plan*, ~~and~~would be rescinded and re-adopted as Mission Bay Guidelines for the parcels not covered by the Redevelopment Plans. Article 9 of the City Planning Code, which details zoning and land use controls for Mission Bay, would be amended ~~with respect to~~ to exclude the Mission Bay North and Mission Bay South Redevelopment Areas.**

The second sentence of the second paragraph of p. III.46 has been revised to read:

> **Accordingly, the project would require the Planning Commission and the Board of Supervisors to ~~amend~~ rescind the 1990 *Mission Bay Plan* and amend Article 9 of the City Planning Code, and to adopt any required amendments to the General Plan to ensure conformity with the proposed project.**

Under the heading Planning Commission on p. III.47, the third item has been revised to read:

- **Adopts and recommends to the Board of Supervisors amendments to the General Plan, including rescission of the 1990 *Mission Bay Plan*. Approves its re-adoption as Mission Bay Guidelines for the parcels not covered by the Redevelopment Plans.**

Under the heading Board of Supervisors on p. III.48, the third item has been revised to read:

- **Adopts General Plan amendments, including ~~amendments to~~ rescission of the 1990 *Mission Bay Plan*.**

The first full sentence of first paragraph on p. V.A.28 has been revised to read:

> **For the Project Area, the *Mission Bay Plan* is proposed to be ~~amended~~ rescinded and replaced in the General Plan by reference to the Redevelopment Plans for Mission Bay North and Mission Bay South, to establish conformity between the General Plan and the Redevelopment Plans.**

The first sentence of the second paragraph on p. V.A.28 has been revised to read:

> **~~Amendment~~ Rescission of the 1990 *Mission Bay Plan* and amendment of Article 9 would need to be approved by the Planning Commission and adopted by the Board of Supervisors. The Mission Bay Plan would be re-adopted by the Planning Commission as Mission Bay Guidelines which would pertain to the parcels not covered by the Redevelopment Plans.**

The third sentence of the last paragraph on p. V.A.33 has been revised to read:

> **To make the *San Francisco General Plan* and the Redevelopment Plans consistent, the *Mission Bay Plan*, i.e., Part II of the *Central Waterfront Plan*, would be ~~amended to apply to the properties currently contained in the *Mission Bay Plan* that are~~ rescinded and re-adopted by the Planning Commission as Mission Bay Guidelines for those parcels that were part of the 1990 Mission Bay Plan, but which are not included in the Project Area.**

The second sentence of the second paragraph on p. VIII.54 would be revised to read:

> **Adoption would require ~~amendments to~~ rescission of the 1990 *Mission Bay Plan* and amendments to Article 9 of the City Planning Code and Zoning Map.**

CHAPTER II, SUMMARY

The subhead "Transit" has been added after the second full paragraph on p. II.11.

The third and fourth paragraphs on p. II.36 have been revised as follows:

> **This chapter evaluates ~~four~~ six variants to the project, and a combination variant, that are under consideration by the project sponsors. Variants typically modify one limited area or aspect of the project.**
>
> **Each variant is available for selection by the project sponsors, the City, and the public, and any combination of variants could be approved. Even if all variants were to be adopted, no new significant impacts other than those identified below for each variant would occur, because the variants ~~under consideration by the project sponsors~~ are not substantially different than the project and are geographically separated.**

The following sentence has been added as a new second sentence in the first full paragraph on p. II.38 in the discussion of transportation effects of Variant 3, and the existing second sentence in that paragraph has been modified:

> **The intersection of King and Fifth Streets would operate at LOS E under this variant, compared with LOS D under the project, creating a new significant impact. The intersections of Third and Fourth Streets with King and Townsend Streets would ~~be most~~ also be affected; they would remain at LOS F, as with the project, but delays would increase by 10% to 50%.**

A change has been made to the Summary under "Schools" in Community Services and Utilities, shown on p. XII.520.

The second and third complete paragraphs on p. II.17 of the Draft SEIR were duplicates of the paragraphs above them. This duplicate text has been eliminated, and subsequent pages have been repaginated.

In addition to the revisions listed here, the Summary has been updated to reflect changes made to the Draft SEIR in this Summary of Comments and Responses document.

CHAPTER III, PROJECT DESCRIPTION

A revision to p. III.6 is presented later in this section under "Combination of Variants Currently Under Consideration by the Project Sponsors" on p. XII.530.

The following Section D has been added to the end of Chapter III, Project Description on p. III.52.

D. VARIANTS TO THE PROJECT

Chapter VII of this document describes and evaluates variants to the project that the project sponsors have considered. Variants typically modify limited areas or aspects of the project and have substantially the same impacts and cumulative impacts, except where noted. Section G in Chapter VII analyzes a combination of those variants currently under consideration by the project sponsors.

CHAPTER IV, BACKGROUND AND SEIR STUDY APPROACH

New Endnote 13 has been added after the second sentence in the last paragraph on p. IV.7. The subsequent endnotes have been renumbered. The following has been added as the text of new Endnote 13.

13. Since publication of the Draft SEIR, an environmental review application has been received by the Planning Department for 185 Berry Street, proposing a three-story addition to the existing China Basin Landing office building that would add about 170,000 square feet of office space. The site is the northerly portion of a parcel consisting of the entire block bounded by Fourth Street, Berry Street, Third Street, and China Basin Channel. The resulting building would be similar in size and bulk to the existing wharfside office building on the same parcel to the south, bordering the north side of China Basin Channel. The site is bordered on its Berry Street and Fourth Street sides by the Project Area, and across Third Street by the Giants ballpark site.

The SEIR's transportation and other analyses of Mission Bay project impacts do not assume this specific development project. The SEIR analyses do assume, for cumulative impact assessment purposes, considerable additional office and other development in the area. The assumptions of cumulative growth are based on ABAG projections of population and employment, adjusted to account for anticipated potential major projects in San Francisco, as described on pp. V.E.38-V.E.39. Therefore, transportation and other cumulative impacts associated with 185 Berry Street and other development projects that will accommodate future population and

employment growth are included in the SEIR cumulative analyses, based on the forecast general locations for such growth.

Individual projects, such as 185 Berry Street, may have location-specific impacts not accounted for in the SEIR analysis. Such location-specific impacts are not possible to predict with certainty, since detailed project features, transportation plans, and mitigation measures for the specific project will emerge and evolve as environmental analysis is conducted for that project. The environmental review documents for 185 Berry Street and other future projects will analyze and describe any such specific impacts, using the cumulative future scenario in this SEIR as the 2015 baseline. Those future documents would also suggest applicable mitigation measures in the event significant project-specific impacts are found.

CHAPTER V, ENVIRONMENTAL SETTING AND IMPACTS

Section V.E, Transportation

Figure V.E.8, on p. V.E.42 of the SEIR, has been revised to clarify that under the project, the northbound lane on Fourth Street would continue to be for MUNI use only (the revised figure is shown on the following page).

The third and fourth sentences in the fifth paragraph on p. V.E.11 have been revised to read:

Midday service headways are 30 minutes on all lines between Marin and Sonoma Counties and San Francisco. The UCSF Club Bus service includes six routes, each with one daily round trip, ~~serving~~ originating in Ignacio, Santa Rosa, San Rafael, Fairfax, Tiburon, and Rohnert Park.

The first sentence in the second paragraph on p. V.E.12 has been revised to read:

The total average weekday ridership on GGT bus service to and from San Francisco (excluding Club Bus service) is ~~estimated to be~~ approximately 21,000 passengers per day, with about 6,705 of those trips being made during the p.m. peak hour./25/

The subhead and first sentence of the last paragraph on p. V.E.12 have been changed to delete references to the Red & White ferry service, as Red & White provides bay cruises only, and to add the names of other commuter ferry services:

Other ~~Blue & Gold and Red & White~~ Ferry Services

The Blue & Gold ~~and Red & White~~ fleets, Vallejo Baylink, Oakland/Alameda and Harbor Bay ferries operate ferry service between San Francisco and Alameda/Oakland, Vallejo, Sausalito, Tiburon, and Angel Island.

The last sentence in the first partial paragraph on p. V.E.13 has also been changed to delete references to the Red & White fleet and add other ferry services:

> **All Blue & Gold ~~and Red & White~~, Vallejo Baylink, Oakland/Alameda, and Harbor Bay ferry services have adequate capacity to accommodate their current passengers during the p.m. peak hour./26/**

The following new sentence has been added to the end of the first full paragraph on p. V.E.41:

> **An additional northbound lane would be provided at the intersection of King and Third Streets, and Fourth Street would be widened between King and Berry Streets.**

The word "circle" has been replaced with "roundabout" in Section V.E, Transportation: Impacts and in Appendix D, Transportation.

On p. V.E.41, the last sentence has been changed to read:

> **The project proposes an at-grade automatic-gated crossing of the Caltrain tracks to connect North Common and South Common Streets and Owens Street with Seventh Street west of the ~~circle~~ roundabout./54/**

In Appendix D, Transportation, on p. D.18, the last sentence on the page, carrying over to p. D.19 has been revised to read:

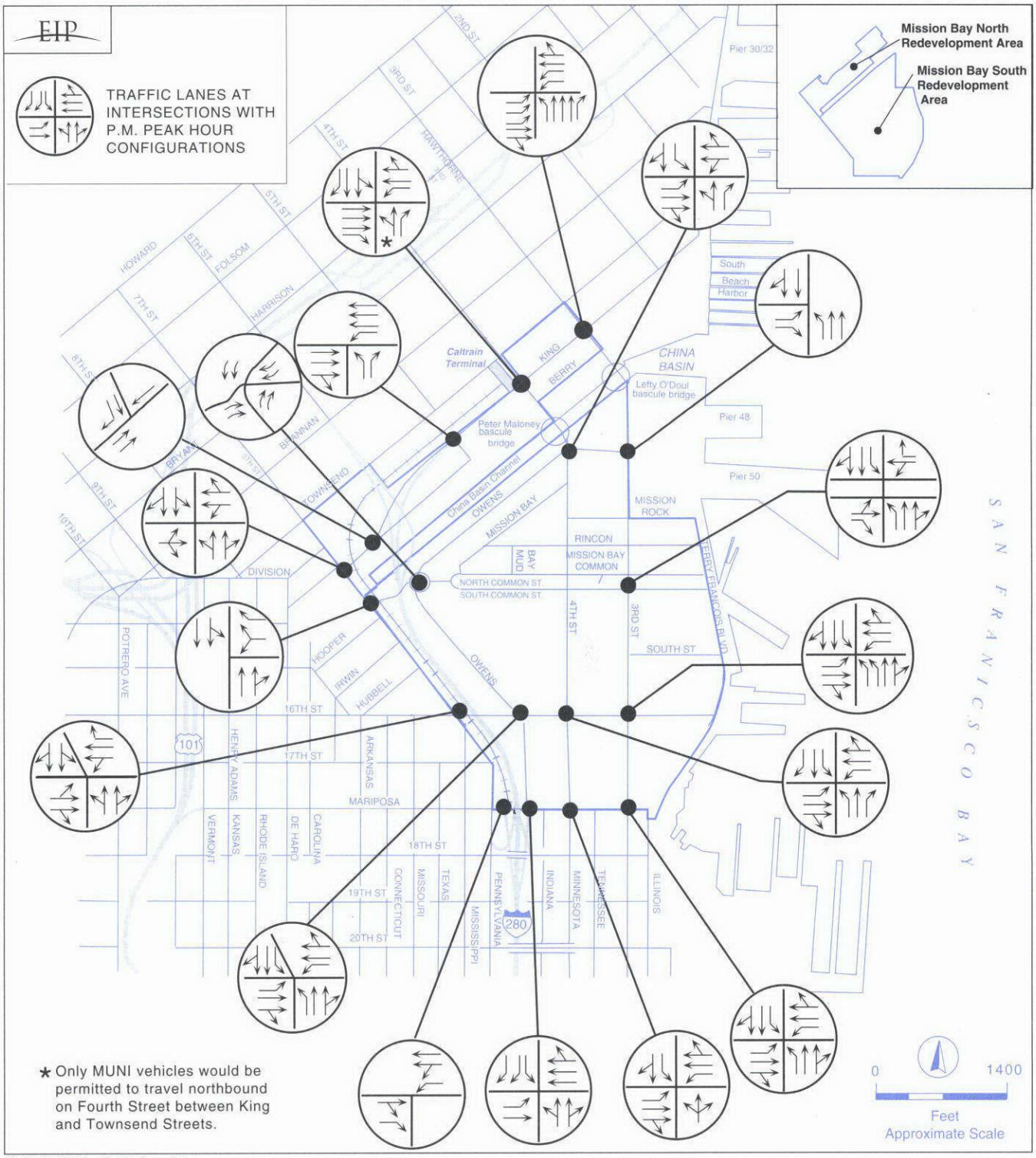
> **North Common and South Common Streets would consist of two parallel east-west one-way roadways separated by an approximately 130-foot-wide grassy area, on the north side of the UCSF site, running from Terry A. François Boulevard to the ~~circle~~ roundabout intersection and the Seventh Street connector.**

The following sentence has been added at the end of the first paragraph on p. V.E.53 to clarify the relationship of the SEIR MUNI information to that found in the *Third Street Light Rail Project DEIS/DEIR* :

> **These MUNI service changes are consistent with the assumptions contained in the *Third Street Light Rail Project DEIS/DEIR*./64a/**

The following new endnote is added to the Transportation endnotes after note 64 on p. V.E.123:

> **/64a/ San Francisco Planning Department and Federal Transit Administration, *Third Street Light Rail Project DEIS/DEIR*, State Clearinghouse #96102097, Planning Department File No. 96.281E, April 3, 1998, pp. 2-8 to 2-12 and 3-7.**



SOURCE: Wilbur Smith Associates

MISSION BAY SUBSEQUENT EIR

FIGURE V.E.8 (REVISED) PROPOSED NEW TRAFFIC CIRCULATION SYSTEM AND INTERSECTION LANE CONFIGURATION

Similarly, the second sentence in the last paragraph on p. V.E.92 has been revised to read:

> **On the other hand, MUNI, in response to expected increases in Mission Bay transit demand, ~~and~~ in accordance with the prior Mission Bay development plan, and consistent with the assumptions in the *Third Street Light Rail Project DEIS/DEIR*, plans to extend about 50% of the present 30-Stockton or 45-Union/Stockton trolley coaches south from their current terminus at the Caltrain terminal to somewhere in the vicinity of Third Street and 19th or 20th Streets.**

Several column headings in Table V.E.11 on p. V.E.79 have been revised to read "Charter or Subscription Bus," "Golden Gate Transit Buses," and "Golden Gate Transit Ferry."

The last sentence in the first paragraph on p. V.E.83 has been expanded to read:

> **Although not all GGT bus routes have the same passenger loads during the p.m. peak hour, ~~O~~on average only 70% of the capacity is currently used; thus, the impact of these additional passengers would be minimal.**

The subhead and first three sentences under "Charter Bus" on p. V.E. 83 have been revised as follows:

> **Charter/Subscription Bus**
>
> **Charter and subscription buses are anticipated to be used primarily by employees traveling to/from the office space and research and development facilities in Mission Bay South. Charter and subscription buses would provide service to the South Bay, East Bay, and North Bay, combining to comprise approximately 160 transit trips of the Mission Bay project p.m. peak hour transit demand. The Golden Gate Transit "club" buses discussed under "Existing Regional Transportation Facilities" in the Setting subsection, under "Golden Gate Transit," are examples of ~~charter, or~~ subscription~~,~~ buses.**

The first paragraph on p. V.E.88, beginning with the second sentence under "Golden Gate Transit," has been expanded to provide additional qualitative information about peak loads:

> **Because on average only 70% of current capacity is used on Golden Gate Transit buses during the p.m. peak hour, the 0.68% annual growth in cumulative ridership, including Mission Bay-generated trips, is estimated to increase the average p.m. peak hour load factor to 85%, assuming capacity remains the same. Not all GGT bus routes have the same passenger loads during the p.m. peak hour, with some carrying more passengers than others. It is assumed that the future allocation of buses to routes and the establishment of future bus route headways could be done by GGT in such a manner that the average future cumulative load factor of 85% would be redistributed without exceeding 100% on any given bus route.**

The following is added as new fifth sentence in the second paragraph on p. V.E.88:

> **As stated in note p. in Table V.E.13, a new, 325-seat ferry boat is expected to be added to the Larkspur Ferry service in the fall of 1998.**

The first sentence in the third paragraph on p. V.E.88 has been revised to read:

> **No project-related trips were assigned to private ferries such as the ~~Red & White and~~ Blue & Gold Fleets, Vallejo Baylink, Oakland/Alameda, and Harbor Bay ferries.**

The reference to Table X.D.5 in the last line of Endnote 35 on p. V.E.122 has been corrected to Table X.C.5.

Section V.F, Air Quality

Tables V.F.1 and V.F.2 should have listed lead as a criteria pollutant. Tables V.F.1 and V.F.2 have been amended and are reprinted here.

In Endnotes 6 and 7 on p. V.F.45, the date has been changed from September 1993 to August 1993.

Endnote 46 on p. V.F.47 has been revised as follows:

> BAAQMD, ~~*Toxics Inventory Report*~~ *Toxic Air Contaminant Control Program Annual Report 1995*, Volume I, November 1996, p. 21.

Endnote 47 on p. V.F.47 has been revised as follows:

> BAAQMD, ~~*Toxics Inventory Report*~~ *Toxic Air Contaminant Control Program Annual Report 1995*, Volume I, November 1996.

Section V.H, Seismicity

The date in Endnote 27 on p. V.H.22 has been changed from October 24, 1996 to October 24, 1994.

Section V.J, Contaminated Soils and Groundwater

Endnote 144 on p. V.J.110 has been corrected to read ENVIRON International Corporation.

TABLE V.F.1 (revised)
FEDERAL AND STATE AIR QUALITY STANDARDS

Pollutant	Averaging Time	California Standard/a/	Federal Standard/b/
Ozone	1-hour	0.09 ppm	0.12 ppm
Carbon Monoxide	1-hour	20.00 ppm	35.00 ppm
	8-hour	9.00 ppm	9.00 ppm
Nitrogen Dioxide	1-hour	0.25 ppm	—
	Annual Average	—	0.053 ppm
Sulfur Dioxide	1-hour	0.25 ppm	—
	3-hour	—	1,300 $\mu g/m^3$
	24-hour	0.04 ppm	365 $\mu g/m^3$
	Annual Average	—	80 $\mu g/m^3$
Particulate Matter (PM_{10})	24-hour	50 $\mu g/m^3$	150 $\mu g/m^3$
	Annual Geometric Mean	30 $\mu g/m^3$	—
	Annual Arithmetic Mean	—	50 $\mu g/m^3$
Lead	30 Day Average	1.5 $\mu g/m^3$	—
	Calendar Quarter	—	1.5 $\mu g/m^3$

Notes:
ppm = parts per million by volume
$\mu g/m^3$ = micrograms per cubic meter
— = No standard in this category

a. California standards for ozone, carbon monoxide, sulfur dioxide, nitrogen dioxide, and particulate matter (PM_{10}) are values that are not to be exceeded.

b. National standards, other than for ozone and those based on annual averages or annual arithmetic means, are not to be exceeded more than once a year. The ozone standard is "not exceeded" when the expected number of days per calendar year with maximum hourly average concentration above the standard is equal to or less than one.

Source: EIP Associates.

TABLE V.F.2 (revised)
HEALTH EFFECTS SUMMARY OF THE MAJOR CRITERIA AIR POLLUTANTS

Air Pollutant	Adverse Effects
Ozone	Eye irritation. Respiratory function impairment.
Carbon Monoxide	Impairment of oxygen transport in the bloodstream, increase of carboxyhemoglobin. Aggravation of cardiovascular disease. Impairment of central nervous system function. Fatigue, headache, confusion and dizziness. Can be fatal in the case of very high concentrations in enclosed places.
Nitrogen Dioxide	Risk of acute and chronic respiratory illness.
Sulfur Dioxide	Aggravation of chronic obstruction lung disease. Increased risk of acute and chronic respiratory illness.
Particulate Matter (PM_{10})	Increased risk of chronic respiratory illness with long exposure. Altered lung function in children. With SO_2, may produce acute illness.
Particulate Matter ($PM_{2.5}$)	May be inhaled and possibly lodge in and/or irritate the lungs. Same adverse effects as PM_{10}.
Lead	Gastrointestinal and central nervous system effects in adults. Anoxeria, vomiting, malaise, convulsions, and possibly, permanent brain damage, in children.

Source: Bay Area Air Quality Management District Air Quality Handbook, 1993; Zannetti, Paolo, *Air Pollution Modeling*, 1990; The Merck Index, 10th ed., 1983.

Section V.K, Hydrology and Water Quality

Water Quality Tables

Several revisions have been made to the Hydrology and Water Quality SEIR tables (Tables V.K.2-V.K.4 and V.K.6-V.K.8). In most cases, calculated spreadsheet values were either not rounded correctly for the SEIR tables or were not properly transferred to the SEIR tables when the final spreadsheet calculations were made for the SEIR. Changes to the tables are shown on the following pages (revisions are underlined). Other revisions are explained in more detail below. None of the revisions necessitates changes to the SEIR text, nor do they affect the analysis or conclusions of the SEIR.

In Table V.K.2, on p. V.K.35, the TSS values are overstated by about twice the actual value because an incorrect value for TSS load was entered in the spreadsheet that calculated the load to the Bay from effluent discharge. The daily load value entered in the spreadsheet (10,848 kg/day) came from the

same source cited in the table, but was taken from loading data from a single month, December. The correct daily load value is 4,530 kg/day, which is the daily load averaged over the entire 1997 year. The TSS load has been recalculated and changes have been made.

The 1997 monitoring report reported an average daily concentration value of <0.18 μg/l for polynuclear aromatic hydrocarbons (PAHs); no load value was provided. Because the report for the previous 1996 monitoring report contains a load value for PAHs, and because the average daily concentration value for 1996 is the same as that for 1997 (<0.18 μg/l), a load value of 0.04 kg/day was used in the calculations for PAHs. Note (a) in Table V.K.2 has been revised.

In Table V.K.7, on p. V.K.48, the pollutant concentrations in stormwater were calculated outside of a spreadsheet (manually) resulting in rounding error. A spreadsheet calculation has been added to the background calculations to maintain all decimal values up to the final result. The concentration values in Table V.K.7 have been revised to reflect the results of the new spreadsheet calculation, and are shown as rounded to two significant figures.

In Table V.K.8, on p. V.K.51, the calculation error explained above for p. V.K.35, Table V.K.2, carried through to the calculation made for Table V.K.8 when effluent loads and CSO loads were added together. Values for TSS loads have been corrected and revised accordingly.

(Text continues on p. XII.519.)

TABLE V.K.2 (revised)
ESTIMATED ANNUAL MASS POLLUTANT LOADING TO BAY FROM BAYSIDE EFFLUENT DISCHARGES

	Bayside Base Case /a/	Bayside Base Case + Proposed Sewer System for Mission Bay Project	Bayside Base Case + 100% Combined Sewer System for Mission Bay Project	Cumulative Bayside
Effluent Volume (MG/yr) /b/	30,203	31,045	31,045	31,496
% Change in Volume from Base Case /c/	—	2.8%	2.8%	4.3%
Monitored Pollutant Load (lb/yr)				
Total Suspended Solids	4,100,000	4,200,000	4,200,000	4,300,000
Ammonia, Nitrogen	5,100,000	5,200,000	5,200,000	5,300,000
Oil and Grease	1,300,000	1,300,000	1,300,000	1,300,000
Polynuclear Aromatic Hydrocarbons	36	37	37	38
Arsenic	530	550	550	550
Cadmium	54	55	55	56
Chromium	250	260	260	260
Copper	2,100	2,200	2,200	2,200
Lead	880	910	910	920
Mercury	17	18	18	18
Nickel	1,000	1,000	1,000	1,100
Silver	530	550	550	550
Zinc	13,000	13,000	13,000	14,000
Selenium	180	190	190	190
Cyanide	2,500	2,600	2,600	2,600

Notes:

MG = million gallons
lb = pounds
yr = year

a. Derived from data in City and County of San Francisco, Public Utilities Commission, Bureau of Water Pollution Control - Southeast Plant, Southeast WPCP Monitoring Report December 1997, January 16, 1998. Polynuclear Aromatic Hydrocarbon data derived from City and County of San Francisco, Public Utilities Commission, Bureau of Water Pollution Control - Southeast Plant, Southeast WPCP Monitoring Report December 1996, January 17, 1997.
b. Derived from data in City and County of San Francisco, Public Utilities Commission, Clean Water Program, *Draft Bayside Cumulative Impact Analysis*, March 1998.
c. The percent change in volume is the same as for load. While the percent change reflects the incremental change that would occur in each analysis scenario, there is a level of imprecision associated with the load calculations. Therefore, all load values have been rounded to two significant figures to reflect the statistical uncertainty of the calculations. The significance of each change was evaluated by determining whether the change falls within the range of uncertainty.

Source: EIP Associates.

TABLE V.K.3 (revised)
ESTIMATED ANNUAL MASS POLLUTANT LOADING TO BAY FROM BAYSIDE TREATED OVERFLOWS

	Base Case Bayside/a/	Bayside Base Case + Proposed Sewer System for Mission Bay Project	Bayside Base Case + 100% Combined Sewer System for Mission Bay Project	Cumulative Bayside
Overflow Volume (MG/yr) /b/	910	912	928	1,008
% Change in Volume from Base Case /c/	—	0.22%	2.0%	11%
Monitored Pollutant Load (lb/yr)				
Total Suspended Solids	680,000	680,000	700,000	750,000
Ammonia, Nitrogen	9,600	9,600	9,800	11,000
Oil and Grease	61,000	61,000	63,000	68,000
Polynuclear Aromatic Hydrocarbons	4.1	4.1	4.2	4.6
Arsenic	60	60	61	66
Cadmium	17	17	17	19
Total Chromium	91	92	93	100
Copper	300	300	300	330
Lead	470	470	480	520
Mercury	2.9	2.9	2.9	3.2
Nickel	160	160	160	180
Silver	37	37	38	41
Zinc	2,400	2,400	2,500	2,700
Selenium	6.5	6.5	6.6	7.2
Cyanide	38	38	39	42

Notes:

MG = million gallons lb = pound yr = year

a. Derived from the following data sources provided by Jim Salerno, Laboratory Supervisor, Southeast Water Pollution Control Plant, September 5, 1997:
   City and County of San Francisco, Department of Public Works, Bureau of Water Pollution Control, Bayside Wet Weather Overflow Monitoring Program Data Summary, October 1994 - June 1995.
   City and County of San Francisco, Department of Public Works, Bureau of Water Pollution Control, Bayside Wet Weather Overflow Monitoring Program Data Summary, October 1995 - June 1996.
   City and County of San Francisco, Department of Public Works, Bureau of Water Pollution Control, Bayside Wet Weather Overflow Monitoring Program Data Summary, October 1996 - June 1997.

b. City and County of San Francisco, Public Utilities Commission, Clean Water Program, *Draft Bayside Cumulative Impact Analysis*, March 1998.

c. The percent change in load is the same as the percent change in volume. While the percent change reflects the incremental change that would occur in each analysis scenario, there is a level of imprecision associated with the load calculations. Therefore, all load values have been rounded to two significant figures to reflect the statistical uncertainty of the calculations. The significance of each change was evaluated by determining whether the change falls within the range of uncertainty.

Source: EIP Associates.

TABLE V.K.4 (revised)
ESTIMATED ANNUAL POLLUTANT LOADING FROM DIRECT STORMWATER DISCHARGE TO THE BAY FROM PROJECT AREA

	Bayside Base Case /a/	Bayside Base Case + Proposed Sewer System for Mission Bay Project/b/
Stormwater Volume to Bay from Bay Basin of Mission Bay (MG/yr) /c/	15.6	15.9
Pollutant Load (lb/yr) /d/		
Total Suspended Solids	8,300	6,600
Cadmium	0.18	0.21
Total Chromium	1.5	2.2
Copper	2.8	4.3
Lead	6.6	10
Nickel	3.1	4.8
Zinc	24	27

Notes:

MG= million gallons lb = pound ac = acre
in = inch yr = year

a. The percent change in load is the same as the percentage change in volume. While the percent change reflects the incremental change that would occur in each analysis scenario, there is a level of imprecision associated with the load calculations. Therefore, all load values have been rounded to two significant figures to reflect the statistical uncertainty of the calculations. The significance of each change was evaluated by determining whether the change falls within the range of uncertainty.
b. The Cumulative Bayside scenario did not model direct stormwater discharges other than from the Project Area. The Mission Bay project would be the same under cumulative conditions as proposed. Thus, pollutant loads under the Cumulative Bayside condition would be the same as under the proposed project condition.
c. Based on drainage basin area and runoff coefficient data provided by KCA Engineers, Inc. and Hawk Engineers.
d. Derived from unit load data found in Bay Area Stormwater Management Agencies Association, *San Francisco Bay Area Stormwater Runoff, Pollutant Monitoring Data Analysis, 1988 - 1995, Final Report*, prepared by Woodward-Clyde Consultants, October 15, 1996, Table 5-2.

Source: EIP Associates.

TABLE V.K.6 (revised)
COMPARISON OF POLLUTANT CONCENTRATIONS IN TREATED OVERFLOWS WITH CONCENTRATIONS SHOWN TO CAUSE ACUTE AND/OR CHRONIC TOXICITY IN BIOASSAYS WITH MARINE/ESTUARINE ORGANISMS

Metal	Mean Concentration (μg/l) /b/	Acute Toxicity Concentration Ranges (μg/l) /a/	
		High	Low
Arsenic	7.9	16,030	232
Cadmium	2.2	135,000	15.5
Chromium	12	105,000	2,000
Copper	39	600	5.8
Lead	61	27,000	315
Mercury	0.38	1,678	3.5
Nickel	21	350,000	151.7
Silver	4.9	2.3	--
Zinc	320	320,000	191.5
Selenium	0.85	760 /c/	--
Cyanide	5.0	10,000	4.9

Notes:
μg/l = micrograms per liter
-- = No Data

a. U.S. Environmental Protection Agency, Office of Water, Water Quality Criteria, 1986.
b. Mean concentration derived from data sources provided by Jim Salerno, Laboratory Supervisor, Southeast Water Pollution Control Plant, September 5, 1997:
City and County of San Francisco, Department of Public Works, Bureau of Water Pollution Control, Bayside Wet Weather Overflow Monitoring Program Data Summary, October 1994 - June 1995.
City and County of San Francisco, Department of Public Works, Bureau of Water Pollution Control, Bayside Wet Weather Overflow Monitoring Program Data Summary, October 1995 - June 1996.
City and County of San Francisco, Department of Public Works, Bureau of Water Pollution Control, Bayside Wet Weather Overflow Monitoring Program Data Summary, October 1996 - June 1997.
c. Toxicity data for selenium provided for freshwater bioassays only.

Source: Dr. Joseph M. O'Connor.

TABLE V.K.7 (revised)
COMPARISON OF POLLUTANT CONCENTRATIONS IN STORMWATER WITH CONCENTRATIONS SHOWN TO CAUSE ACUTE TOXICITY IN BIOASSAYS WITH MARINE/ESTUARINE ORGANISMS

		Acute Toxicity Concentration Ranges (μg/l) /a/	
Metal	**Concentration (μg/l)/b/**	**High**	**Low**
Cadmium	1.7	135,000	15.5
Chromium	18	105,000	2,000
Copper	35	600	5.8
Lead	83	27,000	315
Nickel	38	350,000	151
Zinc	220	320,000	192

Notes:
a. U.S. Environmental Protection Agency, Office of Water, Water Quality Criteria, 1986.
b. Concentration estimates derived from Bay Area Stormwater Management Agencies Association, *San Francisco Bay Area Stormwater Runoff, Pollutant Monitoring Data Analysis, 1988-1995, Final Report*, prepared by Woodward-Clyde Consultants, October 15, 1996, Table 5-2.

Source: Dr. Joseph M. O'Connor.

TABLE V.K.8 (revised)
SUMMARY OF ANNUAL POLLUTANT LOADS TO BAY FROM BAYSIDE EFFLUENT AND OVERFLOWS

	Bayside Base Case	Bayside Base Case + Proposed Sewer System for Mission Bay Project	Change from Base Case	Bayside Base Case + 100% Combined Sewer System for the Mission Bay Project	Change from Base Case	Cumulative Bayside	Change from Base Case
Total Bayside Volume (MG/yr) /a/	31,113	31,957	844	31,973	860	32,504	1,391
Monitored Pollutant	**Load (lb/yr)**	**Load (lb/yr)**	**Change (%)/b/**	**Load (lb/yr)**	**Change (%)/b/**	**Load (lb/yr)**	**Change (%)/b/**
Total Suspended Solids	4,800,000	4,900,000	2.4%	4,900,000	2.7%	5,000,000	5.2%
Ammonia, as Nitrogen	5,100,000	5,300,000	2.8%	5,300,000	2.8%	5,300,000	4.3%
Oil and Grease	1,300,000	1,400,000	2.7%	1,400,000	2.8%	1,400,000	4.6%
Polynuclear Aromatic Hydrocarbons	40	41	2.5%	41	2.7%	42	4.9%
Arsenic	590	600	2.5%	610	2.7%	620	4.9%
Cadmium	71	72	2.2%	73	2.6%	75	5.8%
Total Chromium	340	350	2.1%	350	2.6%	370	6.0%
Copper	2,400	2,500	2.5%	2,500	2.7%	2,500	5.1%
Lead	1,300	1,400	1.9%	1,400	2.5%	1,400	6.5%
Mercury	20	20	2.4%	20	2.7%	21	5.2%
Nickel	1,200	1,200	2.4%	1,200	2.7%	1,200	5.2%
Silver	570	580	2.6%	580	2.7%	590	4.7%
Zinc	15,000	16,000	2.4%	16,000	2.7%	16,000	5.3%
Selenium	190	190	2.7%	190	2.8%	190	4.5%
Cyanide	2,500	2,600	2.8%	2,600	2.8%	2,700	4.4%

Notes:
See Table V.K.2 and Table V.K.3 for effluent and treated overflow loads, respectively.
MG = million gallons lb = pounds yr = year
a. City and County of San Francisco, Public Utilities Commission, Clean Water Program, *Draft Bayside Cumulative Impact Analysis*, March 1998.
b. The percentage change in load is assumed to be the same as the percentage change in volume. While the percentage change reflects the incremental change that would occur in each analysis scenario, there is a level of imprecision associated with the load calculations. Therefore, all load values have been rounded to two significant figures to reflect the statistical uncertainty of the calculations. The significance of each change was evaluated by determining whether the change falls within the range of uncertainty.

Source: EIP Associates.

Text Changes

To correct a grammatical error, the fourth sentence in the third full paragraph on p. V.K.27 has been changed as follows.

> **Only the early part of storm runoff from larger storms would be pumped to the Channel box sewer, either because the Channel box sewer storage capacity would be reached before the end of the storm or because the rainfall intensity would be such that resulting storm runoff ~~would~~ rates would exceed the pumping rate to the Channel box.**

To correct an extraneous cross-reference, the last sentence on pp. V.K.33-V.K.34 has been changed as follows:

> **This assumption is reasonable; however, actual pollutant loads could differ to the extent that the eventual mix of land uses in the project and other cumulative future projects differs from the existing San Francisco land use mix. ~~(see "Volume and Quality of Municipal Wastewater Effluent," in the Impacts subsection below).~~**

Note "e" in Table V.K.5 on p. V.K.43 is changed as follows to correct a missing word:

> **e. Corresponds to the U.S. EPA Acute Ambient Water Quality Criteria for the protection of saltwater life (40 CFR, Section 131.36).**

Section V.M, Community Services and Utilities

The projected student population in the SEIR is based on ABAG *Projections '96* forecasts of numbers of children likely to live in San Francisco in 2015. The SEIR projections may be an overestimate if the numbers of children living in Mission Bay households were to be lower than the citywide average; if this were the case, the SEIR analysis results for school impacts would be conservative. The number is a citywide number of children of school age, and does not differentiate between public school and private school children. Since the Draft SEIR was published, the San Francisco Unified School District staff has estimated that overall, about 75% of school-age children in San Francisco attend public schools. Based on this information, the SEIR has been revised to indicate a new, more specific demand for public school facilities. Text changes have been made in the Impacts discussion of Community Services and Utilities: Schools, on pp. V.M.30-V.M.32. Corresponding revisions to the Summary and to Measure M.1 in Chapter VI, Mitigation Measures, are also provided below. None of these revisions affect the analysis or conclusions of the SEIR.

On p. V.M.30, the last sentence has been revised as follows:

> **The actual number of school-age children who would need to be accommodated by the SFUSD ~~is likely to be~~ would be lower than the total number of projected school-age children,**

as ~~some children~~ about 25% would attend private schools, resulting in about 555 attending public elementary school, about 300 attending public middle school, and about 375 attending public high school from the Project Area.

The last four sentences in the second paragraph on p. V.M.31 have been revised to read:

If 500 of the approximately ~~730~~ 555 new public school students were accommodated at a new elementary school within the Project Area, approximately ~~230~~ 55 elementary school students would need to attend other schools throughout the District. These ~~230~~ 55 students would fill about ~~20%~~ 5% of the 1,100 planned new elementary school seats if they could be available to Mission Bay children, or about ~~60%~~ 15% of an average size elementary school in San Francisco./88/ It is reasonable to assume that the additional 55 elementary school students could be accommodated either in a new school in the Project Area or in other School District facilities. Middle and high school students would probably not be easily accommodated at nearby schools or elsewhere in the District. The ~~390~~ 300 public middle school students would fill about ~~55%~~ 40% of an average size middle school, and the ~~490~~ 375 public high school students would use about ~~45%~~ 35% of an average size high school.

The second sentence in the first full paragraph on p. V.M.32 has been revised as follows:

Approximately ~~1,120~~ 730 additional public school students (~~230~~ 55 elementary, ~~390~~ 300 middle, and ~~490~~ 375 high school students) would need to be accommodated in the public school system.

The following sentence is added to the Summary on p. II.33 as a new third sentence in the paragraph under "Schools:"

About 75% of these students would be expected to attend public schools.

Measure M.1 in Chapter VI, Mitigation Measures, on p. VI.52, has been revised to account for the new information about the proportion of public school students, as follows:

M.1 Transfer the 2.2-acre school site to the San Francisco Unified School District in a developable condition prior to issuance of building permits for residential units that will make the total combined number of dwelling units in Mission Bay North and Mission Bay South equal to or greater than ~~2,250~~ 3,200 dwelling units. Applies to Mission Bay North and Mission Bay South.

The second, third, and last sentences in the second paragraph of the text discussing this Measure, on p. VI.52, have also been revised:

Therefore, the SFUSD would need a new school when about 300 public elementary school age children would be living in the Project Area./13/ About 300 public elementary school age children would live in about ~~2,500~~ 3,350 dwelling units. . . Therefore, to compensate for the 6-month lag time in school construction, the school site would be transferred when permits

are issued for residential units that are equal to or exceed ~~2,250~~ 3,200 total dwelling units for Mission Bay North and Mission Bay South.

The San Francisco Unified School District has determined that the cost per square foot for a new public elementary school is larger than the $225 used in the Draft SEIR. The District estimates that the cost is approximately $315 per square foot./1/ If this cost figure is applied to the approximately 40,000-square-foot school discussed in the SEIR (p. V.M.31), the total cost would be about the same as reported on p. V.M.32 of about $12.6 million. If this cost figure is applied to a school the size of the newest completed elementary school (the Tenderloin Elementary School, at 56,000 sq. ft.) as in endnote 92, the total cost would be about $17.6 million. The next-to-last sentence in the first partial paragraph on p. V.M.32 has been revised to provide this range of potential facilities costs:

Construction of a 500-student elementary school would costs about $12.6 to $17.6 million in 1998 dollars./92/

The text of Endnote 92 on p. V.M.61, has been replaced as follows:

/92/ Lucian R. Blazej, Executive Director, Facilities Development and Management, San Francisco Unified School District, telephone conversation with EIP Associates, August 12, 1998. Construction of an elementary school would cost about $315 per sq. ft., not including the cost of land or furniture and equipment, resulting in a cost of about $12.6 million for a 40,000-sq.-ft. facility, and a cost of about $17.6 million for a 56,000-sq.-ft. facility.

Endnote 57 on p. V.M.59 has been replaced with the following:

Douglas F. Wong, Executive Director, Port of San Francisco, memorandum accompanying *San Francisco Port Commission, Resolution No. 97-92 (July 22, 1997),* October 9, 1997, p. 2.

The date in Endnote 68 on p.V.M.60 has been changed from December 5, 1997 to December 17, 1997.

Endnote 82 on p. V.M.61 has been revised as follows:

San Francisco Unified School District, Negative Declaration, Tenderloin Elementary School, October 25, 1995, p. 1.

CHAPTER VI, MITIGATION MEASURES

Section VI.E, Transportation

Clarifications have been made to several intersection measures in Section VI.E, Transportation Mitigation Measures.

Measure E.37a, on p. VI.20, has been clarified to read:

E.37a Widen the northbound approach on the east side to provide an additional through lane.

Measure E.39, on p. VI.20, has been clarified to read:

E.39 King Street. Applies to Mission Bay North.

Widen the south side of King Street between Fourth Street and Third Street to provide the additional eastbound through lane noted in Mitigation Measure E.~~36~~ 37, including providing additional right-of-way.

Section VI.F, Air Quality

To clarify the intended implementation of Mitigation Measure F.6 and to make clear the policy goal meant to be accomplished by Mitigation Measure F.6, the following text changes are made on p. VI.35.

Creation of Buffer Zones

F.6 ~~Locate pre-school and child care centers to minimize potential impacts from toxic air contaminant emissions sources.~~ Require pre-school and child care centers to notify BAAQMD and the San Francisco Department of Public Health regarding the locations of their operations, and require these centers to consult with these agencies regarding existing and possible future stationary and mobile sources of toxic air contaminants. The purpose of these consultations is to obtain information so that ~~Locate~~ pre-school and child care centers can be located to minimize potential impacts from toxic air contaminant emissions sources. Applies to Mission Bay North and Mission Bay South.

Consultation of pre-school and child-care centers with the San Francisco Department of Public Health and the BAAQMD is intended to assist the managers of the pre-school and child-care centers and to assist City staff and officials in charge of building and other permits to make decisions that minimize potential impacts from toxic air contaminant emissions on these sensitive receptors.

Although Mitigation Measures F.1 and F.7 are mitigation for different impacts, namely increases in criteria pollutants versus increases in toxic air contaminants, the mitigation measures are identical. Therefore, Mitigation Measure F.7 is eliminated, and the following text changes are made on p. VI.35.

Mobile Sources

Implementation of Mitigation Measure F.1, which calls for implementation of Mitigation Measures E.46 through E.50 in Section VI.E, Mitigation Measures: Transportation, would decrease vehicle trips, thereby reducing emissions of toxic air contaminants from vehicles.

~~**F.7 Implement measures to decrease vehicle trips, as described in Mitigation Measures E.46 through E.50 in Section VI.E, Mitigation Measures: Transportation. Applies to Mission Bay North and South.**~~

Section VI.K, Hydrology and Water Quality

To clarify the applicability of Mitigation Measure K.6, the following text changes are made:

Flooding

K.6 Structures in the Project Area should be designed and located in such a way to assure the reasonable safety of structures and shoreline protective devices built in the Bay or in low-lying shoreline areas from the dangers of tidal flooding, including consideration of a rise in relative sea level. Detailed construction specifications to mitigate against impacts of a sea-level rise, however, would require specific flood protection engineering and building analysis by a licensed engineer, where structures are proposed below an elevation of -1 [negative one] foot, San Francisco City Datum (99 foot elevation, Mission Bay Datum). Measures include:

K.6a Set back from the water's edge;

K.6b Install seawalls, dikes, and/or berms during construction of infrastructure;

K.6c Provide for dewatering basements;

K.6d Construct streets and sidewalks above existing grades by reducing the amount of excavation for utilities or basements;

K.6e Use topsoil to raise the level of public open spaces;

K.6f Use half-basements and partially depressed garage levels to minimize excavation.

Measure is identified as L.15 in Appendix A, Initial Study. Applies to both Mission Bay North and Mission Bay South.

Buildings above -1 [negative one] foot, San Francisco City Datum (99-foot elevation, Mission Bay Datum) would be above the level of flooding hazard, including a margin for sea-level rise and a margin of safety.

Section VI.M, Community Services and Utilities

A change to Measure M.1 is presented earlier in this section on p. XII.520.

CHAPTER VII, VARIANTS TO THE PROPOSED PROJECT

Variant 1: Terry A. François Boulevard Variant

On p. VII.2, the last sentence at the end of the first full paragraph has been deleted.

Variant 2: Esprit Commercial Industrial/Retail Variant

The housing discussion for the Esprit Variant has been revised to reflect updated text in the Mission Bay South Redevelopment Plan. On p. VII.13 in Chapter VII, Variants to the Proposed Project, the following text has been inserted at the end of the third full paragraph:

> **As with the project, the variant's housing demand would not be a significant effect under CEQA. However, the Mission Bay South Redevelopment Plan, Section 304.10, "Fees and Exactions: Parcels X2, X3 and X4," stipulates that standard City fees and exactions would apply to private property other than properties owned by Catellus, except as provided in an owner participation agreement when the public benefits proposed under the Owner Participation Agreement exceed those of the City's standard fees or exactions. The City's OAHPP, or a housing exaction of equivalent or greater benefit, would apply to office development on non-Catellus property, including Esprit's property. Therefore, to the extent that office space is developed, some additional housing supply would be forthcoming to address the housing shortfall./3a/**

The following new Endnote 3a has been added to Chapter VII:

> **/3a/ As with the project, an imbalance of housing to jobs is not a physical environmental effect, but rather an economic and social issue that warrants attention by San Francisco policymakers and other jurisdictions in the Bay Area. Certain indirect project and cumulative effects caused by the imbalances in local employment and housing opportunities would be environmental impacts, primarily transportation and related air quality impacts, and are described in those sections of this SEIR. The geographic distribution of employment and housing is taken into account in the SEIR analysis. For example, commute patterns are considered in the trip distribution factors underlying the transportation and air quality impact analyses. The secondary physical impacts of the Project Area housing supply shortfall (i.e., significant traffic, transit, and air quality effects from both the project and project-plus-cumulative impacts), can be best mitigated through measures directly addressing those effects, such as those that encourage increases in transit use and reduce traffic congestion.**

Table VII.B.2 on p. VII.17 has been revised to correct the project numbers for average delay at intersections, as shown in Table V.E.10, pp. V.E.69-V.E.71. The revisions do not necessitate changes to the SEIR text, nor do they affect the analysis or conclusions of the SEIR.

Table VII.B.3 on p. VII.18 has been revised to include updated PM_{10} numbers. The previous estimates of PM_{10} emission for Variant 2 inadvertently included only exhaust emissions. The numbers have been revised to include entrained road dust and PM_{10} emissions from tire wear. The revisions do not necessitate changes to the SEIR text, nor do they affect the analysis or conclusions of the SEIR. The revised table (revisions are underlined) is shown on p. XII.526.

Variant 3: No Berry Street At-Grade Rail Crossing Variant

Table VII.C.3 on p. VII.27 has been revised to reflect updated PM_{10} numbers for the same reasons that Table VII.B.3 was updated. The revised table (revisions are underlined) is shown on p. XII.526.

TABLE VII.B.2 (revised)
YEAR 2015 INTERSECTION LEVEL OF SERVICE COMPARISON
VARIANT 2 COMPARED WITH PROJECT

	Project		Variant 2	
Intersection	**Delay (sec/veh)**	**LOS**	**Delay (sec/veh)**	**LOS**
16th and Seventh Streets	32.2	D	16.1	C
16th and Third Streets	<u>25.2</u>	D	19.8	C
Third and Mariposa Streets	<u>23.7</u>	<u>C</u>	17.9	C
Mariposa and I-280 Off-ramp	35.9	D	27.8	D

Source: Wilbur Smith Associates.

TABLE VII.B.3 (revised)
ESTIMATED VEHICULAR EMISSIONS
FROM VARIANT 2 TRAFFIC IN 2015

Pollutant	BAAQMD Threshold (lb/day)	Project (lb/day)	Variant 2 (lb/day)
Reactive Organic Gases (ROG)	80/a/	865	856
Nitrogen Oxides (NO_x)	80/a/	1,324	1,310
Particulate Matter (PM_{10})	80/a/	1,968	1,944
Carbon Monoxide (CO)	550/b/	12,228	12,215

Notes:
a. The BAAQMD regards this amount of emissions as a threshold of significance for a regional impact.
b. For carbon monoxide, the BAAQMD does not regard 550 lb/day as a threshold of significance, but rather, an indicator to perform microanalysis.

Source: EIP Associates. Based on modeling using the California Air Resources Board's URBEMIS version 5 model.

TABLE VII.C.3 (revised)
ESTIMATED VEHICULAR EMISSIONS
FROM VARIANT 3 TRAFFIC IN 2015

Pollutant	BAAQMD Threshold (lb/day)	Project (lb/day)	Variant 3 (lb/day)
Reactive Organic Gases (ROG)/a/	80/a/	865	847
Nitrogen Oxides (NO_x)	80/a/	1,324	1,297
Particulate Matter (PM_{10})	80/a/	1,968	1,928
Carbon Monoxide (CO)	550/b/	12,228	12,003

Notes:
a. The BAAQMD regards this amount of emissions as a threshold of significance for a regional impact.
b. For carbon monoxide, the BAAQMD does not regard 550 lb/day as a threshold of significance, but rather, an indicator to perform microanalysis.

Source: EIP Associates. Based on modeling using the California Air Resources Board's URBEMIS version 5 model.

Combination of Variants Currently Under Consideration

A combination of variants to the proposed project is presently under consideration by project sponsors. This combination evolved from responses to public comments and from refinements to the project made by the project sponsors since publication of the Draft SEIR. The following discussion of the combination of variants currently under consideration is added as a new Section G to the end of Chapter VII, Variants to the Proposed Project. The information below is intended to describe the combination of variants for the reader's convenience and confirms that the combination of variants would not result in any new significant impacts not analyzed elsewhere in the Draft SEIR.

G. COMBINATION OF VARIANTS CURRENTLY UNDER CONSIDERATION BY THE PROJECT SPONSORS

INTRODUCTION

The project sponsors are considering a combination of variants to the proposed project. This combination evolved from responses to public comments and from refinements to the project made by the project sponsors since publication of the Draft SEIR. The project with the variants under consideration by the project sponsors would be similar to the proposed project without those variants. The purpose of this section is twofold: 1) to present in one place for ease of reference both the land use program currently under consideration by the project sponsors and the assessment of its environmental effects; and 2) to determine if there would be any new impacts and if additional mitigation measures would be required.

DESCRIPTION

The combination of variants currently under consideration by the project sponsors includes a variant from the SEIR, two modified SEIR variants, and a new variant, as follows:

- **Variant 1: Terry A. François Boulevard Variant/Expanded Bayshore Open Space Proposal (see Chapter VII, p. VII.2, and Variants, pp. XII.461-XII.466 regarding this variant).**
- **Variant 2: Esprit Commercial Industrial/Retail Variant (see Chapter VII, p. VII.12).**
- **Variant 3A: Modified No Berry Street Crossing Variant (see Variants, "Request for a Modified No Berry Street At-Grade Rail Crossing Variant," pp. XII.467-XII.481).**
- **Variant 5: Castle Metals Block Commercial Industrial/Retail Variant (see Variants, "Request for a Castle Metals Commercial Industrial/Retail Variant," pp. XII.481-XII.496)**

In summary, this combination of variants would be the same as the proposed project except for the following elements:

- **The Terry A. Francois Boulevard would be realigned to the west to allow development of open space to the east closer to the San Francisco Bay. This Project Area open space would be integrated with open space to be developed by Catellus on 2 acres of adjacent port property outside the proposed Mission Bay South Redevelopment Area to create an expanded bayfront open space. A small commercial building would be permitted within the Project Area's open space to the east of Terry A. Francois Boulevard. Its anticipated use is recreation-oriented retail services that could include some restaurant uses (Variant 1 noted above).**

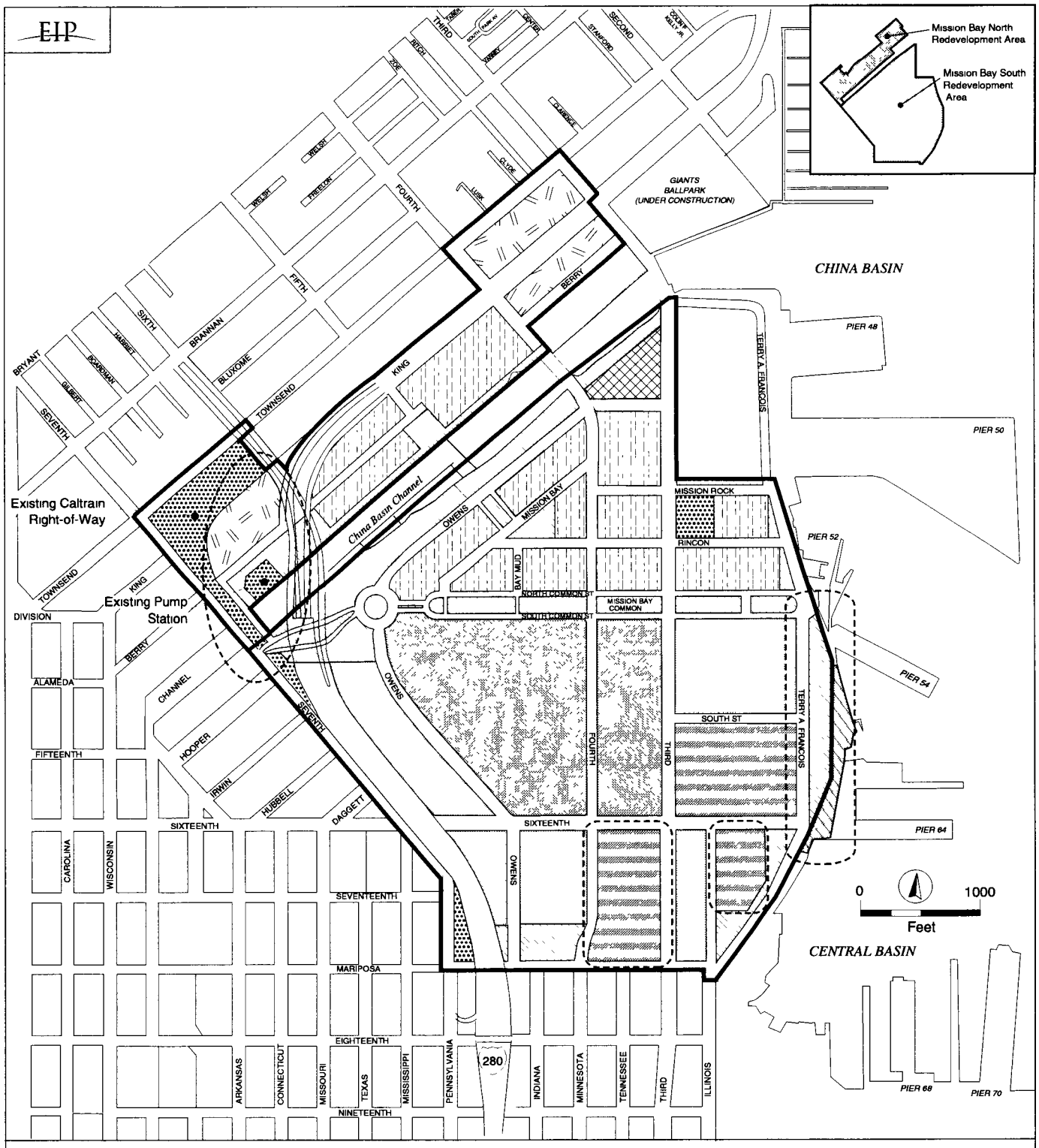
- **There would be no roadway crossing of the railroad tracks at Berry Street. Berry Street would be extended south to Common Street, and the retail space in the northwestern-most block of the Project Area would be reduced by 50% (Variant 3A noted above).**

- **The Mission Bay South Retail land use designation would be eliminated. The land use designation proposed for the Esprit site and the Castle Metals block would be changed to Commercial Industrial/Retail (Variants 2 and 5 noted above).**

Figure VII.G.1 presents a land use designation map for the proposed project incorporating this combination of variants as summarized in the following discussion. (This map is also shown on the inside front cover.) Under this combination of variants, the alignment of Terry A. François Boulevard would be moved west, away from the Bay, and the proposed Project Area open space would be shifted east. Further, the Project Area open space would be integrated with the development of 2 acres of open space outside of the Project Area on the adjacent Port property to create an expanded bayshore open space. A small commercial building (15,000 gross sq. ft.) would be allowed within the Project Area's open space to the east of Terry A. Francois Boulevard. Its anticipated use is recreation-oriented retail services that could involve restaurant use.

This combination of variants would eliminate the at-grade railroad crossing at Berry Street proposed in the project. To address the reduced access to the northwestern part of the Project Area, this combination of variants would add a new two-lane section of roadway extending Berry Street around the western end of China Basin Channel to connect with Common Street. The connection of Berry Street with Common Street would link east/west access to the northwestern section of the Project Area. However, the Berry Street extension would not fully compensate for the elimination of the Berry Street crossing of the railroad tracks. As a result, this combination of variants, compared to the project, would still reduce access to Mission Bay North from the west.

Due to the reduced access to the northwestern-most block fronting on Berry Street between Sixth and Seventh Streets, west of I-280 King Street ramps and east of the Caltrain tracks, the city-serving retail development anticipated for that block would be reduced 50%: from 222,000 gross sq. ft. under the proposed project to 111,000 gross sq. ft. under this combination of variants.



SOURCE: San Francisco Redevelopment Agency

MISSION BAY SUBSEQUENT EIR

FIGURE VII.G.1 (NEW) COMBINATION OF PROJECT FEATURES AND VARIANTS CURRENTLY UNDER CONSIDERATION BY THE PROJECT SPONSORS

This combination of variants would eliminate the Mission Bay South Retail land use designation on the Esprit site and the Castle Metals block, and would change those areas so designated to Commercial Industrial/Retail.

Finally, this combination of variants would create a new Height Zone for a portion of the block also containing 1900 Third Street fronting on Mariposa and Third Streets. The new Height Zone would allow development of up to 90 feet in height on 90% of the developable area and a tower of up to 160 feet in height on 10% of the developable area. The rest of the block would remain in Height Zone 6. The creation of the new Height Zone would add one more allowable new tower to Mission Bay South compared to the 16 towers allowed under the proposed project.

Table VII.G.1 summarizes land use with the combination of variants and the resulting project totals. Table VII.G.2 summarizes the Redevelopment Plan land use designations with the project and the combination of variants. As shown in these tables, adoption of the project with this combination of variants would result in about 6,621,000 square feet of commercial industrial/office space, about 1,064,000 square feet more than the project; 239,000 square feet of city-serving retail space, about 566,000 square feet less than the project/8/, and 47 acres of public open space, with the associated development of approximately 2 more acres on adjacent port property to create an expanded bayfront open space area. Other land use totals would not be different from the project.

If the Combination of Variants (including Variant 2, regarding the Esprit parcel and Variant 5, for the Castle Metals block) were adopted, land use designations for Esprit and the Castle Metals block would be changed in the Redevelopment Plan for Mission Bay South and the land use program in Mission Bay North would be changed. Similarly, the objectives in the Redevelopment Plans for Mission Bay South and Mission Bay North would be expected to change to reflect the maximum development assuming the Combination of Variants Currently under Consideration by the Project Sponsors. Therefore, objective H listed on p. III.7 in "Project Sponsors and Their Objectives" would be revised to read:

H. Strengthening the economic base of the Project Area and the community by strengthening retail and other commercial functions in the Project Area through the addition of approximately ~~1.5 million~~ 941,000 gross sq. ft. of retail space, a major hotel, and about ~~5,557,000~~ 6,621,000 gross sq. ft. of mixed office, research and development, and light manufacturing uses.

ENVIRONMENTAL ISSUES

The environmental effects of this combination of variants under consideration by the project sponsors would be similar to those of the proposed project (see the impacts subsection for each environmental topic in Chapter V, and the respective subsection for each topic in Chapter VI, Mitigation Measures). This combination of variants' minor differences from the project's effects are described in Chapter VII, Variants, and in this Comments and Response document in Variants, "Combination of Variants Currently Under Consideration."

TABLE VII.G.1 (new)
SUMMARY OF PROPOSED DEVELOPMENT BY LAND USE /a/
PROJECT WITH COMBINATION OF VARIANTS
CURRENTLY UNDER CONSIDERATION BY THE PROJECT SPONSORS

Land Use	Mission Bay North Redevelopment Area	Mission Bay South Redevelopment Area	Grand Total /b/
Residential (dwelling units)	3,000	3,090	6,090/c/
Commercial Industrial and Office (gross sq. ft.)	0	6,621,000	6,621,000
UCSF (gross sq. ft.)	0	2,650,000	2,650,000
Retail			
Entertainment-Oriented Retail (gross sq. ft.)	389,000	56,000	445,000
City-Serving Retail (gross sq. ft.)	111,000	128,000	239,000
Neighborhood-Serving Retail (gross sq. ft.)	56,000	201,000	257,000
Hotel (rooms)	0	500	500
Public Open Space (acres)/d/	6	41/e/	47
Public Facilities (acres)	1.5 /f/	3.7/g/	5.2

Notes:

a. Parking is not included in the gross square footage totals given for each land use. Maximum parking allowances are outlined in this section under "Parking and Loading" under "Redevelopment Plans and Proposed Land Uses," and are discussed in Table V.E.17 and "Parking Impacts" in Section V.E, Transportation: Impacts, pp. V.E.95-V.E.101.

b. The conceptual agreements between the City and Catellus do not cover those 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, 604,000 gross sq. ft. of commercial/industrial and 50,000 gross sq. ft. of City-serving retail on the Castle Metals site, and 460,000 gross sq. ft. of commercial/industrial/retail and 40,000 city-serving retail on the Esprit site.
The changes from the proposed project include the reduction of 111,000 gross sq. ft. of city-serving retail in Mission Bay North and 455,000 gross sq. ft. in Mission Bay South, for a total reduction of 566,000 gross sq. ft.; the addition of 1,064,000 gross sq. ft. of Commercial Industrial and Office space in Mission Bay South; and the addition of the 15,000-gross-sq.-ft. commercial building in the open space near Pier 64.

c. 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 seek non-profit developers to build approximately 1,100 affordable units, i.e., 37%.

d. Additionally, approximately 2 more acres of public open space would be developed by Catellus on adjacent port property outside of the Project Area as an expanded bayfront open space area.

e. The 41 acres of public open space in Mission Bay South includes about 8 acres of open space on the proposed UCSF site.

f. The existing Channel Pump Station in Mission Bay North is on about 1.5 acres; the site is not proposed for redevelopment.

g. In addition to the acreages shown in the tables, land under the I-280 elevated freeway that is not otherwise designated Public Open Space would be designated Public Facilities.

Source: Catellus Development Corporation and San Francisco Redevelopment Agency.

TABLE VII.G.2 (new)
PROJECT WITH COMBINATION OF VARIANTS
LAND USE DESIGNATIONS/a/

Land Use Designation	Mission Bay North Redevelopment Area	Mission Bay South Redevelopment Area	Grand Total/b/
Mission Bay Residential			
Dwelling Units/c/	1,920	3,090 /b/	5,010
Neighborhood-serving Retail (gross sq. ft.)	56,000	111,000	167,000
Mission Bay North Retail			
Entertainment-oriented Commercial (gross sq. ft.)	389,000	0	389,000
City-serving Retail (gross sq. ft.)/d/	111,000	0	111,000
Dwelling Units /c/	1,080	0	1,080
Hotel			
Hotel (rooms)	0	500	500
Entertainment-oriented Commercial (gross sq. ft.)	0	56,000	56,000
UCSF Site/e/			
UCSF uses (gross sq. ft.)	0	2,650,000	2,650,000
City School Site (acres)	0	2.2	2.2
Open Space (acres)	0	8	8
Commercial Industrial			
Commercial Industrial (gross sq. ft.)	0	4,163,000	4,163,000
Neighborhood-serving Retail (gross sq. ft.)	0	58,400	58,400
Commercial Industrial / Retail			
Commercial Industrial (gross sq. ft.)/d/	0	2,458,000	2,458,000
Neighborhood-serving Retail (gross sq. ft.)	0	31,600	31,600
City-serving Retail (gross sq. ft.)/d/	0	128,000	128,000
Mission Bay South Retail /d/			
City-serving Retail (gross sq. ft.)	0	0	0
Public Facilities (acres, excluding City school site) /g/	1.5 /f/	1.5	3.0
Public Open Space (acres, excluding UCSF)/h/	6	33	39

Notes:
a. The locations of the proposed land use designations are shown in Figure VII.G.1. Parking is not included in the gross square footage totals given for each land use. Maximum parking allowances are outlined in this section in "Parking and Loading," under "Redevelopment Plans and Proposed Land Uses," and are discussed in Table V.E.17 and "Parking Impacts" in Section V.E, Transportation: Impacts.
b. 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, 560,000 gross sq. ft. of Commercial Industrial and 50,000 gross sq. ft. of city-serving retail on the Castle Metals site, 44,000 gross sq. ft. of Commercial Industrial on the three small parcels at the northeastern corner of the Castle Metals site, and 460,000 gross sq. ft. of Commercial Industrial and 40,000 gross sq. ft. of city-serving retail on the Esprit site.
c. 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 developers to build approximately 1,100 affordable units.
d. The changes from the project in gross floor area would be as follows: a reduction of 111,000 gross sq. ft. in Mission Bay North City Serving Retail; the addition of 1,169,000 gross sq. ft. of Commercial Industrial/Retail, of which 1,064,000 gross sq. ft. would be commercial Industrial and 105,000 gross sq. ft. would be Retail; and the reduction of 560,000 gross sq. ft. of Mission Bay South Retail (thereby eliminating that land use designation).
e. Refer to Table III.B.1 for details on the UCSF development program.
f. The existing Channel Pump Station, on 1.5 acres of city-owned land, is not proposed for development.
g. In addition to the acreages shown in the tables, land under I-280 that is not otherwise designated Public Open Space would be designated Public Facilities.
h. Approximately 2 more acres of public open space would be developed on adjacent port property outside of the Project Area as an expanded bayfront open space area.

Source: Catellus Development Corporation and San Francisco Redevelopment Agency.

This combination of variants currently under consideration by project sponsors would not create significant impacts beyond those already identified in the Draft SEIR based on the environmental assessment of the variants individually. In one case, the combination of variants would create a new significant transportation intersection impact in comparison to the proposed project. The impact, along with mitigation measures that would reduce it to a less-than-significant level, is identified in the assessment of Variant 3, No Berry Street Crossing (Chapter VII, pp. VII.23-VII.24).

As stated on p. VII.1a, each variant is available for selection by the project sponsors, and any combination of variants could be approved.

Even if all variants were to be adopted, the following assessment confirms that no new significant impacts other than those identified above for each individual variant (i.e., Variants 1, 2, 3A, and 5) would occur. The following assessment summarizes minor differences in environmental effects resulting from this combination of variants, as compared to those of the proposed project.

Plans, Policies, and Permits

The plans, policies, and permits issues of the combination of variants would be substantially the same as those of the proposed project. Development of the expanded bayfront open space between Piers 54 and 64 under this combination of variants would require additional amendments to the Waterfront Land Use Plan to reflect the proposed open space use. In the Mission Bay South Redevelopment Plan, the Mission Bay South Retail land use designation would be eliminated on the Castle Metals block and the Esprit site, and the area to be designated Commercial Industrial/Retail would expand. A new height zone would also be added to reflect the Castle Metals variant. These changes would not raise new plan, policy, or permitting issues.

As with the proposed project, this combination of variants would require the Peninsula Corridor Joint Powers Board (JPB) support and the California Public Utilities Commission (CPUC) approval of the formal closing of the King and Seventh Street at-grade crossing and of the proposed construction of an at-grade crossing at The Common and Seventh Street. In contrast to the proposed project, this combination of variants would require the associated JPB support and CPUC approval of the removal of two sets of Caltrain tracks to widen the right-of-way along both sides of Caltrain, thus providing space for the extension of Berry Street to Common Street.

Land Use

In summary, this combination of variants would reduce city-serving retail space, increase commercial/industrial space, and develop an expanded bayfront open space area outside of the Project Area. A small commercial building would be permitted in the open space within the Project Area near Pier 64. This combination of variants would not have land use impacts substantially different from those of the proposed project. The realignment of Terry A. Francois Boulevard and the integrated development of the Project Area open space with the additional 2 acres of adjacent port property would create an expanded bayfront open space area. Until the existing buildings were demolished for the development of open space on the Port-owned 2 acres, this variant would limit access to

the existing maritime service uses—the boat storage yard and the small-boat repair use south of Pier 54—by realigning the roadway that now provides direct vehicular access for these uses. As currently contemplated by the project sponsors, these uses would have indirect access via a driveway through the parking lot proposed at the north end of the public open space to a roadway extending south. Future users of these port properties could not be assured of direct vehicular access for employees, patrons, or deliveries, which, under the project, would continue to be provided by Terry A. François Boulevard. The Port would consider whether alternative access and parking arrangements are required, depending on existing and proposed uses, in its assessment of the potential for disturbance and/or displacement of such uses. Once the port property was developed as open space, the access issues would no longer exist because the affected buildings would be demolished.

In the Project Area's northeastern-most block, city-serving retail development would be reduced 50% (111,000 gross sq. ft.) due to the somewhat reduced access to that block without the Berry Street at grade railroad track crossing proposed by the project. The proposed Mission Bay South Retail land use designation on the Esprit site and the Castle Metals Block would be changed to Commercial Industrial/Retail. This change would eliminate the Mission Bay South Retail land use designation and would intensify uses on those sites, but it would not introduce new land uses compared to the proposed project. Commercial Industrial uses would increase by 1,064,000 gross sq. ft. and retail uses would decrease by 455,000 gross sq. ft.

The reduction in city-serving retail would change retail development patterns in the Project Area and Nearby Areas for this combination of variants in comparison to the proposed project. Without the larger amount of city-serving retail development in Mission Bay under this combination of variants, it would be more likely that other city-serving retail space would be developed in suitable locations in Nearby Areas. Mission Bay residents, businesses, and employees would do more of their retail shopping outside the Project Area (see section on Business Activity, Employment, Housing, and Population, below).

Business Activity, Employment, Housing, and Population

This combination of variants would reduce city-serving retail development and increase Commercial Industrial development compared to the proposed project. Those land use differences would change related employment estimates for the Project Area. Overall, there would be 1,313 more jobs in the Project Area, about 4% more employment than expected under the proposed project. There would be 1,617 fewer city-serving retail jobs, 1,690 more office jobs, and 1,240 more research and development or light industrial jobs. The net difference in employment between this variant and the proposed project would be 310 fewer jobs in Mission Bay North and approximately 1,003 more jobs in Mission Bay South. The additional non-residential development would create minor changes in four aspects of the business activity, employment, housing, and population assessment in comparison to that for the proposed project: 1) jobs/housing balance conclusions; 2) housing market impacts; 3) development patterns in Nearby Areas (see Growth Inducement below); and 4) the buildout period.

Compared to the proposed project, housing demand in San Francisco associated with Project Area employment growth would be higher with this combination of variants while the housing supply of 6,090 units would be the same as under the proposed project. Consequently, this combination of variants housing demand in San Francisco associated with Project Area employment growth would exceed housing supply in the Project Area by about 4,100 units in contrast to the 3,700 units under the project (including UCSF employment-related demand). As a result, housing market impacts would be somewhat higher than those identified for the proposed project (but these would be socioeconomic effects, not significant impacts under CEQA). However, since the City's OAHPP Ordinance (or an exaction of equivalent or greater benefit) would apply to non-Catellus owned private property on the Castle Metals block and the Esprit site, some additional housing supply related to office development would occur under this combination of variants if office uses were developed on those sites./9/

The variant would accommodate about 19% more Commercial Industrial development than would the proposed project. The most likely consequences of the higher commercial industrial development under this combination of variants is that it would take the market longer to absorb the additional development (i.e., build and occupy) than would be the case for the smaller amount of space proposed for the project. It would be expected that there would be little difference in Mission Bay employment and total San Francisco employment in 2015 compared to the proposed project; but all Commercial Industrial development in the Project Area would not be built and occupied by 2015 under this combination of variants as it would under the proposed project.

Another possible consequence of the higher amount of commercial industrial development is that Mission Bay would attract more demand from businesses that would otherwise locate elsewhere in the City. Total employment growth in San Francisco would not be different but more of it would be concentrated in the Project Area by 2015. As a result, there would be less demand for new development and renovated warehouse and industrial space in Nearby Areas such as parts of the downtown near the Transbay Terminal, South of Market, North Potrero, Inner Mission, and the Central Waterfront and, therefore, more options in those areas for lower-rent-paying businesses.

Overall for the Project Area, city-serving retail under this combination of variants would be about 28% of the amount associated with the proposed project (72% less). Without the larger amount of city-serving retail development in the Project Area, it would be more likely that city-serving retail space would be developed in suitable locations in Nearby Areas such as the western South of Market, Inner Mission, North Potrero, Central Waterfront, and South Bayshore. Mission Bay residents, businesses, and employees would do more of their retail shopping outside the Project Area, and Mission Bay would not attract as much retail spending from other San Francisco residents as would be the case under the proposed project.

Visual Quality and Urban Design

This combination of variants would not change the overall visual effect of the proposed project. The realignment of Terry François Boulevard would accentuate the project's eastern edge with the Boulevard relocated next to the developed areas, and would open up

views of the bay from the expanded bayfront open space development. Views of the Esprit site and the Castle Metals block would be of office, light industrial, or research buildings instead of lower retail buildings under the proposed project.

There would be a new Height Zone on a portion of the Castle Metals block fronting Third and Mariposa Streets. The allowable 160-foot tower in the new Height Zone would be in addition to the 16 permitted under the project in Mission Bay South, and would be in addition to the two 160-foot towers permitted under the project's Height Zone 6 on the Castle Metals block bounded by 16th, Third, Mariposa and Owens Streets. One additional building of this height would not be substantially different from that of the project. The reduced retail development associated with no Berry Street crossing would reduce building massing on the northeastern-most block of the Project Area.

Transportation

Roadway modifications under this combination of variants include the realignment of Terry A. François Boulevard to the west to provide open space closer to the waterfront. There would be no at-grade rail crossing at Berry Street, and Berry Street would be extended around the end of China Basin Channel to intersect with The Common immediately east of the Caltrain tracks. These roadway modifications would provide emergency access from Seventh Street by crossing the median between South and North Common Streets. They would provide direct egress from Mission Bay North's west end to Seventh Street. They would also provide fairly direct access from Mission Bay South to Mission Bay North that would not be dependent on bridges. Pertinent land use changes are discussed above under "Description."

In summary, these land use changes would change p.m. peak hour trip generation as follows: 2,765 fewer person trips; 1,150 fewer vehicle trips (in- and outbound); fewer inbound transit trips but 40 more outbound transit trips; 10 more inbound and 200 more outbound bicycle and pedestrian trips. The 2,765 fewer p.m. peak hour person trips under this combination of variants would be a reduction of approximately 8% in comparison to the proposed project. Table VII.G.3 compares the p.m. peak hour person trip generation from this combination with that of the project.

The increase in non-automobile trips under this variant would be substantially less than the decrease in automobile trips. This is caused by the different trip generation rates of commercial industrial land use compared to retail land use. The bicycle and pedestrian network proposed for the project would be able to accommodate the additional trips produced under this combination of variants under consideration by project sponsors.

The additional outbound transit trips created by these land uses represent an increase of less than 1% compared to the total project. They would be distributed primarily to the East Bay and South Bay. Caltrain would have sufficient capacity to carry the individuals destined for the South Bay, and all of the additional East Bay passengers could be accommodated on BART with an approximate increase of 0.4% in the p.m. peak hour load factor compared to the project. The additional outbound transit trips would increase the Third Street light rail northbound load factor in the vicinity of Mission Bay from 77%

TABLE VII.G.3 (new)
PM PEAK HOUR PERSON TRIP GENERATION IN 2015
COMBINATION OF VARIANTS COMPARED WITH PROJECT

Area	Project	Combination of Variants	Difference
Mission Bay North	11,030	10,710	-320
Mission Bay South	22,470	20,025	-2,445
Total	33,500	30,735	-2,765

Source: Wilbur Smith Associates

to 85%. The load factor would decrease from 84% to 80% for Third Street light rail in the southbound direction in the vicinity of Mission Bay.

The reduction of automobiles in the Mission Bay street network suggests that overall traffic and parking conditions in 2015 would improve slightly under this combination of variants compared with the proposed project, particularly in Mission Bay South. The total parking demand for this combination of variants would be approximately 1,630 spaces, or 6% less than the total parking demand for the project. Parking supply would be about 1,135 fewer spaces than that calculated for the project (shown in Table V.E.17, p. V.E.97). The resulting deficit would be a total of about 4,300 spaces, or about 430 spaces less than the project parking deficit. The less direct access to the western portion of Mission Bay North would likely slightly increase traffic congestion at Third and Fourth Street intersections in and near the Project Area, and would cause the intersection of Seventh Street and The Common to carry more traffic than under the project.

Table VII.G.4 compares some key intersection levels of service (LOS) under this combination of variants with those of the project. Average delays at all but four of these intersections would improve to some extent, with three intersections experiencing improvements in levels of service. The intersection of Seventh Street and The Common would improve from an unacceptable level of service to LOS D, due to the improved lane geometry proposed as part of Variant 3A, even with the greater number of vehicles. The intersections of Fourth and Townsend Streets, Fourth and 16th Streets, Third and King Streets, and Fourth and King Streets would experience an approximately 7% to 26% increase in average vehicle delay, with the intersection of Fourth and King Streets operating at an unacceptable LOS E under the project and an unacceptable level of service F under this combination of variants.

TABLE VII.G.4 (new)
YEAR 2015 INTERSECTION LEVEL OF SERVICE COMPARISON
COMBINATION OF VARIANTS COMPARED WITH PROJECT

Intersection	Project		Combination of Variants	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
Fourth and Townsend Streets	14.4	B	18.2	C
Third and Townsend Streets	79.7	F	78.8	F
Fifth and King Streets	28.4	D	26.3	D
Fourth and King Streets	52.1	E	63.3	F
Third and King Streets	99.1	F	114.4	F
16th and Seventh Streets	32.2	D	16.9	C
16th and Fourth Streets	29.2	D	31.4	D
16th and Third Streets	25.2	D	17.3	C
Mariposa Street/I-280 on-ramp	16.6	C	16.4	C
Mariposa and I-280 off-ramp/Owens Street	35.9	D	29.2	D
Mariposa and Fourth Streets	13.6	B	10.2	B
Mariposa and Third Streets	23.7	C	18.6	C
Seventh Street and The Common	42.3	E	30.0	D

Source: Wilbur Smith Associates

This significant impact at Fourth and King Streets would be similar to that described for Variant 3, in Table VII.C.2 and accompanying text.. Thus, this combination of variants would cause significant traffic impacts at the same intersections as the project and would reduce significant traffic impacts at one intersection, compared to the project. The same mitigation measures proposed for the intersections of Fourth and King Streets, Third and Townsend Streets, and Third and King Streets for the project would also mitigate the operation of the intersections to acceptable levels of service under this combination of variants.

Under this variant, the intersection of Seventh and Berry Streets would not require project features E.20a, E.20b, and E.20c, as described on page VI.12, which include a traffic signal, opening the rail crossing, and providing rail crossing warning devices. Mitigation measure E.31b, noted on page VI.19, which involves restriping the northbound and southbound approaches to this intersection, would need to be modified to include restriping the northbound approach to provide a left-through lane and a through lane, and the southbound approach to provide a right-through lane and a through lane, relating to the portion of Berry Street west of Seventh Street.

Air Quality

As described below, this combination of variants would have the same significant air quality impacts and require the same mitigation measures as the proposed project. The change in land use under this combination of variants would slightly alter traffic patterns and the number of vehicle trips in and around the Project Area. Vehicular emissions would be reduced by 8.5% compared with those of the proposed project. As shown in Table VII.G.5, vehicular emissions of ROG, NO_x, and PM_{10} would exceed the BAAQMD significance thresholds for regional air quality impacts, as would emissions under the project. Trip reduction measures discussed in Mitigation Measure E.47 in Section VI.E, Mitigation Measures: Transportation, would not reduce emissions of criteria pollutants below BAAQMD significance thresholds. Therefore, as under the project, these vehicular emissions would pose an unavoidable significant regional air quality impact.

Due to the level of carbon monoxide emissions expected for the project overall as shown in Table VII.G.5, four of the 13 intersections modeled for the proposed project were selected for further micro-level analysis for this combination of variants./10/ No exceedances of federal or state one-hour or eight-hour standards would occur at any of the four intersections modeled as a result of traffic emissions associated with this combination of variants. These results, provided in Table VII.G.6, are similar to those for the proposed project.

TABLE VII.G.5 (new)
ESTIMATED VEHICULAR EMISSIONS
FOR COMBINATION OF VARIANTS TRAFFIC, YEAR 2015

Pollutants	BAAQMD Threshold (lb/day)	Vehicular Emissions (lb/day)	
		Project	Combination
Reactive Organic Gases (ROG)	80/a/	865	791
Nitrogen Oxides (NO_x)	80/a/	1,324	1,211
Particulate Matter (PM_{10})	80/a/	1,968	1,801
Carbon Monoxide (CO)	550/b/	12,228	11,187

Notes:

a. The BAAQMD regards this amount of emissions as a threshold of significance for a regional impact.

b. For carbon monoxide, the BAAQMD does not regard 550 lb/day as a threshold of significance, but rather, an indicator to perform microanalysis.

Source: EIP Associates. Based on modeling using the California Air Resources Board's URBEMIS Model, Version 5.

TABLE VII.G.6 (new)
ESTIMATED LOCAL CARBON MONOXIDE CONCENTRATIONS AT SELECTED INTERSECTIONS FOR THE COMBINATION OF VARIANTS IN 2015

	CO Concentrations (ppm)			
	Proposed Project/a/		Combination of Variants	
Intersection	One Hour/b/	Eight Hour/c/	One Hour/b/	Eight Hour/c/
Third and 16th	11.0	6.3	10.7	6.2
Third and King	13.6	7.6	13.1	7.3
Fourth and Bryant	8.3	5.3	8.4	5.3
Eighth and Townsend	9.9	5.4	8.8	5.3

Notes:
ppm = Parts per million.
a. Refer to Table V.F.5 and associated text in Section V.F, Air Quality.
b. The state one-hour standard is 20 ppm; the federal one-hour standard is 35 ppm.
c. The state and federal eight-hour standards are 9 ppm.
Source: EIP Associates.

The decrease in overall traffic under this combination of variants would reduce toxic air contaminant emissions from mobile sources by about 8.5%. The significance of health risks from toxic air contaminants is unknown, but assumed to be at least potentially significant, as for the project. Toxic air contaminants from stationary sources, such as various organic solvents associated with research and development and light manufacturing operations, would increase. This combination of variants could result in about 19% more emissions of toxic air contaminants from stationary sources than the proposed project, due to the increase in research and development and light industrial uses under the variant. As under the project, combined emissions of toxic air contaminants from stationary sources would be a potentially significant impact under this combination of variants.

Noise and Vibration

Due to reductions in future traffic volumes projected for intersection links compared with the project, this combination of variants would generate noise levels lower than those projected for the project at the study locations of Potrero Avenue south of 16th Street; Berry Street west of Fourth Street; Fourth/Minnesota Streets, south of Mariposa Street; and Mariposa Street, west of DeHaro. At the intersections of Pennsylvania Street south of Mariposa Street, The Common south of Owens Street, and Third Street south of Mission Rock Street noise levels, would remain essentially unchanged under this combination of variants conditions compared to noise levels shown for the project because

projected traffic volumes on these links would remain unchanged. Terry A. François Boulevard would not be realigned close enough to residential buildings for associated traffic noise to affect sensitive receptors.

Vibration effects from the MUNI Third Street light rail vehicles along Third and Fourth Streets and from freight rail along 16th Street would be similar to the effects described for the project and would not be expected to be significant. Freight rail tracks would remain near the water's edge, as they are now, and would not be in the realigned Terry A. François Boulevard right-of-way adjacent to commercial industrial land uses. Therefore, vibration effects would be the same as those described for the project.

Seismicity

This combination of variants would not alter the geologic, soils, or seismic conditions in the Project Area, and would not, therefore increase associated seismic impacts. The increase in the additional Commercial/Industrial/Retail space would increase the daytime employment population in an area designated as seismically hazardous. The absence of a crossing of the railroad tracks at Berry Street and the extension of Berry Street south to Common Street would make emergency access more difficult in comparison to the proposed project (see discussion under Community Services and Utilities).

Health and Safety

The nature of the combination of variants' health and safety impacts would be essentially *the same as with the project. As with the project, impacts would be reduced to a less-*than-significant level with the mitigation measure proposed for the project. This *combination of variants would increase the amount of Commercial Industrial space for* the project as a whole by about 19%; therefore, hazardous materials quantities estimated for Commercial Industrial activities in "Estimated Hazardous Materials Quantities," in Section V.I, Health and Safety: Impacts, would be about 19% greater. This could result in a roughly proportional increase in the magnitude of environmental impacts related to handling biohazardous materials, handling materials that pose substantial hazards of release or explosions, and generating hazardous wastes. With the reduction in retail space, there would be an associated reduction in hazardous waste generated by retail activities.

Contaminated Soils and Groundwater

The impacts of chemicals in the soil and groundwater of the Project Area for this combination of variants would be similar to those described for the project (see information about existing chemicals in soil and groundwater in the Project Area, including the petroleum free product plume in the southeastern part of Mission Bay South, remains as described in Section V.J, Contaminated Soils and Groundwater: Setting, pp. V.J.1 - V.J.57). As with the open space in the Project Area, the adjacent public open space on port property would be subject to an RMP. Users of the public open space proposed to be located along the Bay shore adjacent to Terry A. François Boulevard in this variant would not be exposed to chemicals under the existing paved

roadway, because the RMP would require that the open space be covered with horticultural-quality fill or other approved materials or with landscaped paved areas (see description in Chapter VII, Variant 1: Terry François Boulevard Variant, pp. VII.8-VII.10). The soil and groundwater affected by hydrocarbons in the southeast portion of the Project Area under 16th Street, a portion of Terry A. François Boulevard, and the Esprit site, will be addressed independently of the proposed project as required by the Regional Water Quality Control Board under its cleanup order. The increase in Commercial Industrial/Retail use and decrease in Retail space on the Castle Metals block or the Esprit site would not alter the project's analysis for these sites.

The assumptions, results, and mitigation measures for the project would be applicable to this combination of variants. They would reduce to a level of insignificance any risks that might result from construction and occupancy of proposed sites in the Project Area and from use of public open space proposed to be located in the existing alignment of Terry A. François Boulevard and on adjacent port property in the future.

Hydrology and Water Quality

The hydrology and water quality effects of this combination of variants would be similar to those of the proposed project (see "Quality of Municipal Wastewater from the Project" and "Evaluation of Potential Water Quality Impacts" in Section V.K, Hydrology and Water Quality, pp. V.K.1-V.K.70). Realigning Terry François Boulevard and developing the expanded bayshore open space area would add a minor potential filtering function for runoff flowing from the rerouted part of Terry A. François Boulevard to the Bay if the open space is landscaped as proposed by Catellus (i.e., soils and plants), but not if it is paved (i.e., with asphalt or paved athletic areas) (see p. VII.10). The increase in research and development and light industrial space would have minor effects on the range and degree of hydrology and water quality impacts described for the proposed project.

Vegetation and Wildlife

The land use changes under this combination of variants and the extension of Berry Street would not substantially alter the effects on the Channel or the Bay from those of the proposed project. If the expanded bayfront open space proposal were to include design features that would be constructed along the shoreline or in the bay, such activities would be subject to a range of agency permitting requirements. Other aspects of this combination of variants would be the same as the project.

Community Services and Utilities

The effects of this combination of variants on community services and utilities would be similar to those described for the proposed project (see Section V.M, Community Services and Utilities, pp. V.M.1-V.M.66). The expanded bayshore open space proposal would provide an additional 2 acres of integrated bayfront open space outside the Project Area. Employment would increase by about 4% compared to the proposed project. This would not cause an appreciable change in estimated project demand for community services or utilities. This combination of variants would make fire, ambulance, and police access to

the mixed-use parcel west of I-280 more difficult than for the project, but not so difficult as to constitute a significant impact as would be the case under Variant 3, p. VII.29. Fire and ambulance emergency vehicles would negotiate a combination turn off Seventh Street onto Common Street, across a low raised median at the west end of Common Street, and onto the Berry Street extension. Police vehicles might not be able to cross the median, in which case they would need to drive along South Common Street to the roundabout and back along North Common Street to the proposed Berry Street extension. The restriction created by the combination turn or the trip through the roundabout could cause delays in emergency access to the mixed-use parcel west of I-280 or to the residential parcels west of Fifth Street. This would not be considered a new significant impact because the proposed emergency access routes, although slightly circuitous, would be available if the Third or Fourth Street Bridges were raised or rendered inoperational (which could cause major delays or eliminate access). The restriction would be ameliorated if the fire station for Mission Bay South were to be built (see Mitigation Measures H.5, p. VI.38, and M.6, p. VI.54).

Growth Inducement

The larger amount of Commercial Industrial Retail development under the variant has the potential to result in slightly more total employment growth in San Francisco (by attracting more new businesses to the City than would be the case under the proposed project), or to slightly change development patterns in the City (by attracting businesses that would otherwise locate in Nearby Areas). The most likely outcome, given the magnitude of the change, is that there would be little difference in Mission Bay development and employment growth by 2015, and therefore little difference in cumulative citywide and regional employment growth and in the growth inducement impact assessment for the proposed project. Although neither the pace of development at Mission Bay nor of economic growth city-and region-wide would change under this combination of variants, the larger amount of Commercial Industrial development would take longer to be built and occupied.

SUMMARY OF MITIGATION MEASURES

All significant impacts identified for the project would also occur with this variant. Correspondingly, all mitigation measures in Chapter VI, Mitigation Measures, would apply, with the exception that the at-grade rail crossing at Berry Street would not be a feature of the project, and therefore Mitigation Measures E.20a, E.20b, and E.20c for the intersection of Seventh Street and Berry Street (see p. VI.12) would not be applicable. Further, Mitigation Measure E.31b (p. VI.19) for Seventh and Berry Streets would be modified as follows if this combination of variants were adopted, to remove references to left and right turn lanes that would cross the railroad track and add turn lanes to the portion of Berry Street west of Seventh Street:

> **Restripe the northbound ~~and southbound~~ approaches to provide a shared left-through ~~left-turn~~ lane and a through lane, and restripe the southbound approach to provide a through lane and a shared right-through lane.**

The mitigation measure for the intersection of Fourth and King Streets differs slightly from that proposed for the project as Mitigation Measure E.38 on p. VI.20. It would be the same as that proposed for Variant 3 on p. VII.24. The project mitigation measure identifies one exclusive left-turn lane, two exclusive through lanes, and one exclusive right-turn lane for the southbound approach of Fourth Street at King Street. The measure identified for the combination of variants would include an exclusive left-turn lane, one exclusive through lane, a shared right-through lane, and an exclusive right-turn lane for the southbound approach to the intersection of Fourth Street. Implementation of the mitigation measure for the variant would require the same increase in street width as for the proposed project.

This combination of variants includes reconfiguration of Seventh Street at Common Streets, and, in effect, implements Mitigation Measure E.32 identified for the project.

Other transportation mitigation measures would be the same as those identified for the project.

The following new endnotes have been added to p. VII.66:

8. **The decrease of 566,000 gross sq. ft. of City-serving retail uses would include a decrease of 111,000 gross sq. ft. in Mission Bay North and 470,000 gross sq. ft. on the Esprit site and the Castle Metals block in Mission Bay South and an increase of 15,000 gross sq. ft. in the open space near Pier 64.**

9. **San Francisco Redevelopment Agency, Mission Bay South Redevelopment Plan, Section 304.10, Fees and Exactions: Parcels X2, X3, and X4.**

10. **To account for a possible shift in traffic patterns, carbon monoxide concentrations at the intersections of Seventh and Townsend Streets and Potrero and 16th Streets were also analyzed, but not included in the comparison between the proposed project and the combination of variants, because the analysis showed that traffic increases at these intersections would not be substantially different.**

The following has been added on p. II.40 as new text before the heading "E. Alternatives to the Proposed Project" in the Summary.

COMBINATION OF PROJECT FEATURES AND VARIANTS CURRENTLY UNDER CONSIDERATION BY THE PROJECT SPONSORS

The project sponsors are considering a combination of variants to the proposed project as a result of public comments and from refinements to the project made by the project sponsors since publication of the Draft SEIR. This combination of variants, as shown on the inside front cover, includes:

- **A modified Variant 1, the Terry A. François Boulevard Variant, would realign Terry A. François Boulevard to the west to allow development of open space to**

the east closer to the San Francisco Bay, would permit Catellus to develop open space on 2 acres of adjacent port property outside the Project Area to create an expanded bayfront open space, and also would permit a small recreation-oriented commercial building to be developed on the adjacent open space within the Project Area;

- **Variant 2, the Esprit Variant, would change the land use designation on that site from Mission Bay South Retail to Commercial Industrial/Retail;**

- **A new Variant 3A, the Modified No Berry Street Crossing Variant, would extend Berry Street south to Common Street, rather than have a railroad crossing at Berry Street, and would reduce the retail space in the northwestern-most project block by 50%; and**

- **A new Variant 5, the Castle Metals Block Variant, would change the land use designation on that site from Mission Bay South Retail to Commercial Industrial/Retail.**

This combination of variants currently under consideration by project sponsors would not create significant impacts beyond those already identified in the Draft SEIR based on the environmental assessment of the variants individually. For example, the Berry Street extension under this combination of variants would somewhat reduce access to Mission Bay North from the west compared to the project, but not as much as would Variant 3. Even if all variants were to be adopted, the environmental assessment confirms that no new significant impacts other than those identified for each variant would occur.

CHAPTER VIII, ALTERNATIVES TO THE PROPOSED PROJECT

Tables VIII.A.5 on p. VIII.23, VIII.B.5 on p. VIII.66, and VIII.C.5 on p. VIII.106 have been revised to correct the project numbers for average delay at intersections, as shown in Table V.E.10, pp. V.E.69-V.E.71. The revisions do not necessitate changes to the SEIR text, nor do they affect the analysis or conclusions of the SEIR. Revised delay numbers are underlined.

TABLE VIII.A.5 (revised)
INTERSECTION LEVELS OF SERVICE
ALTERNATIVE 1 COMPARED TO PROJECT
PM Peak Hour 2015 Cumulative Conditions

	2015 Cumulative with Project		2015 Cumulative with Alternative 1	
Study Intersection	Avg. Delay (sec./veh.)	LOS	Avg. Delay (sec./veh.)	LOS
Third St./King St.	99.1	F	39.7	D
Fourth St./King St.	52.1	E	23.0	C
Fifth St./King St.	28.4	D	11.5	B
Seventh St./Townsend St.	195.3	F	78.4	F
Sixteenth St./Potrero Ave.	162.7	F	28.8	D
Sixteenth St./Vermont St.	200.4	F	71.0	F
Sixteenth St./Seventh St.	32.2	D	7.5	B
Sixteenth St./Third St.	25.2	D	14.1	B
Mariposa/I-280 On-ramp	16.6	C	20.4	C
Mariposa/Owens St./I-280 Off-ramp	35.9	D	18.4	C
Third St./Mariposa St.	23.7	C	17.0	C

Source: Wilbur Smith Associates.

TABLE VIII.B.5 (revised)
SUMMARY OF PROJECT INTERSECTION LEVELS OF SERVICE
ALTERNATIVE 2 COMPARED TO PROJECT
PM Peak Hour 2015 Cumulative Conditions

	2015 Cumulative with Project		2015 Cumulative with Alternative 2	
Study Intersection	Avg. Delay (sec./veh.)	LOS	Avg. Delay (sec./veh.)	LOS
Third St./King St.	99.1	F	58.1	E
Fourth St./King St.	52.1	E	29.0	D
Fifth St./King St.	28.4	D	36.9	D
Seventh St./Townsend St.	195.3	F	103.2	F
Sixteenth St./Potrero Ave.	162.7	F	30.2	D
Sixteenth St./Vermont St.	200.4	F	72.3	F
Sixteenth St./Seventh St.	32.2	D	7.6	B
Sixteenth St./Third St.	25.2	D	13.1	B
Mariposa/I-280 On-ramp	16.6	C	21.8	C
Mariposa/Owens St./I-280 Off-ramp	35.9	D	15.8	C
Third St./Mariposa St.	23.7	C	17.4	C

Source: Wilbur Smith Associates.

TABLE VIII.C.5 (revised)
INTERSECTION LEVELS OF SERVICE
ALTERNATIVE 3 COMPARED TO PROJECT
(PM Peak Hour 2015 Cumulative Conditions)

	2015 Cumulative with Project		2015 Cumulative with Alternative 3	
Study Intersection	Avg. Delay (sec./veh.)	LOS	Avg. Delay (sec./veh.)	LOS
Third St./King St.	99.1	F	41.8	E
Fourth St./King St.	52.1	E	38.2	D
Fifth St./King St.	28.4	D	18.3	C
Seventh St./Townsend St.	195.3	F	122.9	F
Sixteen St./Potrero Ave.	162.7	F	85.7	F
Sixteenth St./Vermont St.	200.4	F	137.8	F
Sixteenth St./Seventh St.	32.2	D	8.8	B
Sixteenth St./Third St.	25.2	D	11.9	B
Mariposa/I-280 On-ramp	16.6	C	14.5	B
Mariposa/Owens St./I-280 Off-ramp	35.9	D	20.4	C
Third St./Mariposa St.	23.7	C	15.0	C

Source: Wilbur Smith Associates.

CHAPTER XIII, REPORT OUTLINE

The report outline has been revised to reflect the headings, organization, and page numbers of the Final EIR.

APPENDICES

Appendix D, Transportation

Appendix D, Transportation, p. D.20, has been revised to clarify that a new traffic signal would not be needed where Fourth Street intersects the main entrance to UCSF between Third and Fourth Streets west of South Street. Instead, South Street within the UCSF site would be a pedestrian plaza with

emergency vehicle access only. The new traffic signal or signal upgrade would instead be provided in another area serving the UCSF site, most likely on Owens Street at a future street intersection.

The next-to-last sentence on p. D.20 has been deleted and replaced with the following:

> ~~A new traffic signal would be installed where Fourth Street intersects the main entrance to UCSF, a private street expected to extend between Third and Fourth Streets west of South Street.~~ **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.**

Appendix J, Hydrology and Water Quality

As explained under Hydrology and Water Quality, "Illustrative Mitigation Scenarios" on p. XII.264, Tables J.1 through J.7 (presented as an appendix to this Summary of Comments and Responses document) have been added to Appendix J, Hydrology and Water Quality, following p. J.7.

Appendix L, Community Services and Utilities

The text of Notes h and j to Table L.4 on p. L.12 has been switched. The revised notes are as follows:

h. Irrigation value is a daily value averaged throughout the year. Water consumption may be higher in the summer and lower in the winter.

j. The Total Non-Potable Water Demand estimate is a conservatively large value for the proposed project. All commercial buildings are assumed to have dual-piping; but some buildings may be smaller than 40,000 square feet, thus not requiring dual-piping. Additionally, Catellus engineers believe the cooling system water demand factor (6 gal/100 gsf) is relatively high.

ADDITIONAL CORRECTIONS

An asterisk, indicating that the referenced document is available for review at the Planning Department, has been added to endnotes as necessary.

A number of non-substantive typographical and grammatical errors have been corrected.

NOTES: Staff-Initiated Text Changes

1. Lucian R. Blazej, Executive Director, Facilities Development and Management, San Francisco Unified School District, telephone conversation with EIP Associates, August 12, 1998.

E. PAGE INDEX BY COMMENTOR

Commentor	Comments	Page
Jennifer Clary, Mary Anne Miller, and Norman Rolfe San Francisco Tomorrow Mission Bay Committee **(Continued)**		XII.424 XII.435
Concerned San Francisco	May 7, Written Comments	*
Barbara J. Cook, P.E., Chief Northern California - Coastal Cleanup Operations Branch, Department of Toxic Substances Control, California Environmental Protection Agency	June 8, Written Comments	XII.195 XII.198 XII.208 XII.213 XII.214 XII.223 XII.227 XII.228 XII.229
Jack Davis, Chair Design Subcommittee, Mission Bay Citizens Advisory Committee	June 9, Written Comments	XII.80 XII.82 XII.148 XII.412 XII.426 XII.436 XII.443 XII.453 XII.467
David R. Dawdy	June 8, Written Comments	XII.15 XII.241
Doris Ostrander Dawdy	June 8, Written Comments	XII.187 XII.191
Sue Markland Day, President Bay Area Bioscience Center	May 12, Public Hearing	*
Bernard A. Deck	May 12, Written Comments	*
Barbara Deutsch	May 12, Public Hearing	XII.430
Tim Donnelly	June 9, Written Comments	XII.129 XII.135
Commissioner Mark Dunlop Redevelopment Agency Commission	May 12, Public Hearing	XII.58 XII.134 XII.411

Commentor	Comments	Page
Michael R. Lozeau, Executive Director San Francisco BayKeeper **(Continued)**		XII.336 XII.339 XII.341 XII.354 XII.357 XII.362 XII.368 XII.376 XII.381 XII.425 XII.427 XII.458
Ben Lubbon Kaisehomme Limited	May 12, Public Hearing	*
Rick Mariano, Chairman Rincon Point-South Beach Citizens Advisory Committee	May 15, Written Comments	XII.128 XII.180
Jeff Marmer Coalition for Better Wastewater Solutions	May 12, Public Hearing June 9, Written Comments	XII.10 XII.11 XII.232 XII.241 XII.245 XII.250 XII.253 XII.277 XII.280 XII.281 XII.289 XII.300 XII.301 XII.303 XII.307 XII.308 XII.311 XII.312 XII.313 XII.317 XII.322 XII.323 XII.334 XII.348

Commentor	Comments	Page
Jon Rainwater San Francisco League of Conservation Voters **(Continued)**		XII.134 XII.195 XII.408 XII.433
Daniel F. Reidy, President Landmarks Preservation Advisory Board	May 29, Written Comments	XII.85 XII.86 XII.88
Antero A. Rivasplata, Chief State Clearinghouse, Governor's Office of Planning and Research	May 27, Written Comments	*
Joel B. Robinson, Acting General Manager San Francisco Recreation and Park Department	May 29, Written Comments	XII.81 XII.434 XII.445
Kim Rogers	May 12, Public Hearing	XII.308 XII.319
Norman Rolfe San Francisco Tomorrow	May 12, Public Hearing	XII.22 XII.106 XII.116 XII.467
Janet Rosen and Stuart Kremsky	May 6, Written Comments	*
Dr. Maria Christina Bosaric Salem St. Dominic Church and Bay Area Organizing Committee	May 12, Public Hearing	XII.61
Father Peter Sammon, Pastor St. Theresa Church and Bay Area Organizing Committee	May 12, Public Hearing	XII.20 XII.58
Kenneth C. Scheidig, General Counsel Alameda-Contra Costa Transit District	June 9, Written Comments	XII.118 XII.120 XII.180
Diana Scott	June 9, Written Comments	XII.238 XII.245 XII.316
Christine Shirley, Environmental Scientist Arc Ecology	June 12, Written Comments	XII.46

Commentor	Comments	Page
Corinne W. Woods, Chair Toxics Subcommittee, Mission Bay Citizens Advisory Committee **(Continued)**		XII.250 XII.281 XII.289 XII.291 XII.295 XII.298 XII.299 XII.328 XII.329 XII.354 XII.376 XII.396 XII.397 XII.410 XII.445 XII.448 XII.456
Harry Y. Yahata, District Director Department of Transportation	May 26, Written Comments	XII.90
Anna Yee, Chair Mission Bay Citizens Advisory Committee	May 12, Public Hearing	*
John F. Yee, Senior Vice President and Chief Financial Officer San Francisco Giants	June 9, Written Comments	XII.31 XII.97 XII.103 XII.129 XII.168 XII.179 XII.452

* These commentors submitted comments during the public review period that did not address the Draft SEIR, and consequently were not included in this document. These comments are available in the project files at the Planning Department, 1660 Mission Street.

TABLE J.1
CHANGES IN EFFLUENT, OVERFLOW, AND STORMWATER VOLUMES

	Bayside Base Case	Bayside Base Case + Project			Bayside Base Case + Mitigation A					Bayside Base Case + Mitigation B				
	Flow Volume	Flow Volume	Change from Base Case (%)		Flow Volume	Change from Base Case (%)		Change from Base + Project (%)		Flow Volume	Change from Base Case (%)		Change from Base + Project (%)	
Bayside Effluent (Deep Water) (MG/yr)	30,203	31,045	842	(2.8%)	31,047	844	(2.8%)	2	(0.0064%)	30,992	789	(2.6%)	-53	(-0.17%)
Bayside Overflows (MG/yr)	910	912	2	(0.22%)	910	0	(0%)	-2	(-0.22%)	877	-33	(-3.6%)	-35	(-3.8%)
Project Area Stormwater Discharge (MG/yr) /a/	15.6	15.9	0.4	(2.6%)	15.9	0.4	(2.6%)	0	(0%)	107.2	91.6	(590%)	91.3	(570%)
Other Bayside (Non-Project Area) Stormwater Discharge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Near-Shore Discharges /b/ (MG/yr)	>926	>928	2.4	(0.22%)	>926	0	(0%)	-2	(-0.22%)	>984	58	(6.3%)	56	(6.0%)

Notes:

MG/yr = million gallons per year
N/A = not available

a. The stormwater discharges under the Base Case, Project, and Mitigation Scenario A are much less than under Scenario B because under the first three, most of the Project Area stormwater would go to the combined sewer system.
b. Near-shore waters include China Basin Channel and the Bay waters adjacent to the Bayside. Data are not available from which to derive volumes and quality of direct stormwater discharges from outside the Project Area. The sum of Bayside CSOs plus direct discharges of stormwater along the Bayside understates the actual total near-shore discharge volume. Therefore, the percentage changes shown for the project and Mitigation Scenarios A and B overstate the volume changes from Base Case and Base-Case-plus-Project conditions.

Source: City and County of San Francisco, Public Utilities Commission, Clean Water Program, *Draft Bayside Cumulative Impact Analysis*, March 1998, Table 5c; EIP Associates.

TABLE J.2
ESTIMATED ANNUAL MASS POLLUTANT LOADING TO BAY FROM BAYSIDE EFFLUENT DISCHARGES

	Bayside Base Case /a/	Bayside Base Case + Project	Bayside Base Case + Mitigation A	Bayside Base Case + Mitigation B
Effluent Volume (MG/yr) /b/	30,203	31,045	31,047	30,992
Change in Volume from Base Case (%) /c/	—	842 (2.8%)	844 (2.8%)	789 (2.6%)
Change in Volume from Base +Project (%) /c/	—	—	2 (0.0064%)	-53 (-0.17%)
Monitored Pollutant Load (lb/yr)				
Total Suspended Solids	4,100,000	4,200,000	4,200,000	4,200,000
Ammonia, Nitrogen	5,100,000	5,200,000	5,200,000	5,200,000
Oil and Grease	1,300,000	1,300,000	1,300,000	1,300,000
Polynuclear Aromatic Hydrocarbons	36	37	37	37
Arsenic	530	550	550	540
Cadmium	54	55	56	55
Chromium	250	260	260	260
Copper	2,100	2,200	2,200	2,200
Lead	880	910	910	900
Mercury	17	18	18	18
Nickel	1,000	1,000	1,000	1,000
Silver	530	550	550	540
Zinc	13,000	13,000	13,000	13,000
Selenium	180	190	190	180
Cyanide	2,500	2,600	2,600	2,600

Notes:

MG = million gallons
lb = pounds
yr = year

a. Derived from data in City and County of San Francisco, Public Utilities Commission, Bureau of Water Pollution Control - Southeast Plant, Southeast WPCP Monitoring Report December 1997, January 16, 1998.
b. Derived from data in City and County of San Francisco, Public Utilities Commission, Clean Water Program, *Draft Bayside Cumulative Impact Analysis*, March 1998, Table 5c.
c. The percentage change in load is assumed to be the same as the percentage change in volume. While the percentage change reflects the incremental change that would occur in each analysis scenario, there is a level of imprecision associated with the load calculations. Therefore, all load values have been rounded to two significant figures to reflect the statistical uncertainty of the calculations. The significance of each change was evaluated by determining whether the change falls within the range of uncertainty.

Source: EIP Associates.

TABLE J.3
ESTIMATED ANNUAL MASS POLLUTANT LOADING TO BAY FROM BAYSIDE TREATED OVERFLOWS

	Base Case Bayside/a/	Bayside Base Case + Project	Bayside Base Case + Mitigation A	Bayside Base Case + Mitigation B
Overflow Volume (MG/yr) /b/	910	912	910	877
Change in Volume from Base Case (%) /c/	—	2 (0.22%)	0 (0%)	-33 (-3.6%)
Change in Volume from Base +Project (%) /c/	—	—	-2 (-0.22%)	-35 (-3.8%)
Monitored Pollutant Load (lb/yr)				
Total Suspended Solids	680,000	680,000	680,000	660,000
Ammonia, Nitrogen	9,600	9,600	9,600	9,200
Oil and Grease	61,000	61,000	61,000	59,000
Polynuclear Aromatic Hydrocarbons	4.1	4.1	4.1	4.0
Arsenic	60	60	60	57
Cadmium	17	17	17	16
Total Chromium	91	91	91	88
Copper	300	300	300	290
Lead	470	470	470	450
Mercury	2.8	2.9	2.8	2.7
Nickel	160	160	160	150
Silver	37	37	37	36
Zinc	2,400	2,400	2,400	2,300
Selenium	6.5	6.5	6.5	6.2
Cyanide	38	38	38	37

Notes:

MG = million gallons; lb = pound; yr = year

a. Derived from the following data sources provided by Jim Salerno, Laboratory Supervisor, Southeast Water Pollution Control Plant, September 5, 1997:
City and County of San Francisco, Department of Public Works, Bureau of Water Pollution Control, Bayside Wet Weather Overflow Monitoring Program Data Summary, October 1994 - June 1995.
City and County of San Francisco, Department of Public Works, Bureau of Water Pollution Control, Bayside Wet Weather Overflow Monitoring Program Data Summary, October 1995 - June 1996.
City and County of San Francisco, Department of Public Works, Bureau of Water Pollution Control, Bayside Wet Weather Overflow Monitoring Program Data Summary, October 1996 - June 1997.

b. City and County of San Francisco, Public Utilities Commission, Clean Water Program, *Draft Bayside Cumulative Impact Analysis*, March 1998, Table 5c.

c. The percentage change in load is assumed to be the same as the percentage change in volume. While the percentage change reflects the incremental change that would occur in each analysis scenario, there is a level of imprecision associated with the load calculations. Therefore, all load values have been rounded to two significant figures to reflect the statistical uncertainty of the calculations. The significance of each change was evaluated by determining whether the change falls within the range of uncertainty.

Source: EIP Associates.

TABLE J.4
ESTIMATED ANNUAL POLLUTANT LOADING FROM DIRECT STORMWATER DISCHARGE TO THE BAY FROM PROJECT AREA/a/

	Bayside Base Case	Bayside Base Case + Project		Bayside Base Case + Mitigation A		Bayside Base case + Mitigation B	
Stormwater Volume to Bay from Bay Basin of Mission Bay (MG/yr) /b/	15.6	15.9		15.9		107.2	
Change in Volume from Existing (%)		0.4	(2.6%)	0.4	(2.6%)	91.6	(590%)
Change in Volume from Project (%)				0	(0%)	91.3	(570%)
Pollutant Load (lb/yr) /c/							
Total Suspended Solids	8,300	6,600		4,000		27,000	
Change in Mass from Existing (%)		-1,700	(21%)	-4,400	(-52%)	18,000	(220%)
Change in Mass from Project (%)				-2,600	(-40%)	20,000	(303%)
Cadmium	0.18	0.21		0.16		1.1	
Change in Mass from Existing (%)		0.03	(16%)	-0.022	(-12%)	0.92	(500%)
Change in Mass from Project (%)				-0.051	(24%)	0.89	(420%)
Total Chromium	1.5	2.2		1.6		11	
Change in Mass from Existing (%)		0.7	(48%)	0.12	(8.1%)	9.4	(640%)
Change in Mass from Project (%)				-0.59	(-27%)	8.7	(400%)
Copper	2.8	4.3		3.5		24	
Change in Mass from Existing (%)		1.5	(53%)	0.63	(22%)	21	(740%)
Change in Mass from Project (%)				-0.87	(-20%)	20	(450%)
Lead	6.6	10		8.9		64	
Change in Mass from Existing (%)		3.4	(58%)	2.4	(36%)	58	(870%)
Change in Mass from Project (%)				-1.5	(-14%)	54	(520%)
Nickel	3.1	4.8		2.3		16	
Change in Mass from Existing (%)		1.7	(55%)	-0.8	(-26%)	13	(410%)
Change in Mass from Project (%)				-2.5	(-52%)	11	(230%)
Zinc	24	27		17		120	
Change in Mass from Existing (%)		3	(13%)	-6.6	(-27%)	98	(410%)
Change in Mass from Project (%)				-9.8	(-36%)	94	(350%)

Notes:

MG= million gallons; lb = pound; ac = acre
in = inch; yr = year

a. While the percentage change reflects the incremental change that would occur in each analysis scenario, there is a level of imprecision associated with the load calculations. Therefore, all load values have been rounded to two significant figures to reflect the statistical uncertainty of the calculations. The significance of each change was evaluated by determining whether the change falls within the range of uncertainty.
b. Based on drainage basin area and runoff coefficient data provided by KCA Engineers, Inc. and Hawk Engineers.
c. Derived from unit load data found in Bay Area Stormwater Management Agencies Association, *San Francisco Bay Area Stormwater Runoff, Pollutant Monitoring Data Analysis, 1988 - 1995, Final Report*, prepared by Woodward-Clyde Consultants, October 15, 1996, Table 5-2.

Source: EIP Associates.

TABLE J.5
ESTIMATED ANNUAL MASS COPPER LOADING TO NEAR-SHORE WATERS FROM OVERFLOWS AND STORMWATER DISCHARGES

	Bayside Base Case	Bayside Base Case + Project		Bayside Base Case + Mitigation A			Bayside Base Case + Mitigation B		
	Mass Load	Mass Load	Change from Base Case (%)	Mass Load	Change from Base Case (%)	Change from Base + Project (%)	Mass Load	Change from Base Case (%)	Change from Base + Project (%)
Near-Shore Discharges from Project Area Plus other Bayside CSOs /a/ (1b/yr) /b/	>300	>300	2.1 (0.72%)	>300	0.63 (0.21%)	-1.5 (-0.51%)	>310	10 (3.4%)	8.1 (2.7%)
Bayside Overflows (1b/yr)	300	300	0.65 (0.22%)	300	0 (0%)	-0.65 (-0.22%)	290	-11 (-3.6%)	-11 (-3.8%)
Project Area Stormwater Discharge (1b/yr) /c/	2.8	4.3	1.5 (53%)	3.5	0.63 (22%)	-0.87 (-20%)	24	21 (740%)	20 (450%)
Other Bayside Stormwater Discharges	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Notes:

1b/yr = pounds per year
N/A = not available

a. Near-shore waters to the Project Area include China Basin Channel and the Bay waters adjacent to the Project Area.
b. Data are not available from which to derive volumes and quality of direct stormwater discharges from outside the Project Area. The total load contributed by Bayside CSOs plus direct discharges of stormwater along the Bayside understates the actual total load discharged to near-shore waters. Therefore, the percentage changes shown for the project and Mitigation Scenarios A and B overstate the load changes from Base Case and Base-Case-plus-Project conditions.
c. The copper load discharged under the Base Case, Project, and Mitigated Scenario A is much less than under Scenario B because under the first three, most of the Project Area stormwater would go to the combined sewer system.

Source: EIP Associates; City and County of San Francisco, Public Utilities Commission, Clean Water Program, *Draft Bayside Cumulative Impact Analysis*, March 1998, Table 5c.

TABLE J.6
ESTIMATED ANNUAL MASS ZINC LOADING TO NEAR-SHORE WATERS FROM OVERFLOWS AND STORMWATER DISCHARGES

	Bayside Base Case	Bayside Base Case + Project		Bayside Base Case + Mitigation A			Bayside Base Case + Mitigation B		
	Mass Load	Mass Load	Change from Base Case (%)	Mass Load	Change from Base Case (%)	Change from Base + Project (%)	Mass Load	Change from Base Case (%)	Change from Base + Project (%)
Near-Shore Discharges from Project Area Plus other Bayside CSOs /a/ (1b/yr) /b/	>2,400	>2,500	8.6 (0.35%)	>2,400	-6.6 (-0.27%)	-15 (-0.62%)	>2,500	10 (0.40%)	1.2 (0.049%)
Bayside Overflows (1b/yr)	2,400	2,400	5.3 (0.22%)	2,400	0 (0%)	-5.3 (-0.22%)	2,300	-88 (-3.6%)	-93 (-3.8%)
Project Area Stormwater Discharge (1b/yr) /c/	24	27	3.2 (13%)	17	-6.6 (-27%)	-9.8 (-36%)	122	98 (410%)	94 (350%)
Other Bayside Stormwater Discharges	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Notes:

1b/yr = pounds per year
N/A = not available

a. Near-shore waters to the Project Area include China Basin Channel and the Bay waters adjacent to the Project Area.

b. Data are not available from which to derive volumes and quality of direct stormwater discharges from outside the Project Area. The total load contributed by Bayside CSOs plus direct discharges of stormwater along the Bayside understates the actual total load discharged to near-shore waters. Therefore, the percentage changes shown for the project and Mitigated Scenarios A and B overstate the load changes from Base Case and Base-Case-plus-Project conditions.

c. The zinc load discharged under the Base Case, Project, and Mitigated Scenario A is much less than under Scenario B because under the first three, most of the Project Area stormwater would go to the combined sewer system.

Source: EIP Associates; City and County of San Francisco, Public Utilities Commission, Clean Water Program, *Draft Bayside Cumulative Impact Analysis*, March 1998, Table 5c.

TABLE J.7
CUMULATIVE EFFLUENT, OVERFLOW, AND STORMWATER VOLUMES

	Existing Bayside Base Case	Cumulative Bayside Base Case with Project	Cumulative Bayside with Mitigation A	Cumulative Bayside Base Case	Cumulative Bayside Base Case with Mitigation B
Bayside Effluent (Deep Water) (MG/yr)	30,203	31,496	31,499		31,443
Near-Shore Discharges from Project Area Plus other Bayside CSOs /a/ (MG/yr)	>926	>1,024	>1,021		>1,077
	910	1,008	1,005		970
Bayside Overflows (MG/yr)		15.9	15.9		107.2
Project Area Stormwater Discharge (MG/yr) /b/	15.6	15.9	N/A		N/A
Other Bayside Stormwater Discharge	N/A	N/A	N/A		

Notes:

MG/yr = million gallons per year
N/A = not available

a. Near-shore waters to the Project Area include China Basin Channel and the Bay waters adjacent to the Project Area. Data are not available from which to derive volumes and quality of direct stormwater discharges from outside the Project Area. The sum of Bayside CSOs plus direct discharges of stormwater along the Bayside understates the actual total near-shore discharge volume. Therefore, the percentage changes shown for the project and Mitigated Scenarios A and B overstate the volume changes from Base Case and Base-Case-plus-Project conditions.

b. The stormwater discharges under the Base Case, Project, and Mitigated Scenario A are much less than under Scenario B because under the first three, most of the Project Area stormwater would go to the combined sewer system.

Source: EIP Associates; City and County of San Francisco, Public Utilities Commission, Clean Water Program, *Draft Bayside Cumulative Impact Analysis*, March 1998, Table 5c.

SOURCE: San Francisco Redevelopment Agency

- COMMERCIAL INDUSTRIAL
- COMMERCIAL INDUSTRIAL / RETAIL
- MISSION BAY NORTH RETAIL
- MISSION BAY SOUTH RETAIL
- MISSION BAY RESIDENTIAL
- HOTEL
- MISSION BAY OPEN SPACE
- UCSF (includes City school site)
- MISSION BAY PUBLIC FACILITIES
- PROPOSED BOUNDARIES OF MISSION BAY REDEVELOPMENT AREAS

NOTE: See Table III.A.2 for types and amounts of uses.

LAND USE PROGRAM ANALYZED AS THE PROJECT IN THE DRAFT EIR

SEE INSIDE FRONT COVER FOR THE COMBINATION OF PROJECT FEATURES AND VARIANTS AS ADOPTED