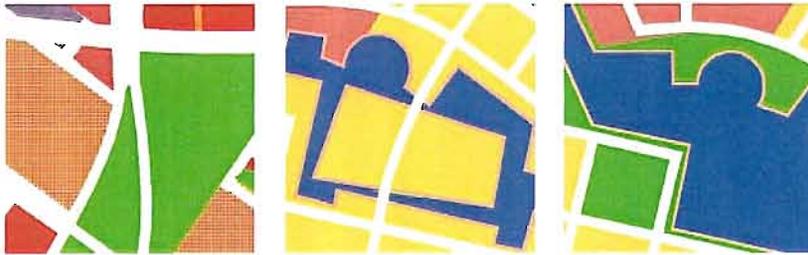


**DRAFT**  
14 February 2003



# Bay to Bay Link Feasibility Study

City of San Diego  
Transportation & Drainage Design Division, Engineering & Capital Projects  
Redevelopment Agency, Community & Economic Development



# BAY TO BAY LINK FEASIBILITY STUDY



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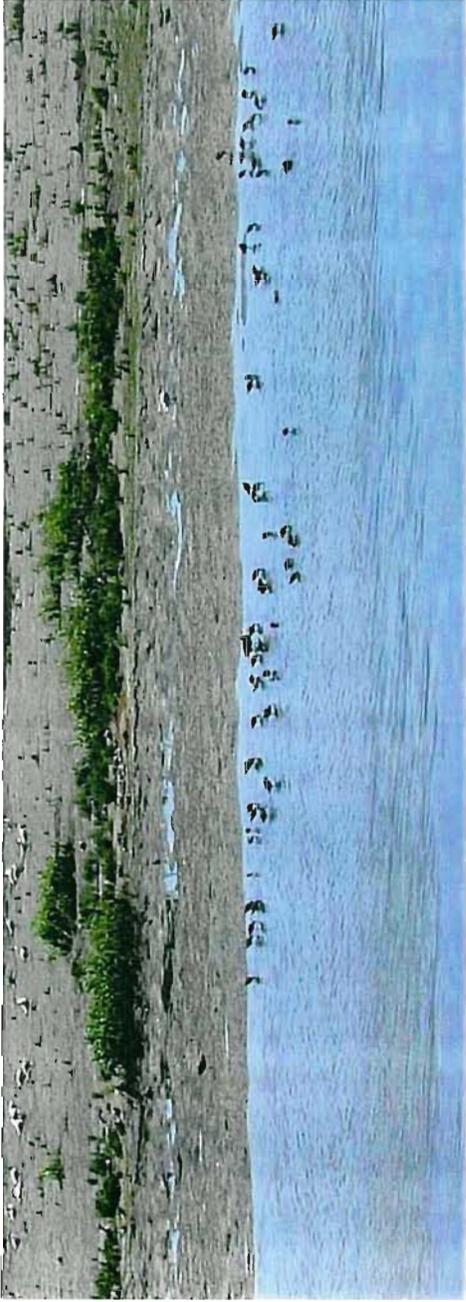
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# A. Introduction to the Study





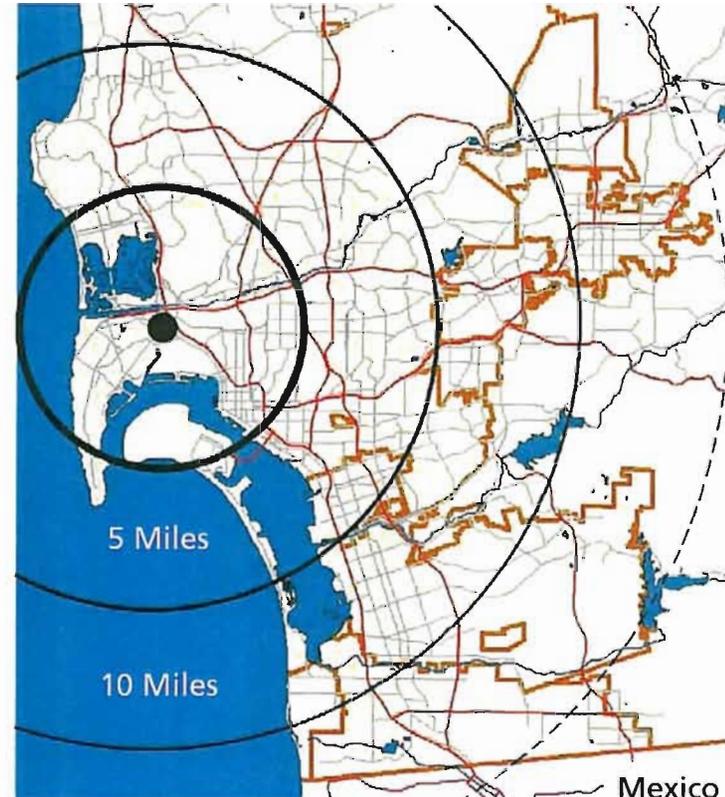
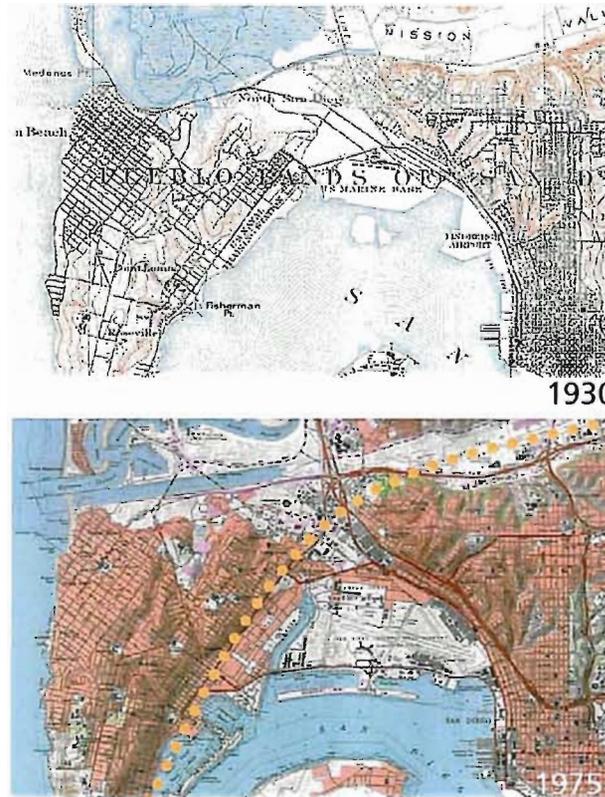


## B. Basis for the Alternatives



# BAY TO BAY LINK FEASIBILITY STUDY

## History & Geography



Historically, the San Diego River alternatively emptied into San Diego Bay and False Bay (now Mission Bay). The Presidio was founded above the river and Old Town developed along its bank. Dikes were built in the 1880s to keep the river from flooding Old Town and flowing into San Diego Bay.

The two bays were never physically linked by the natural drainage network.

La Playa Trail linked early shipping trade at Point Loma's Ballast Point to the Old Town, the Presidio, and Mission San Diego de Alcalá.

The United States Geological Survey (USGS) map from 1930 illustrates the waterways, landforms and development patterns. In contrast to the current (1975) USGS map which indicates the amount of land taken from the wetlands of False Bay for urban development.

In 1946 Federally funded dredging of False Bay allowed for small boat navigation and a channel to direct flood water to the Pacific Ocean. By 1961 Mission Bay and the San Diego River Flood Control Channel reached their current form. Work through the 20th Century included dredging San Diego Bay, and filling for the airport, Shelter & Harbor Islands.

The use of the land has served the local and national interests including the Navy/Marine's training, research and housing to aircraft innovation and transportation service.

The Study area in the Midway Community is in a remarkable location within the region. It is between the bays, adjacent to vital residential areas, historic Old Town, international airport and within 5 miles of downtown. Additionally, railway and trolley (light rail transit) lines provide industrial and commuter access.

# BAY TO BAY LINK FEASIBILITY STUDY

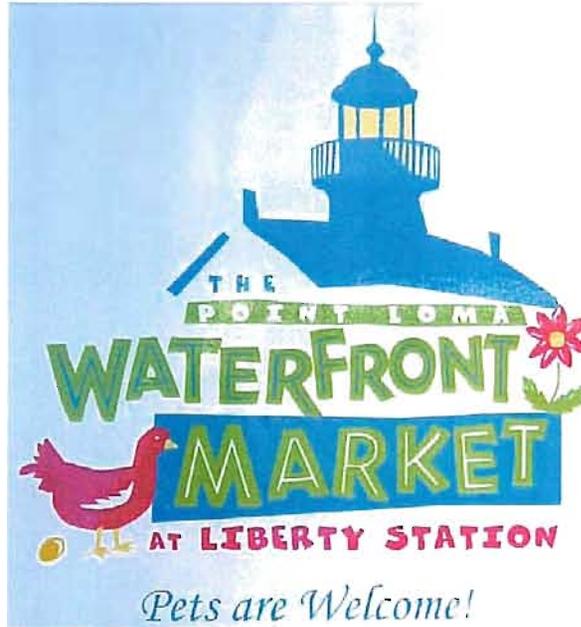
*the existing view*



*Park/open space system*

*Navigable Channel*

*These photo-composites were prepared early in the process to illustrate alternative concepts for enhancing the Midway Community.*



The recently initiated Waterfront Market held at the north end of the existing boat channel is an example of the community's enthusiasm for unique opportunities.



## Goals & Approach of the Study

The goal of this study is to provide specific information to the City on the feasibility of various Bay to Bay link options and to assist in decision making toward the development of an 'Urban Village Center' for this San Diego area.

The **Approach** for the Study is to:

- A. Identify Feasibility Criteria
- B. Test and Refine Draft Study Alternatives
- C. Develop a Feasible (Preferred) Alternative

This process is built on the assembly and analysis of existing data provided to the consultant team; development of an understanding of community concerns; and the visionary leadership of the City. This effort is focused on public facilities.

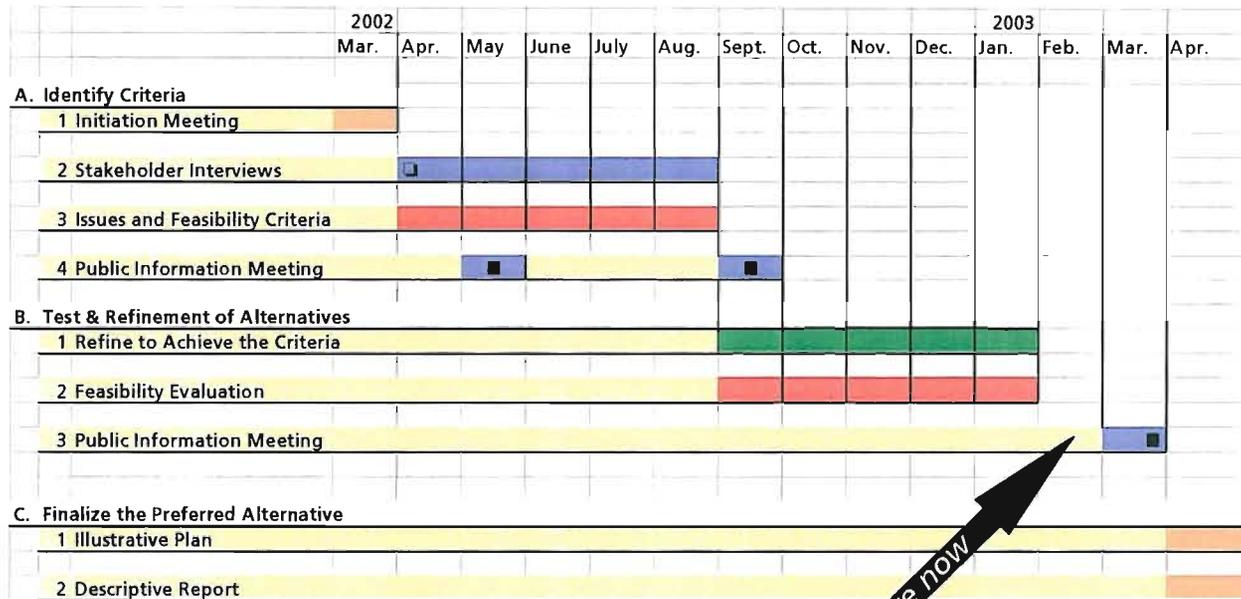
**Study Alternatives** represent three categories along a continuum of investment from the minimum improvements for the network of public open space and transportation to the most elaborate improvements which involves a inland waterway lining the two Bays.

1. Park Link System
2. Non-Tidal Channel
3. Navigable Channel/open space system as envisioned by the 1995 Study Report

The Study was conducted to address the following issues:

- Air Quality
- Biological
- Cultural Resources
- Dry Utilities
- Economics
- Geotechnical Engineering
- Hazardous Materials
- Waterfront Engineering
- Land Use and Urban design
- Noise
- Storm/Sanitary Sewer
- Transportation
- Visual Quality
- Water Quality

# BAY TO BAY LINK FEASIBILITY STUDY



Where we are now

## Community Participation

The Study included meeting with representatives from each of the following permittees to share the goals and schedule of the Study and obtain any relevant data and recommendations.

- Army Corps of Engineers
- California Coastal Commission
- City of San Diego
- City of San Diego Fire Department
- City of San Diego Transportation Planning
- City of San Diego, NTC
- County of San Diego Department of Environmental Health
- Housing Authority
- Marine Corps Training Depot (MCRD)
- Metropolitan Transportation Development Board
- Navy/SPAWAR
- Public Utilities
- San Diego Port District
- San Diego Regional Water Quality Control Board
- SANDAG
- U.S. Fish and Wildlife Service
- U.S. Post Office

See the appendix for contacts and summary of their comments.

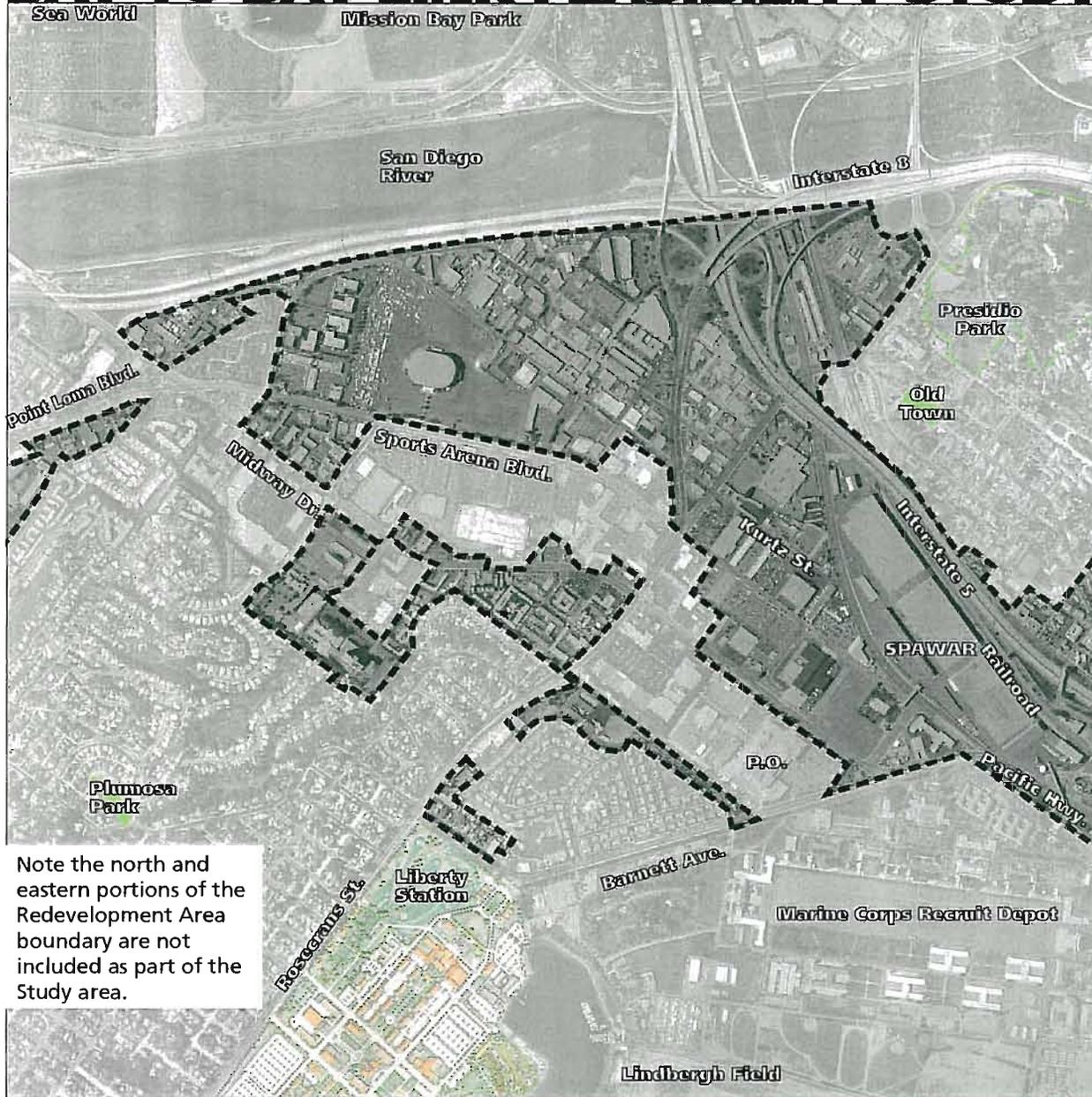
Numerous relevant documents were reviewed to build the team's understanding of the issues. See the appendix for the bibliography.

The consultant team leader met with the public during the Study process to share information gathered, understand their vision and concerns and build upon their knowledge. Two of the Three Bay to Bay Study Public Meetings have been conducted. Members of the numerous planning groups and special interest groups participated.

See the appendix for the agendas and summary of the attendants comments from the first two public meetings.



# BAY TO BAY LINK FEASIBILITY STUDY



Wallace Roberts & Todd LLC - Moffatt & Nichol Engineers - Ninyo & Moore - Katz, Okitsu & Assoc. - Helix Environmental Planning, Inc. - Professional Consulting Group - Economics Research Assoc.

## Study Area

The Bay to Bay Link Feasibility Study Area is located between Mission Bay, San Diego Bay, Interstate 5 and the Naval Training Center (Liberty Station). It is associated with the City of San Diego's North Bay Redevelopment Area.

 Redevelopment Area Boundary

The Redevelopment Area "enjoys close proximity to the San Diego harbor, and is focused on the opportunity to coordinate redevelopment plans with the neighboring Naval Training Center Redevelopment Project Area."

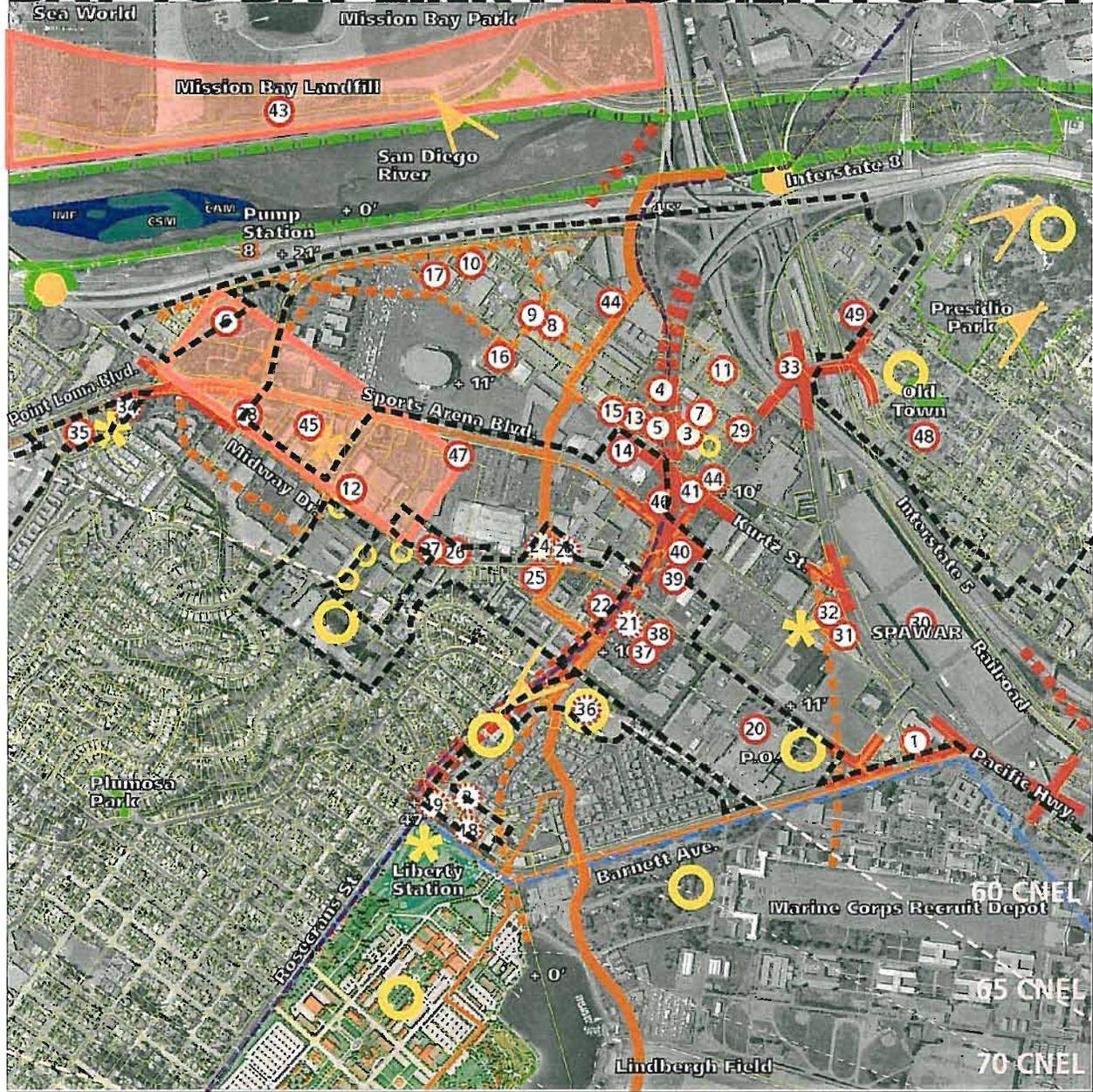
"The area is home to major high-tech employers including the Space and Naval Warfare Systems Center and Science Applications International Corp. and is also accessible to San Diego Bay and Mission Bay. Existing community and neighborhood shopping centers complement any mixed-use project. The Redevelopment Agency is working closely with the Metropolitan Transit Development Board on the North Bay & Beach Area Transit Study to help improve traffic circulation and transit in the North Bay area."

The following outlines the incentives provided within the Redevelopment Area by the City's Redevelopment Agency.

- Site Assembly
- Fee Reductions
- Permitting Assistance
- Off-site Improvements
- Housing Programs
- Facade Rebates
- Special Public/Private Financing Opportunities
- Minimized/Streamlined Environmental Review and Processing

Source: <http://www.sandiego.gov/redevelopment-agency/northbay.shtml>

# BAY TO BAY LINK FEASIBILITY STUDY



## Opportunities & Constraints Diagram

The following pages summarize these issues. See the appendix for complete reports.

- Redevelopment Area Boundary
- Multiple Species Conservation Program  
Brackish Marsh, Coastal Salt Marsh, Intertidal
- Cultural Resources, *general locations*
- Subsurface Archaeological Sites
- Pedestrian/Bicycle access to the San Diego River Park Trail network
- 96" Sanitary Sewer
- 16" - 30" Sanitary Sewer
- 32" - 56" Storm Drain
- 22" - 30" Storm Drain
- 24" Water Line
- 8" Navy Jet Fuel Line
- Municipal Land Fill
- Closed File for Leaking Underground Storage Tank
- Open File for Leaking Underground Storage Tank
- Key Observation Points
- Additional Traffic Capacity is required
- Deficient intersection, level of service, safety
- Coastal Zone Boundary
- Community Noise Equilivant Level (CNEL)
- + 10'

Wallace Roberts & Todd LLC - Moffatt & Nichol Engineers - Ninyo & Moore - Katz, Okitsu & Assoc. - Helix Environmental Planning, Inc. - Professional Consulting Group - Economics Research Assoc.

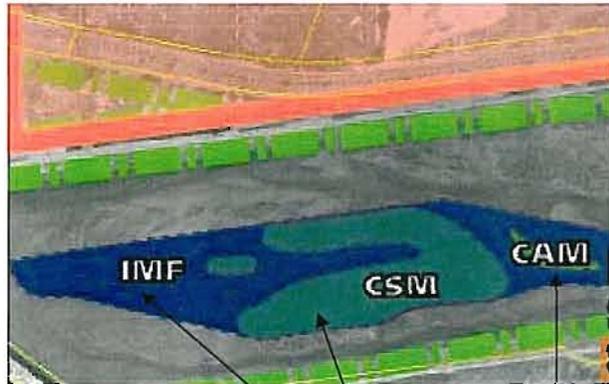
# BAY TO BAY LINK FEASIBILITY STUDY



The San Diego River channel provides valuable native habitat and flood control.



Views of the historic sites, including the Presidio from Rosecrans are a link to the past.



Brackish Marsh  
Coastal Salt Marsh  
Intertidal Mudflat

Three types of habitat - Brackish Marsh, Coastal Salt Marsh, and Intertidal Mudflat are identified within the River channel as it relates to the Study Alternative for a Navigable Channel.



Cultural resources, including the Naval Training Center and Saint Charles Borromeo Academy and Parish represent many of San Diego's important eras and communities.



The marker for the historic La Playa Trail in the median of Rosecrans is not easily viewed by pedestrians or motorists.

## Natural Habitat & Cultural Resources

The plant and animal habitat as well as the cultural resources found in the Study Area are recognized as valuable components of a vital community and city. These are unique elements which represent the history of our city making and future of our relationship with the built and natural environment. The issues and approach of the Study Alternatives are addressed within the following subcategories:

- Water quality of the San Diego River, Bay and Mission Bay
- Biological Resources associated with the San Diego River and Mission Bay
- Noise impact to identified receptor sites
- Visual Quality from public vantage points
- Air Quality
- Cultural Resources including archaeological and historical

Each of these represent a variety of challenges to meet a host of regulatory agencies permit requirements for the design, construction and maintenance of any project.

The objectives of the Study Alternatives are to minimize negative impacts and enhance these resources as part of the community.

# BAY TO BAY LINK FEASIBILITY STUDY



The Mission Bay Landfill was operated from 1952 to 1959. The County Department of Environmental Health is currently conducting a site assessment to determine the extent of contamination.



Fire Station #20 is an example of one of the Study Area's ten open/active files with the County Department of Environmental Health for its Leaking Underground Storage Tank.



Overhead electrical lines serve the industrial area.



Utilities located the public right-of-way limit pedestrian activity.

## Utilities, Hazardous Materials & Geology

Existing conditions are recognized as constraints to enhancement of the Midway community.

### Utility Constraints

- Current insufficient stormwater drainage capacity
- Large diameter underground lines for water and sewer distribution
- A mix of 12kv SDG&E overhead and underground transmission and distribution lines
- Underground Navy Jet Fuel line
- Gas transmission and distribution lines
- Cable TV/Fiber overhead and underground lines
- Underground telephone lines
- Utility equipment, hatches and boxes in the public right-of-way

### Hazardous Material Constraints

- Undetermined boundary of hazardous waste landfills
- Open cases of Leaking Underground Storage Tanks (LUST), that have numerous unknown conditions

### Geologic Constraints

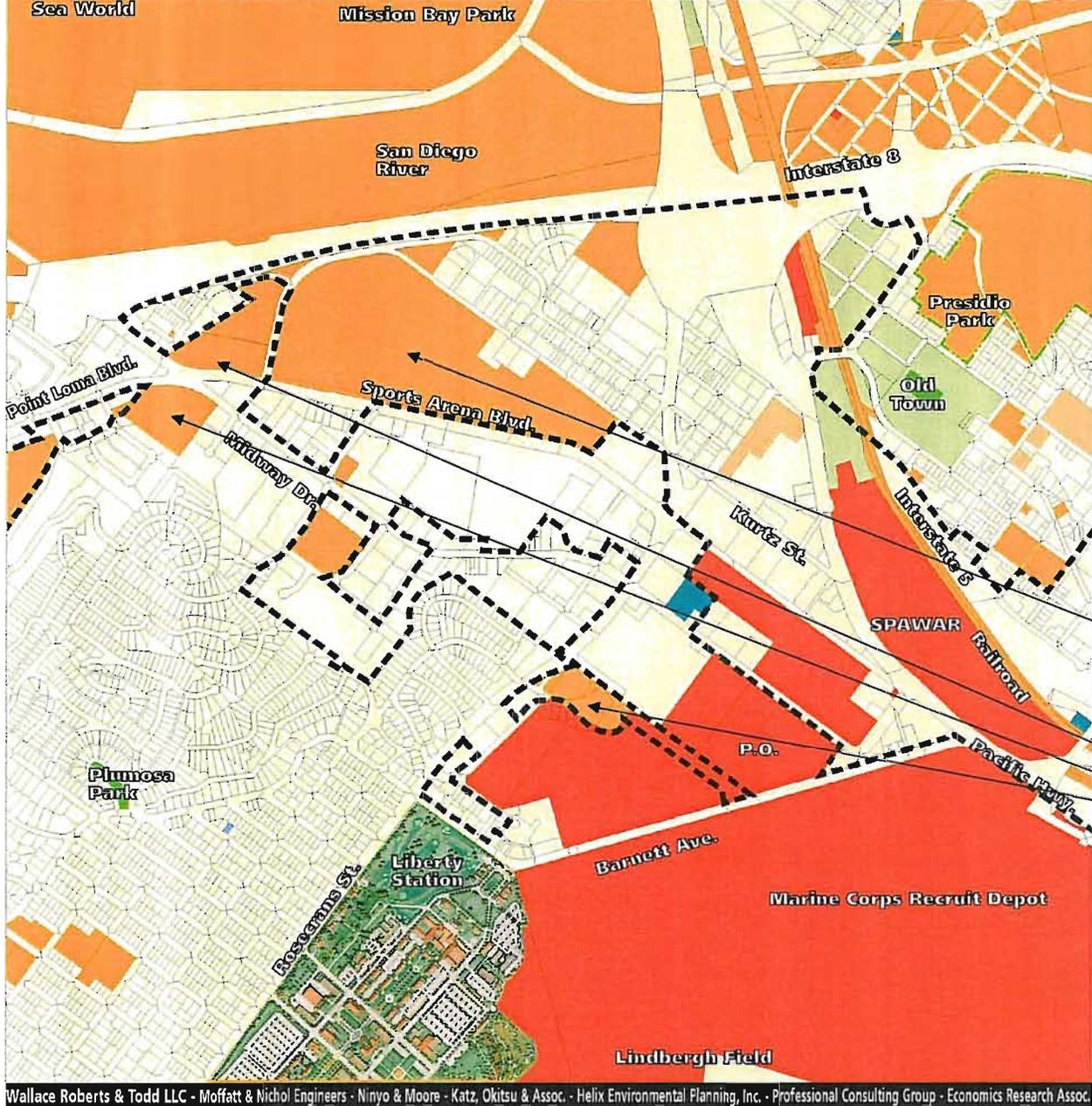
- Active traces of the Rose Canyon and Point Loma Fault
- Soils that may be subject to liquefaction
- Shallow groundwater table

This study concludes that each of these challenges can be overcome through proper funding, design, construction and maintenance.

The following Study Alternatives are intended to avoid the site specific constraints.

*Additional work from a variety of sources is required to certify this approach. A Strategic Action Plan is recommended to address the dry utilities and assist in developing a cooperative agreement with the utility companies. San Diego's Center City Development Corporation (CCDC) is recognized as a leader in addressing contaminated sites and working with public utilities companies in the relocation of their lines. Please see the Appendix for more detail.*

# BAY TO BAY LINK FEASIBILITY STUDY



## Public Ownership

An objective of the alternatives in this Study is to enhance the public property for the citizens of San Diego.

-  Redevelopment Area Boundary
-  United States of America
-  State of California
-  City of San Diego
-  County of San Diego
-  Port of San Diego
-  Railroad and Utilities



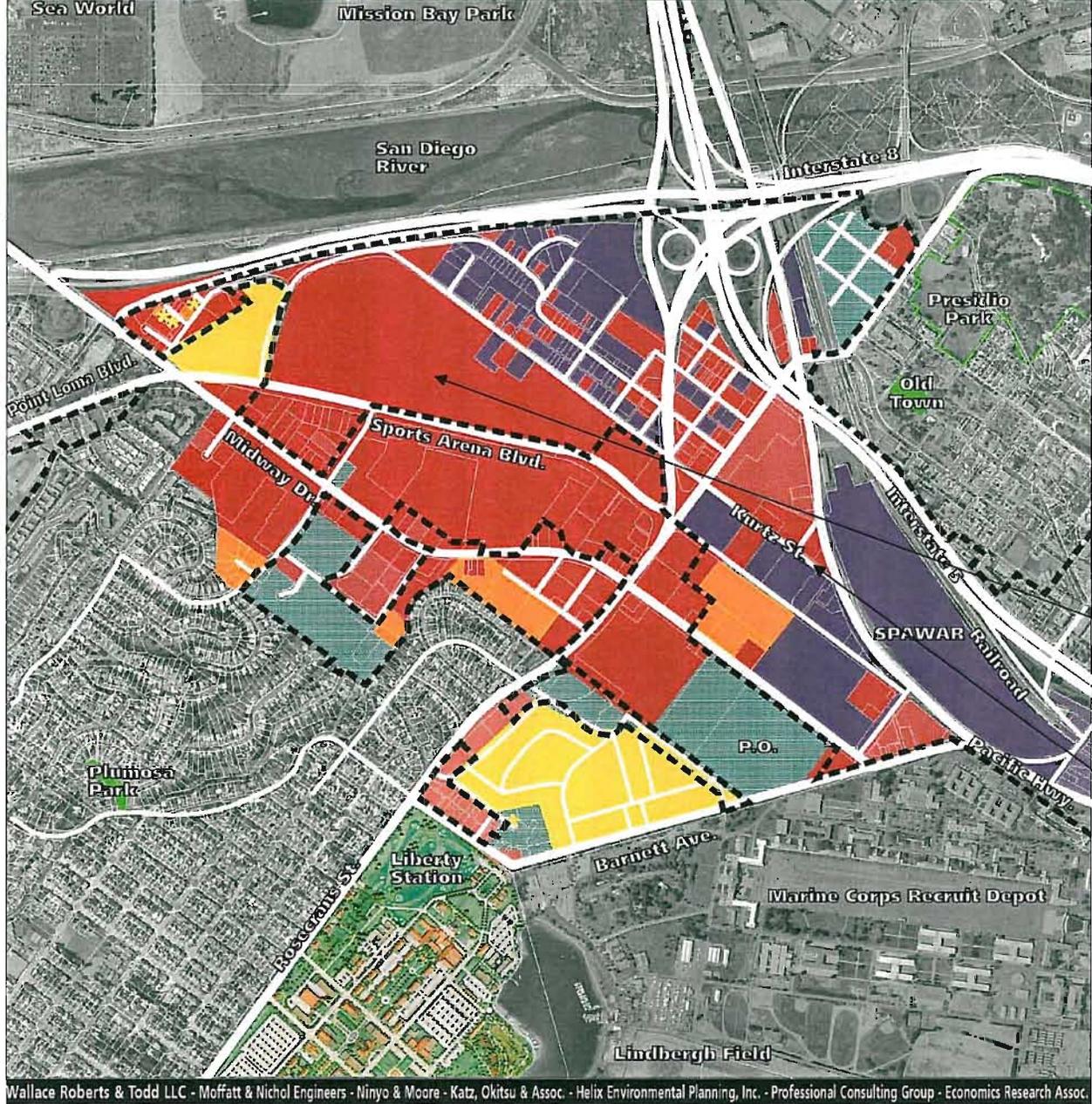
The land use of the City owned Sports Arena property is planned to change from commercial to medium density residential.

Of the publicly owned land the following sites are considered important uses and not altered by the Study alternatives.

- The Orchard Senior Apartments (563 units)
- Stonewood Garden Apartments (225 units)
- Dewey Elementary School



# BAY TO BAY LINK FEASIBILITY STUDY



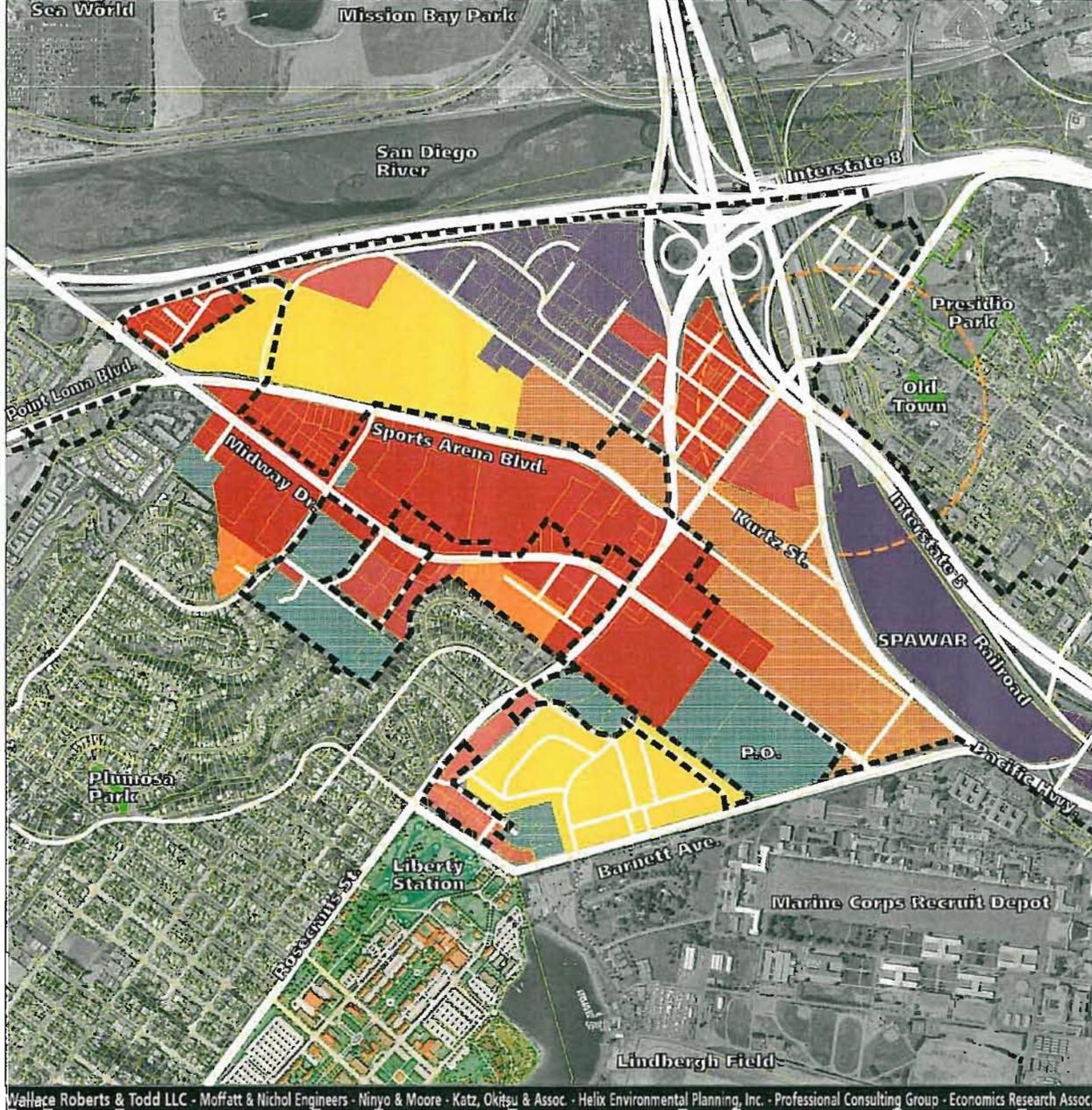
## Midway / Pacific Highway Corridor Community Plan Amendment Existing Land Use

-  Redevelopment Area Boundary
-  Multi-family Residential
-  Residential Medium / High 43 DU/AC
-  Single-Family Residential
-  Commercial - Neighborhood
-  Office
-  Industrial
-  Public / Institutional
-  Multiple Use
-  Open Space

The two most significant land use changes called for by the Community Plan are for the Sports Arena site and the property near the SPAWAR facilities.



# BAY TO BAY LINK FEASIBILITY STUDY



## Proposed Land Use

Midway / Pacific Highway Corridor Community Plan Amendment 1/99  
Proposed Land Use

-  Redevelopment Area Boundary
  -  Residential Medium 29 DU/AC
  -  Residential Medium / High 43 DU/AC
  -  Commercial - Community
  -  Commercial - Neighborhood
  -  Commercial - Office
  -  Commercial - Recreation
  -  Commercial - Transportation Related
  -  Commercial - Visitor
  -  Industrial Park
  -  Light Industrial
  -  Institutional
  -  Multiple Use
  -  Public Park / Open Space
  -  Water
-  1/4 Mile radius Transit Stop

Example of Multiple Use development



Housing example for the Sports Arena site.

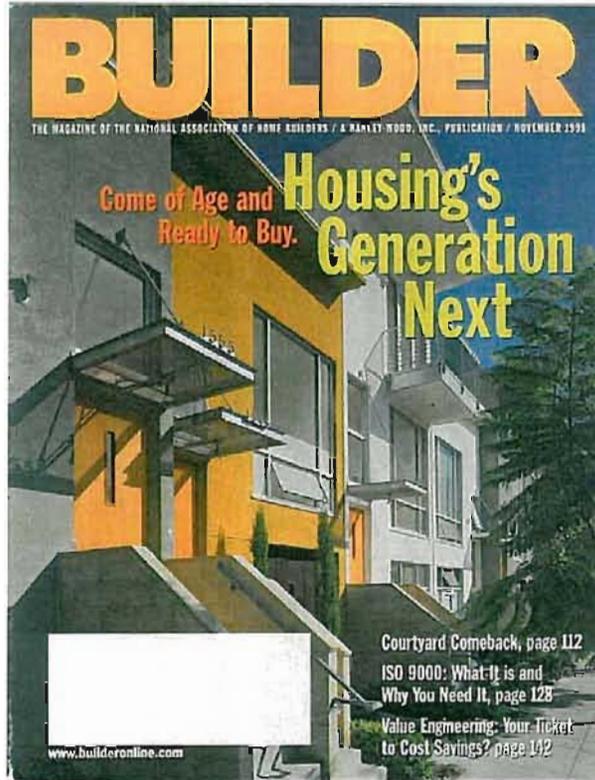
28 January 2003

 City of San Diego  
Transportation & Drainage Design Division, Engineering & Capital Projects  
Redevelopment Agency, Community and Economic Development

# BAY TO BAY LINK FEASIBILITY STUDY



Heights of previous development conflicted with the adjacent residential uses. As a result, the current Coastal Zone Height Limitation is 30 feet.



Row homes in San Diego's Little Italy are an example of attractive homes to own under 30 feet tall.



View west from the Presidio across the Study Area

## Land Use

### Residential Population

This Study is based on the adopted Community Plan 1/99, with proposed refinements based on the City of Villages (2002 General Plan Update). In summary, the population proposed by the Community Plan for the Sports Arena site is higher than that suggested in the City of Villages work.

The existing population of the Midway area is approximately 4,000. Assuming medium density (29 dwelling units per acre) residential development on the Sports Area (68 acre) site the Community Plan allows for an additional of approximately 1,900 new homes, with 2.3 residents each totaling 4,370 new residents. Total population for the Midway area would be approximately 8,300 residents.

Alternatively, the 4th Draft of the City of Villages (2020 Housing Unit Goals for the Midway Pacific Highway Community Planning Area) suggests the redevelopment of the Sports Arena site to include between 683 and 798 new homes. At 2.3 people per household the population would increase to between 1,570 and 1,835 new residents., This approach adds up to approximately 6,000 residents in Midway.

### Building Height Limit

The Study Alternatives assume the 30' height limit in effect in 2003. It would take approximately 27 acres to house the Sports Arena site's 798 new dwelling units (DU) at 29 DU/acre, using the Little Italy Row Houses as an example (approximately 30 DU/acre),

If the public voted to allow buildings taller than 30' in specific areas, for example, within 1/4 mile of a transit station, and the population remains the same, the benefit could be more public open space.

The photo (left) illustrates that taller buildings in the Study Area would not break the skyline of Point Lima and may be found to not be a negative visual impact.

# BAY TO BAY LINK FEASIBILITY STUDY



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## Public Parks and Open Space

All of the adjacent communities are lacking adequate parkland for their population per standards of the City General Plan.

### Neighborhood Parks

Based on the Midway community's current population of approximately 4,000 the amount of park land should be about 9.6 acres. (2.4 acres/1000 residents). This parallels the standard of a 10 acre Neighborhood Park for a neighborhood of 3,500 - 5,000 residents to be located within 1/2 mile.

The area within the 1/2 mile radius circle (left) are considered to be within a typical walking distance to their neighborhood park.

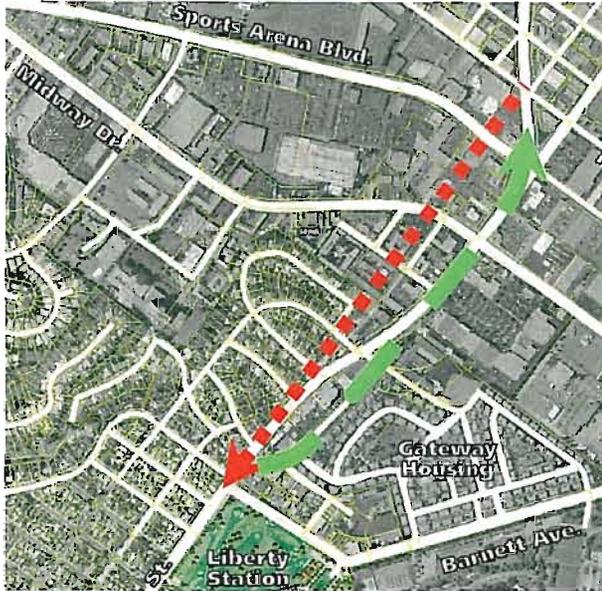
### Community Parks

A 20-acre Community Park is defined by the City General Plan to serve a population of 18,000 - 25,000 residents within 1 1/2 mile service radius. A Community Park located at the Sports Arena site would serve residents of Peninsula, southern Linda Vista and western Mission Hills.

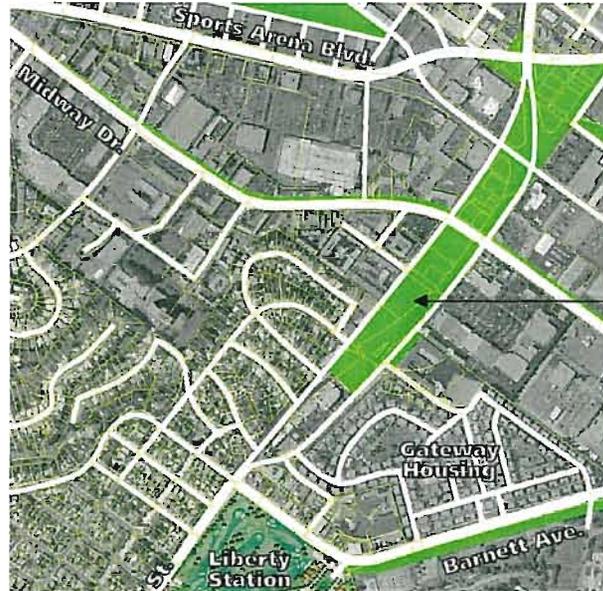
There is not a standard for providing parks for land uses other than residential. The Study Alternatives assume that multiple-use areas including office, retail are more attractive to users and the community if public open space is integrated.

# BAY TO BAY LINK FEASIBILITY STUDY

## La Playa Neighborhood Park



The existing streets are illustrated on the aerial photo. The red line illustrating the proposed alignment of the southwest bound traffic lanes and the green line as the north bound lane. Rosecrans Street is could be called Rosecrans Boulevard along this segment.



A concept common to each of the Study Alternatives is to create a network of functional (safe and attractive) public open space. The first segment proposed in the Study is La Playa Park. It is envisioned to be created with the realignment of the southwest bound traffic lanes of Rosecrans between Sports Arena Boulevard and Linton.

The largest segment between the Point Loma Theater and Midway is approximately 10 acres (300' wide by 1,452').

This sketch (below) of the existing view to the east on Rosecrans Street illustrates the curved roadway and concrete median.

The Presidio is seen on the hill.



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# BAY TO BAY LINK FEASIBILITY STUDY



The Panhandle of Golden Gate Park has the same width (approx. 300') and adjacent traffic patterns as proposed for La Playa Park.

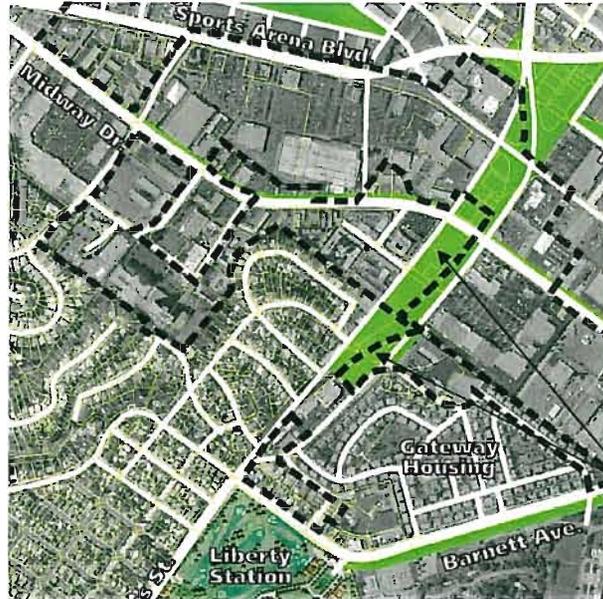


Panhandle of Golden Gate Park



Panhandle of Golden Gate Park

The sketch (right) of the envisioned park to the east on Rosecrans Street illustrates the new straight alignment of southwest bound traffic lanes, parking for the commercial property associated with the old theater, and views to the Presidio.



## La Playa Neighborhood Park

This park space would achieve the following:

1. Serve the existing and future residents of Loma Portal and Gateway Navy housing.
2. Link the public areas of Point Loma, Liberty Station and San Diego Bay with Old Town and Presidio Park.
3. Enhance the travel experience along Rosecrans Street.

Driving along this divided boulevard would have less distractions by oncoming traffic and offer a greatly enhanced visual experience.

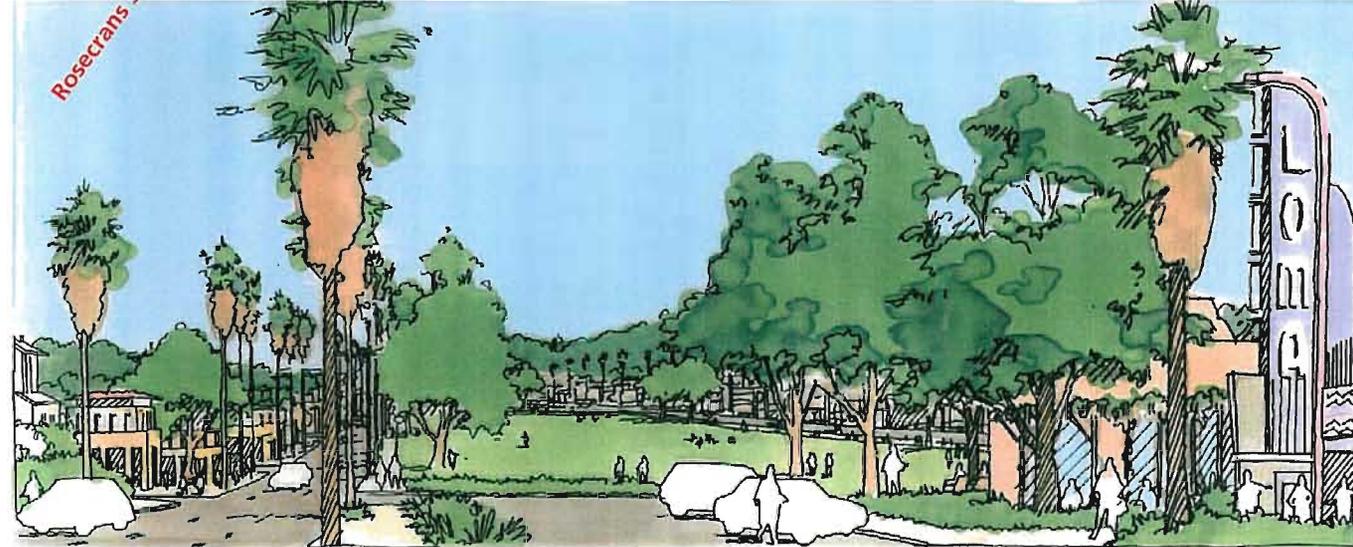
An extension of the public transit could be designed into the parkway.

Air quality would be improved with the increased vegetation.

By splitting the traffic lanes the crosswalks are shorter, encouraging pedestrian/bicycle activity in the community.

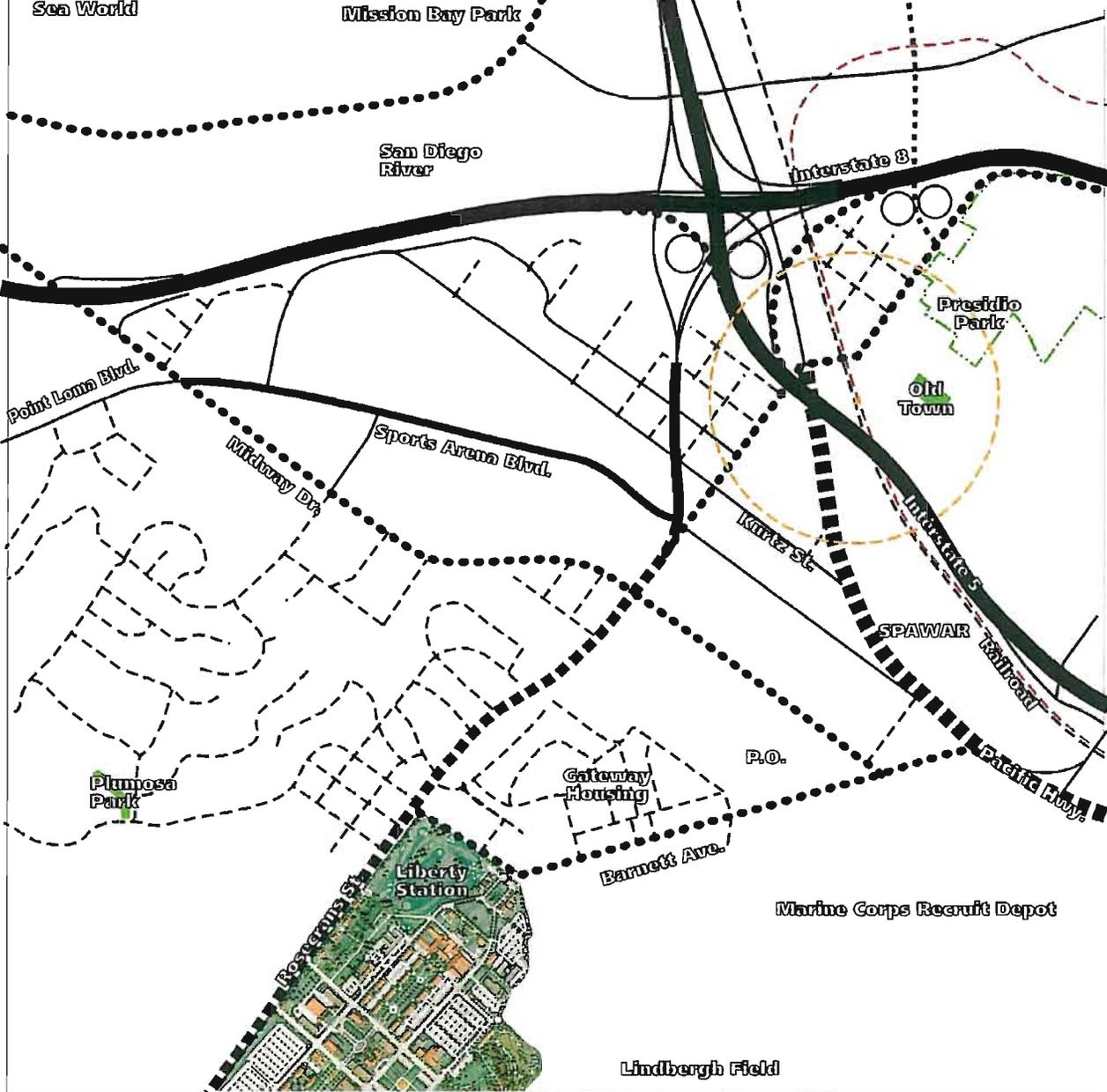
*Portions of the proposed park are within the Redevelopment Area boundary.*

*The name La Playa Parkway is intended to inspire its design to recall the historic trail between Point Loma and Old Town.*



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# BAY TO BAY LINK FEASIBILITY STUDY



## Existing Street Classification

The Study area is characterized by its system of wide streets, heavy traffic flows and non-standard intersection configurations. The area is bounded by two major freeways. Rosecrans (former State Route 209) bisects the central commercial core of the community and numerous one-way streets add to the complexity of circulation in the area.

- Freeway
- Expressway
- 6 Lane Primary arterial
- 6 Lane Major
- 5 Lane Major
- 4 Lane Major
- 3 Lane Major (One Way)
- 4 Lane Collector
- 2 Lane Collector
- 2 Lane Local
- Amtrak, Coaster, Freight Train
- San Diego Trolley
- 1/4 Mile radius Transit Stop



- Incomplete freeway ramps cause non-local through traffic congestion.
- Non-standard interchanges limit access to/from the area.
- Multiple curb cuts for commercial properties along Rosecrans reduce capacity and add to congestion.
- Many commercial properties have garages that open directly onto streets and limit on-street parking opportunities (Hancock Street, Kurtz Street).
- Confusing street patterns create longer than necessary trip lengths. Streets intersect at acute angles constraining traffic flows and contributing to congestion.
- Currently all of the intersections in the area operate at LOS D or better during peak hours.

See the appendix for the Circulation report.

3 February 2003



City of San Diego  
Transportation & Drainage Design Division, Engineering & Capital Projects  
Redevelopment Agency, Community and Economic Development

# BAY TO BAY LINK FEASIBILITY STUDY

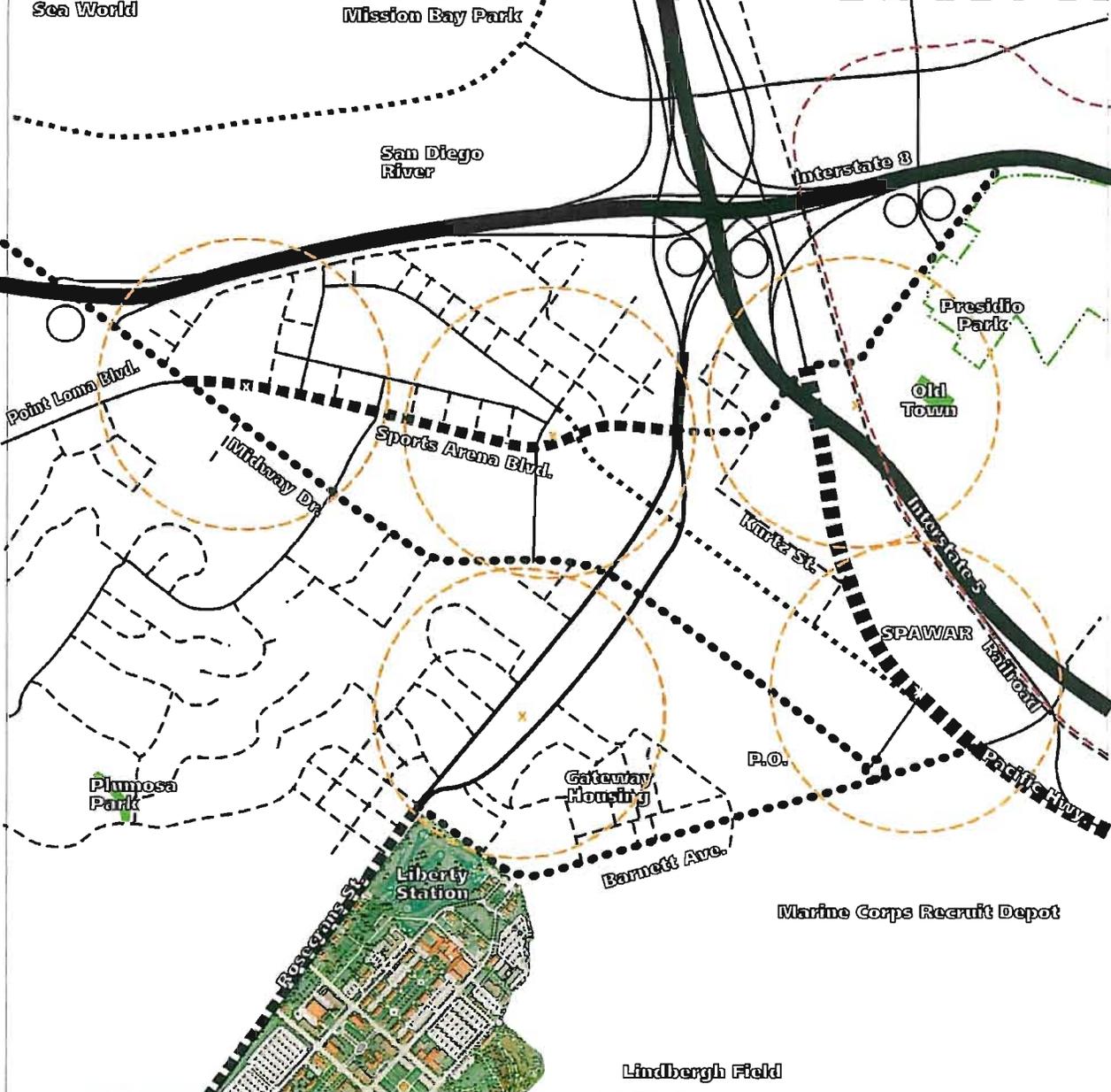


## Proposed New Streets

Midway / Pacific Highway Corridor Community Plan Amendment 1/99

- Freeway
- Expressway
- 6 Lane Primary arterial
- 6 Lane Major
- 5 Lane Major
- 4 Lane Major
- 3 Lane Major (One Way)
- 4 Lane Collector
- 2 Lane Collector
- 2 Lane Local
- Amtrak, Coaster, Freight Train
- San Diego Trolley
- The Midway/Pacific Corridor Community Plan calls for grade separation of the Rosecrans/Sports Arena intersection via flyover or tunnel to accommodate future traffic.

# BAY TO BAY LINK FEASIBILITY STUDY



## Alternative Street Classification

Sports Arena Boulevard could be renamed:

- Frontier Drive (as it was historically);
- Camino del Rio South; or
- Point Loma Boulevard.

- Freeway
- Expressway
- 6 Lane Primary arterial
- 6 Lane Major
- 5 Lane Major
- 4 Lane Major
- 3 Lane Major (One Way)
- 4 Lane Collector
- 2 Lane Collector
- - - 2 Lane Local
- Amtrak, Coaster, Freight Train
- San Diego Trolley

SANDAG's plans completing the system of freeway access ramps are included.

Source: Central I-5 Corridor Study

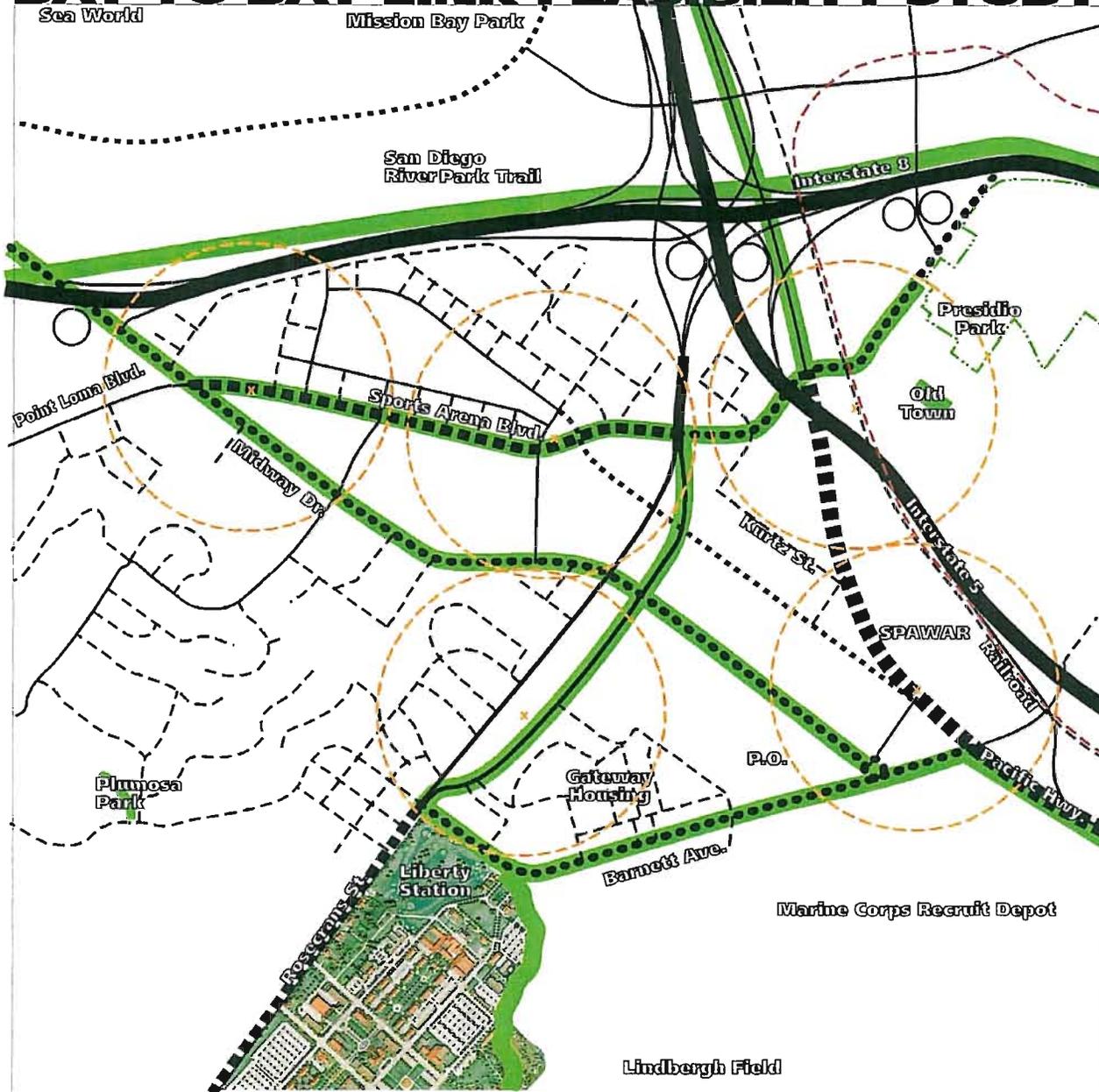
★ 1/4 Mile radius Transit Stop

Each of the Alternatives in this Study are served by a common framework of circulation routes. The key features of this framework are:

- Reconfigure the 5-way intersection at Sports Arena/Rosecrans and Kurtz to a 4-way intersection.
- Divide Rosecrans into two one-way streets along a 300' wide central park.
- Locate the Rapid Transit Bus route along Sports Arena Blvd., with transit stations at 1/2 mile intervals
- Provide pedestrian/bicycle routes along key corridors.



# BAY TO BAY LINK FEASIBILITY STUDY



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## Pedestrian/Bicycle Routes



The northern segment of Midway Drive has a very narrow sidewalk and many curb cuts. Redevelopment should allow for improved pedestrian/bicycle activity along this important link.

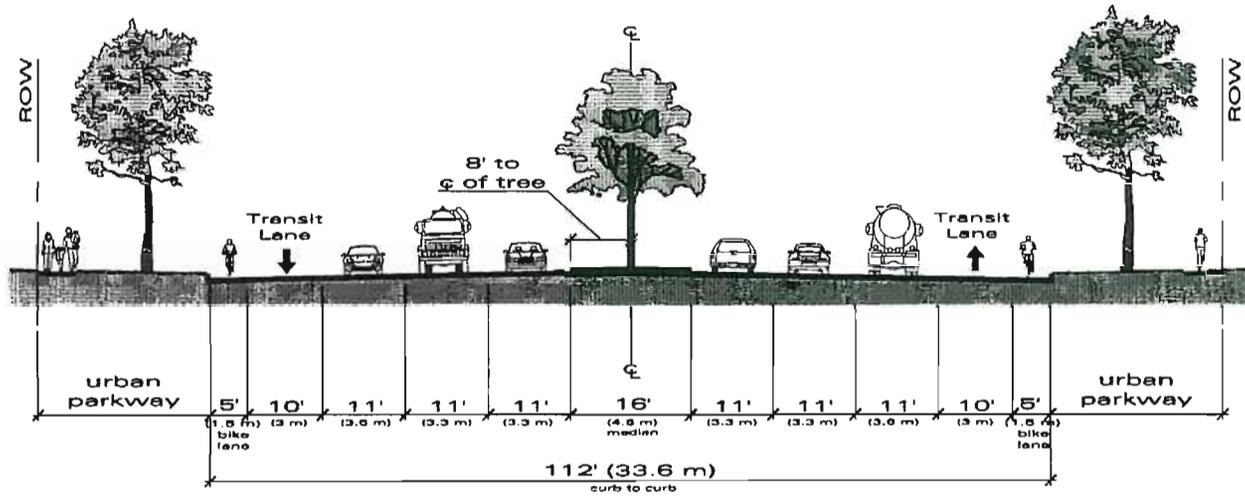


Future improvements to Barnett are recommended to include bicycle lanes and a wider sidewalk designed as a Class I multiple use trail. This should compliment MCRD's landscaped area outside their fence.

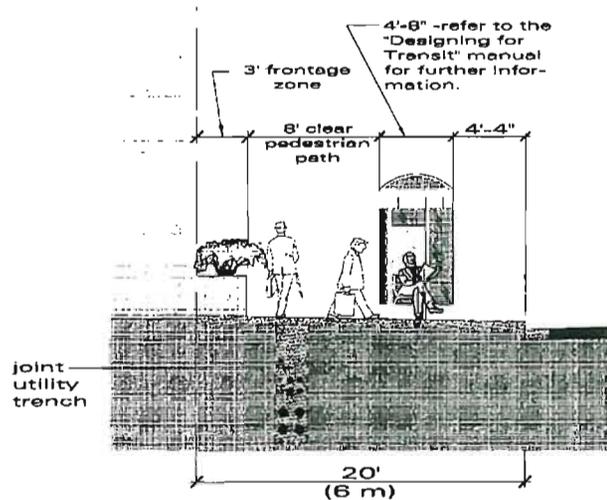
As the Barnett Street dips below grade, pedestrians and bicyclists are pinched into a narrow walkway. Perhaps an agreement with MCRD could be structured to enhance safe pedestrian/bicycle activity.

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# BAY TO BAY LINK FEASIBILITY STUDY



Transit Lanes – Six Lane Urban Major



\* Where storefront furniture is provided, the clear pedestrian passage way shall not be less than 8'-0".

## Street Design

These sections are from the recently adopted "City of San Diego Street Design Manual" provides guidelines which will raise the urban quality of all the public rights-of-way in the Study Area. Sports Arena Boulevard is recommended to be classified as a Six-Lane Urban Major street with Transit Lanes.

Source: <http://www.sannet.gov/planning/pdf/complete.pdf>

## Public Transit

San Diego's Metropolitan Transit Development Board (MTDB) plans to develop "attractive and cost-effective transit access from inland San Diego to the beach and bay area activity centers". Source: *North Bay & Beach Area Guideway Study*, Wilbur Smith Assoc., 7/00.

Sports Arena Boulevard would be redesigned to have lanes dedicated to public transit vehicles. The current vision is toward the Bus Rapid Transit technology.

## Bus Rapid Transit

BRT combines the quality of rail transit and the flexibility of buses. It can operate on exclusive transitways, HOV lanes, expressways, or ordinary streets. A BRT system combines *intelligent transportation systems* technology, priority for transit, cleaner and quieter vehicles, rapid and convenient fare collection, and integration with land use policy.

Source: <http://www.fta.dot.gov/brt/>



Eugene Oregon's vision for its Bus Rapid Transit

Source: [http://www.ltd.org/site\\_files/brt/index.html](http://www.ltd.org/site_files/brt/index.html)



## C. Study Alternatives



# BAY TO BAY LINK FEASIBILITY STUDY



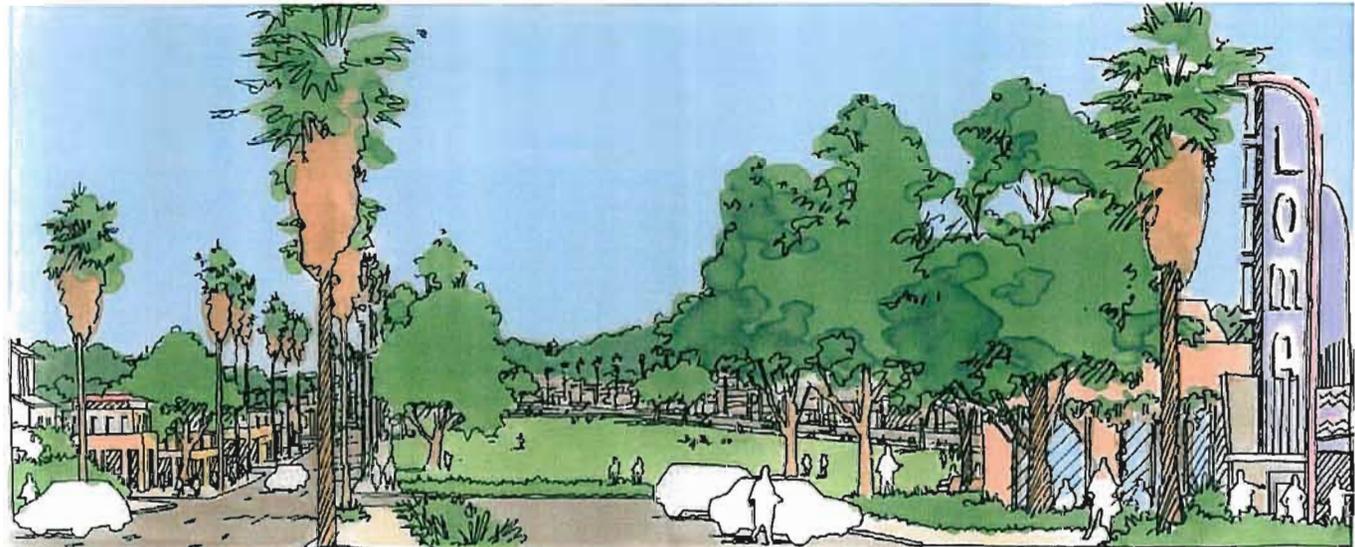
Two lane streets divide the Sports Arena site to serve new homes and multiple use development.

## 1. Park System Link Alternative

The Park System Alternative proposes 57 acres of park land including:

- 25 acre Community park on the Sports Arena Site in the center of housing and multiple use development;
- Neighborhood park along Rosecrans; and
- Public park land along Kurtz Street, linking SPAWAR and commercial uses with the proposed multiple-use development and La Playa Park.

La Playa Park divides traffic of Rosecrans Street. Parking for commercial property is provided in the old alignment.



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# BAY TO BAY LINK FEASIBILITY STUDY



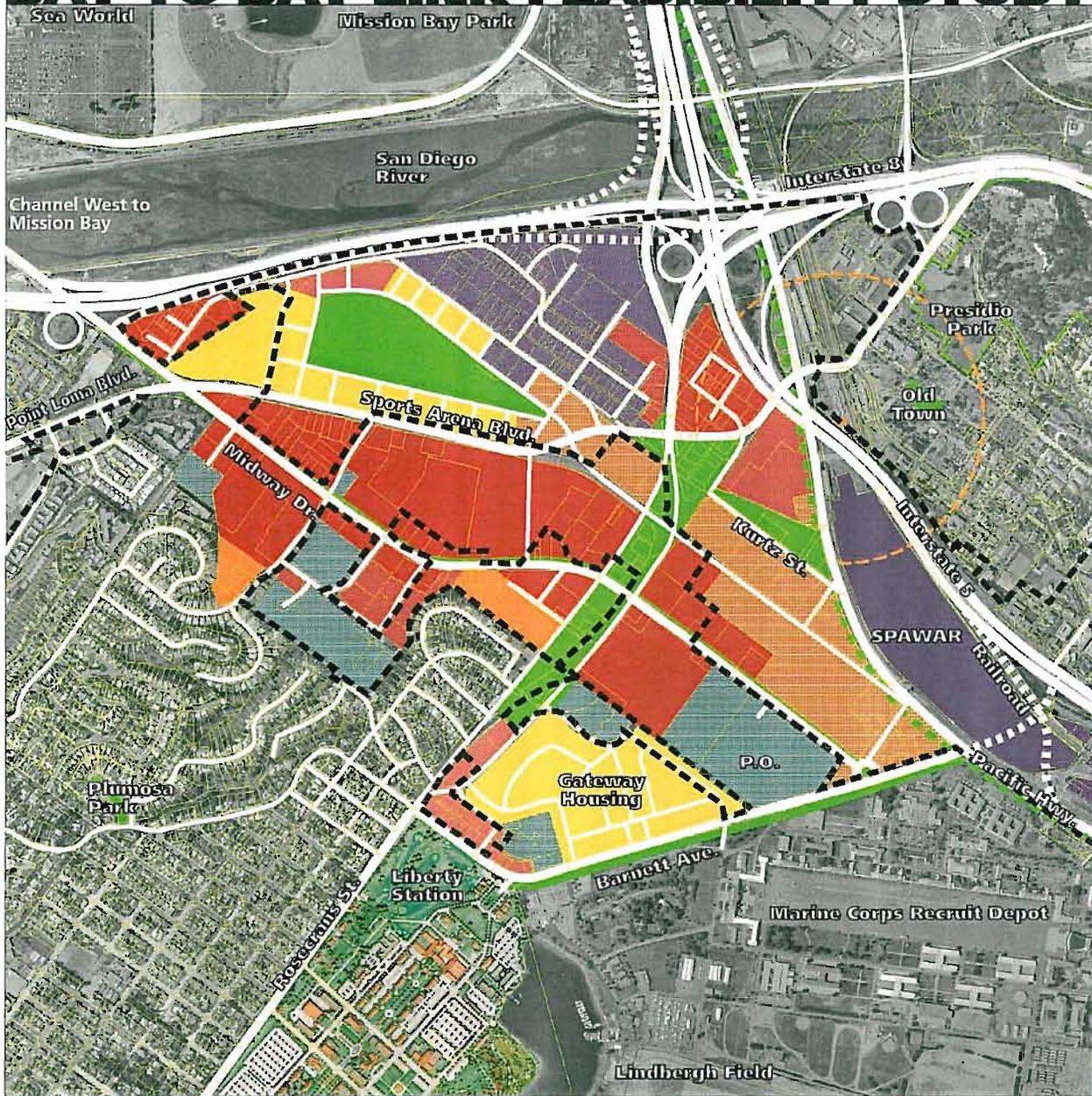
## Park System Link Concept Alternative

 Redevelopment Area Boundary



Downtown San Diego's Pantoja Park is a good example of a small park within an urban residential neighborhood.

# BAY TO BAY LINK FEASIBILITY STUDY



## Park System Link Concept Alternative

Midway / Pacific Highway Corridor Community Plan Amendment 1/99  
Proposed Land Use

-  Redevelopment Area Boundary
  -  Residential Medium 29 DU/AC
  -  Residential Medium / High 43 DU/AC
  -  Commercial - Community
  -  Commercial - Neighborhood
  -  Commercial - Office
  -  Commercial - Recreation
  -  Commercial - Transportation Related
  -  Commercial - Visitor
  -  Industrial Park
  -  Light Industrial
  -  Institutional
  -  Multiple Use
  -  Public Park / Open Space
-  1/4 Mile radius  
Transit Stop

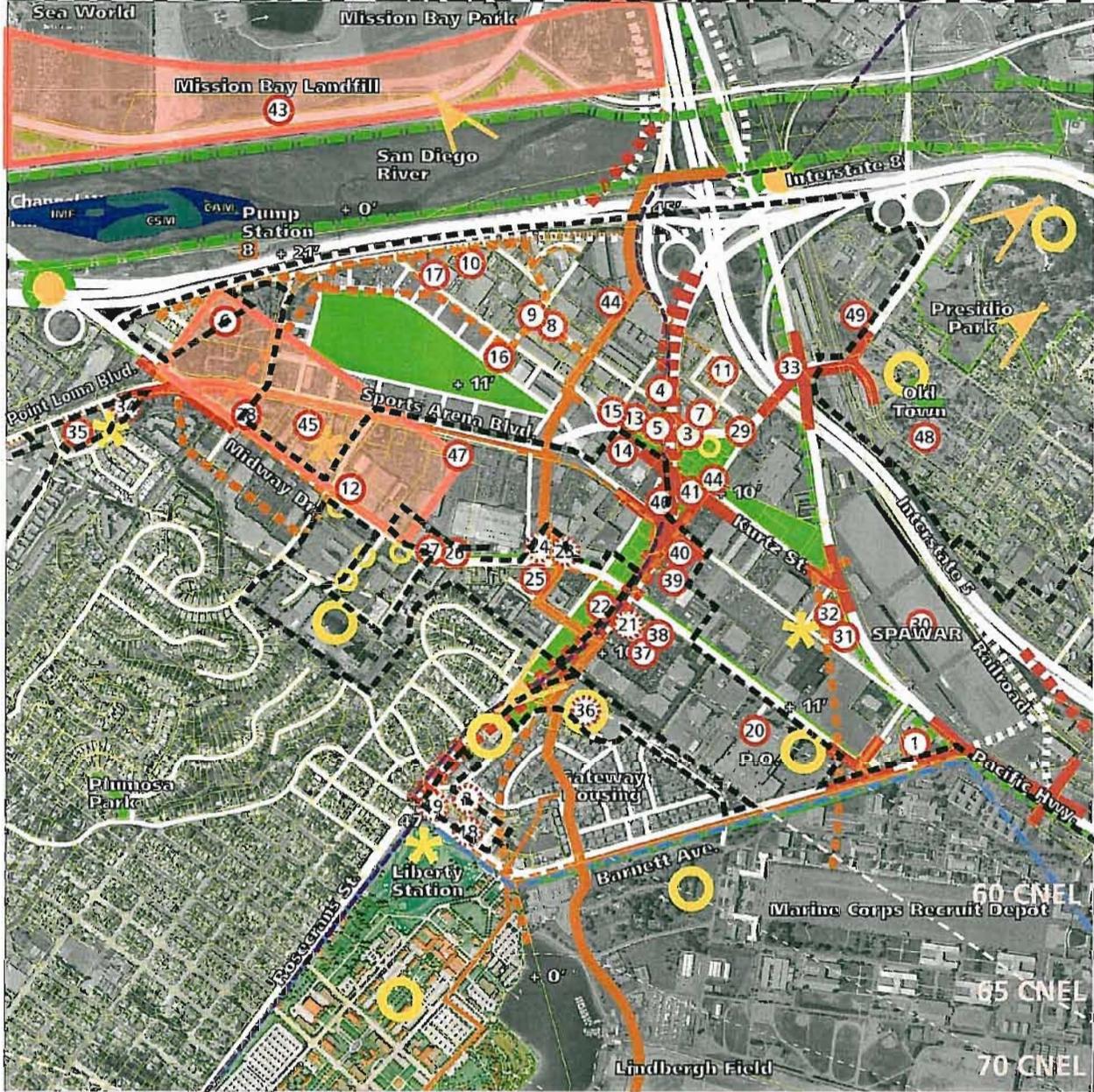
Wallace Roberts & Todd LLC - Moffatt & Nichol Engineers - Ninyo & Moore - Katz, Okitsu & Assoc. - Helix Environmental Planning, Inc. - Professional Consulting Group - Economics Research Assoc.



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# BAY TO BAY LINK FEASIBILITY STUDY



## Opportunities & Constraints Diagram Park System Linkage Alternative

- Redevelopment Area Boundary
- Multiple Species Conservation Program  
Brackish Marsh, Coastal Salt Marsh, Intertidal
- Cultural Resources, *general locations*
- Subsurface Archaeological Sites
- Pedestrian/Bicycle access to the San Diego River Park Trail network
- 96" Sanitary Sewer
- 16" - 30" Sanitary Sewer
- 32" - 56" Storm Drain
- 22" - 30" Storm Drain
- 24" Water Line
- 8" Navy Jet Fuel Line
- Municipal Land Fill
- Closed File for Leaking Underground Storage Tank
- Open File for Leaking Underground Storage Tank
- Key Observation Points
- Additional Traffic Capacity is required
- Deficient intersection, level of service, safety
- Coastal Zone Boundary
- Community Noise Equivant Level (CNEL)
- + 10' Elevation

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# BAY TO BAY LINK FEASIBILITY STUDY

## Water Quality & Biological Resources

### WATER QUALITY

By foregoing construction of a channel, this alternative would minimize impacts related to erosion, sedimentation and the need for dewatering. The potential for some impacts related to these issues would, however, exist because of the (relatively limited) grading required in association with redevelopment and creation of public open space/park lands. The potential for contamination from construction-related hazardous materials also would exist, but the duration of this hazard would likely be somewhat less than with the other two alternatives. Although a potential exists for sediment and construction-related hazardous materials to drain to the San Diego Bay or River through storm drains, this would be limited because the project would not be directly connected to these sensitive water bodies. Because project-related grading would exceed five acres, the General Construction Activity Storm Water Permit, with associated measures to minimize potential water quality impacts, would be required as described above.

The absence of the channel in this alternative would substantially limit the amount of potential dewatering required, but some could still be expected in association with the above-noted grading activities. It is considered unlikely that any groundwater encountered would be directed to surface water bodies, because of the project's isolation from them. Under this alternative, it is more likely that the anticipated minimal amount of groundwater encountered would be directed to the City's sewage system, with the associated requirement that the effluent meet the City's discharge requirements, thus minimizing any potential impacts. This alternative also would eliminate the potential for mixing of bay waters and river flows, and associated potential impacts.

This alternative would result in the generation of urban contaminants associated with redevelopment (although likely not substantially different from existing conditions) and landscaping of the public open space/park lands. As noted above, the transport of these contaminants would be somewhat limited because there would be no direct connection from the project to sensitive water bodies. The project also would be required to implement measures to comply with NPDES and associated City requirements regarding water quality and runoff discharge.



Small water features provide recreation opportunities.

### BIOLOGICAL RESOURCES

This alternative would avoid any direct impacts to sensitive habitat or species, as it would occur entirely in areas that are developed and do not support sensitive resources. There is some potential for indirect impacts to sensitive species in the San Diego River due to demolition/construction activities in the vicinity. These activities would, however, be separated from the river by Interstate 8, and changes near San Diego Bay would be minimal, so impacts would likely not be assessed as significant in the context of the existing conditions. As described above, this alternative would result in some short- and long-term water quality impacts; runoff would, however, be filtered before reaching sensitive biological resources. There is some limited potential for use of proposed park areas by common wildlife; this would not, however, be regarded as a significant environmental benefit.

Because none of the project elements would occur adjacent to or directly within sensitive habitats, the potential for long-term habitat impacts also would be minimal. No increase in motorized watercraft would occur. No mixing of waters of various salinities or potential for draining of water from wetland habitats would occur. Human presence in nearby habitats also would not be expected to noticeably increase. No invasion of exotic species into sensitive areas would be anticipated, because of the lack of connectivity between areas affected by the project and such areas.

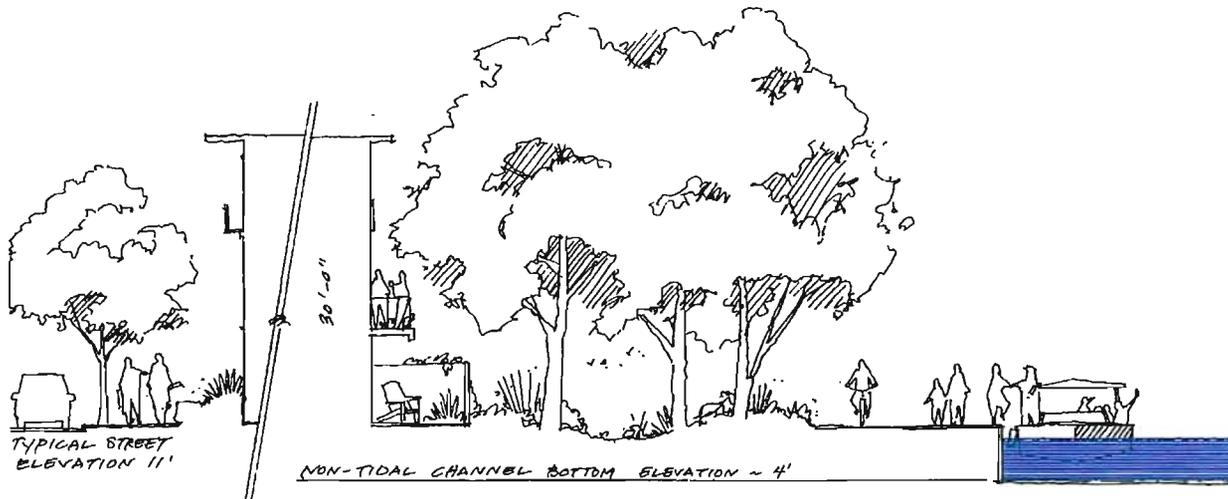
# BAY TO BAY LINK FEASIBILITY STUDY

## 2. Non-Tidal Channel Alternative

The Non-tidal Alternative proposes 29 acres of park land including:

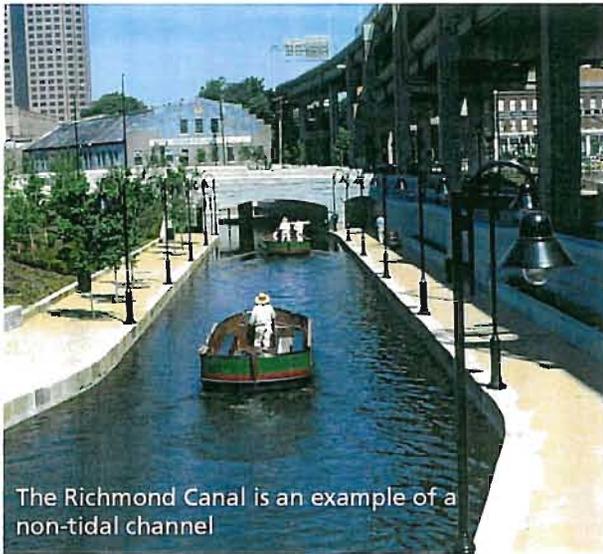
- Neighborhood park along Rosecrans; and
- 2 small parks on the Sports Arena Site in the center of housing and multiple use development.

The water area would be unique type of public open space allowing small boats to circulate the eastern and western inland loops.

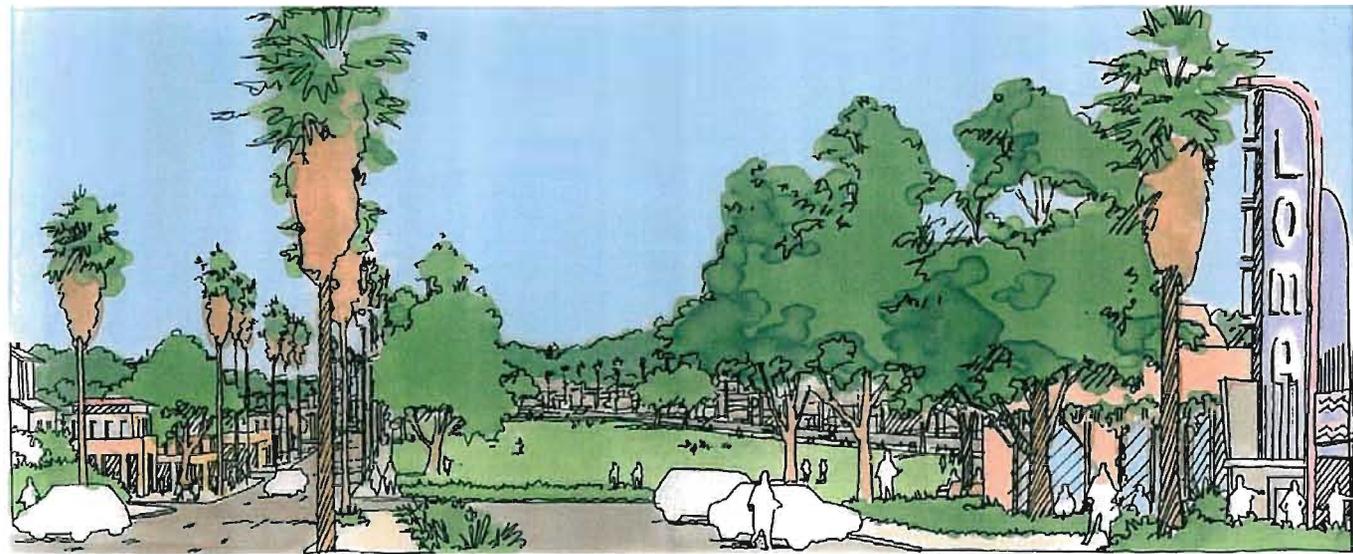


The Non-Tidal Channel alternative, not linked to the San Diego River or the Bays invites urban waterfront development without the complications associated with water quality, habitat mitigation, and construction costs.

The Non-tidal Alternative also allows for La Playa Park.

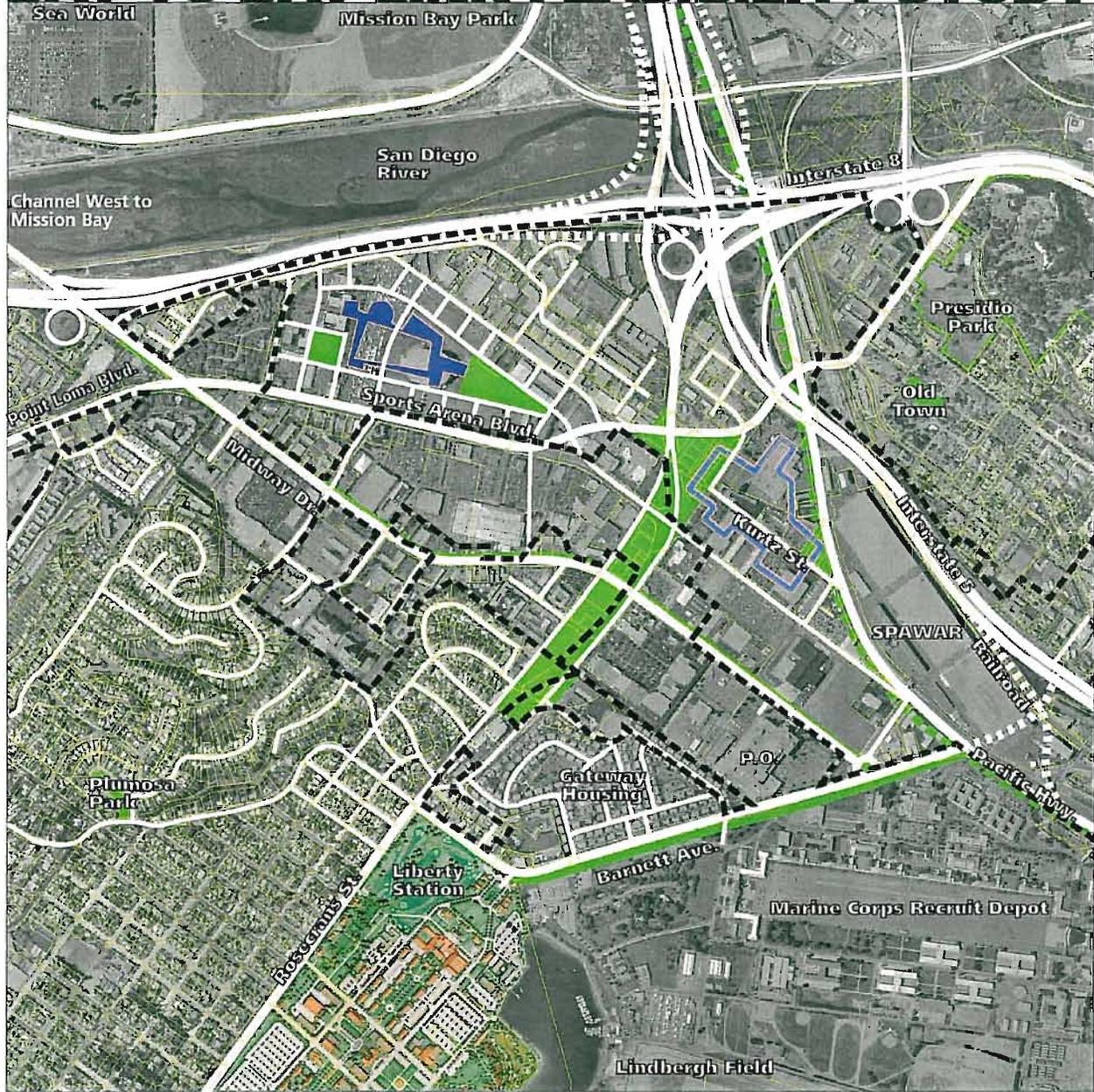


The Richmond Canal is an example of a non-tidal channel



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# BAY TO BAY LINK FEASIBILITY STUDY



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## Non-Tidal Channel Concept Alternative

 Redevelopment Area Boundary

The Non-tidal Alternative is composed of two independent water ways that circle through the residential development on the Sports Arena site and the multiple use development east of Rosecrans. This alternative provides urban waterfront and boating opportunities without the complications of a navigable channel linked to either of the Bays.

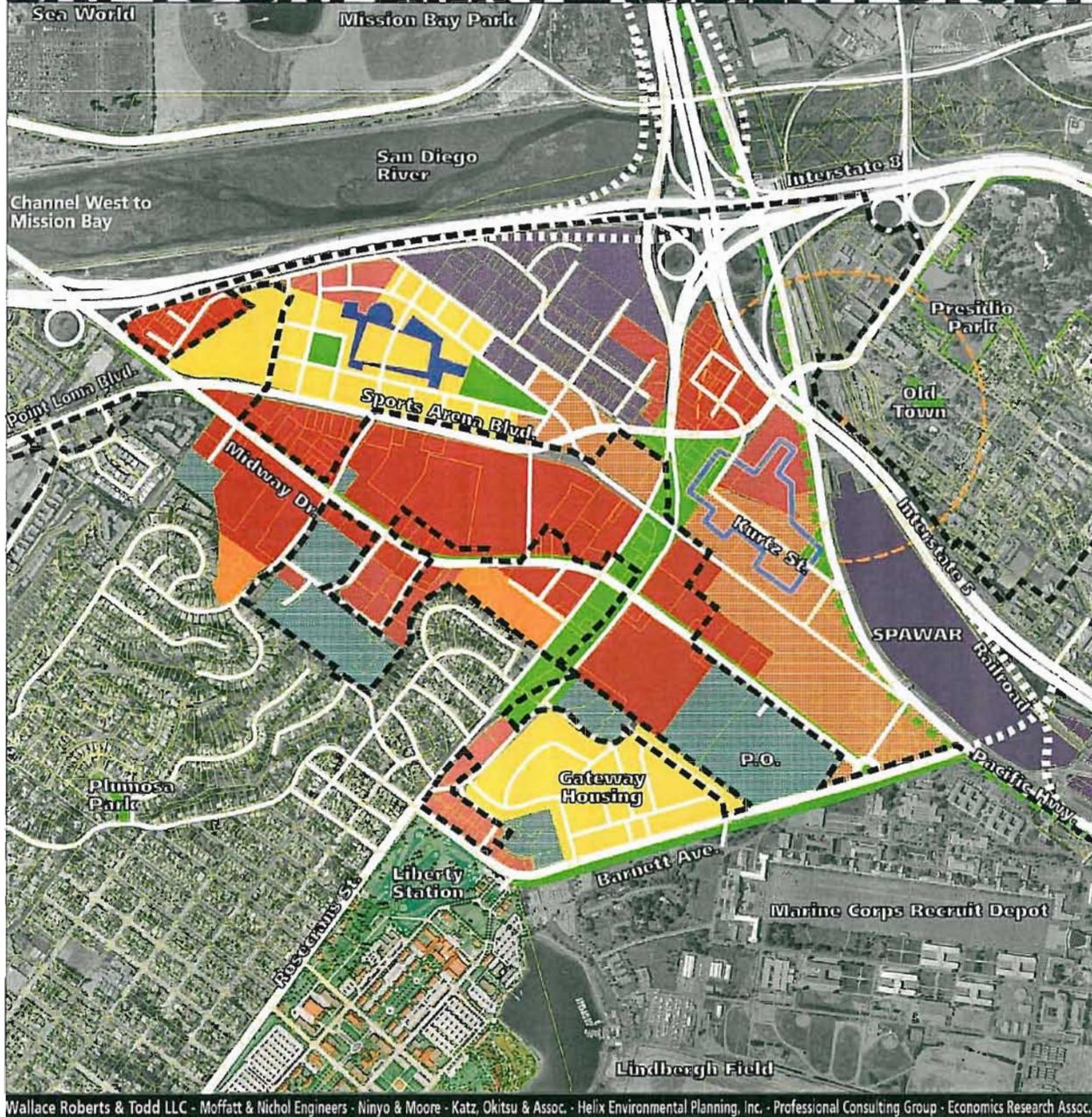


The channel of Capitol City Landing in Indianapolis extends through parks and diverse urban districts.

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# BAY TO BAY LINK FEASIBILITY STUDY

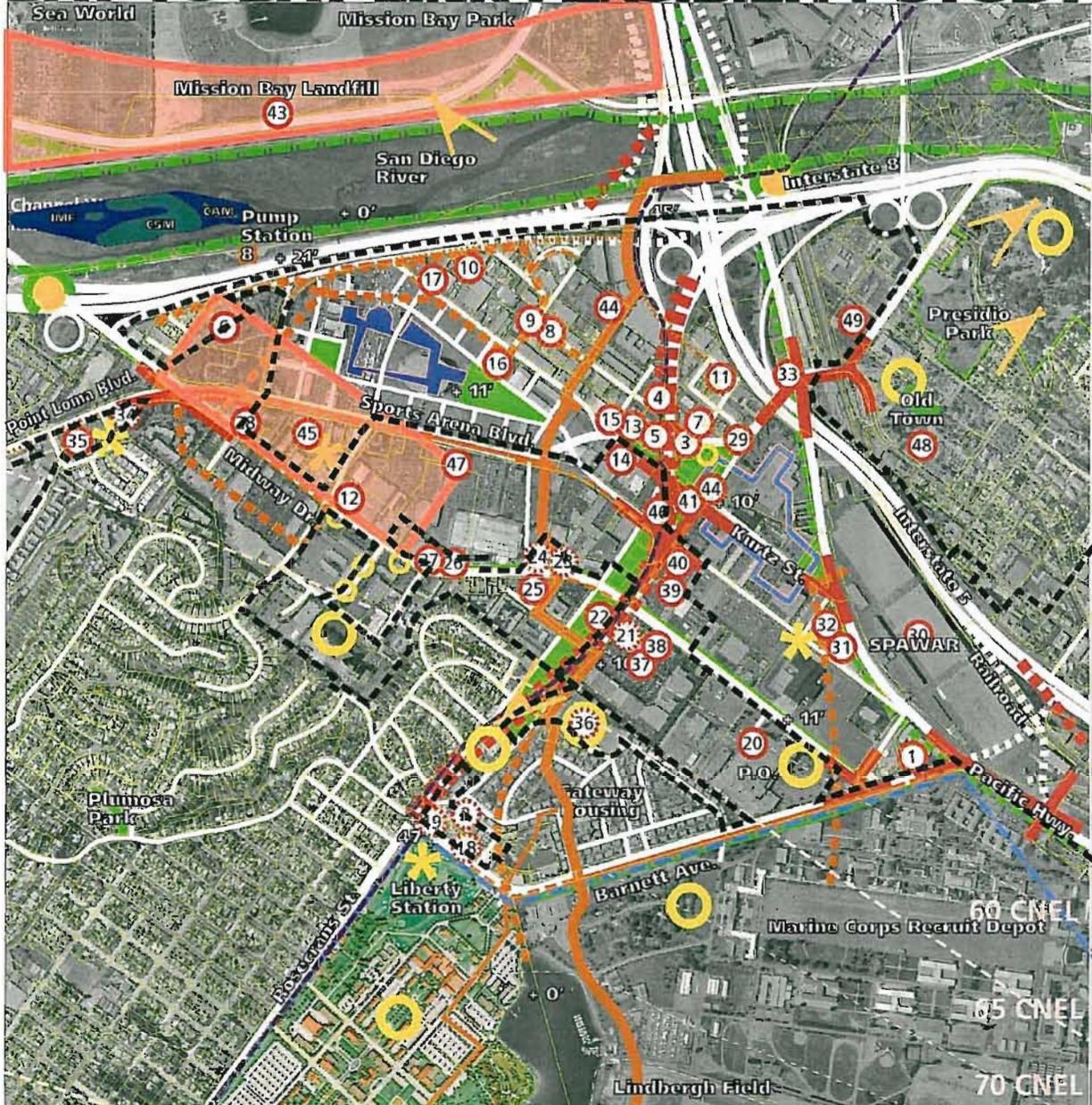


## Non-Tidal Channel Concept Alternative

Midway / Pacific Highway Corridor Community Plan Amendment 1/99  
Proposed Land Use

-  Redevelopment Area Boundary
  -  Residential Medium 29 DU/AC
  -  Residential Medium / High 43 DU/AC
  -  Commercial - Community
  -  Commercial - Neighborhood
  -  Commercial - Office
  -  Commercial - Recreation
  -  Commercial - Transportation Related
  -  Commercial - Visitor
  -  Industrial Park
  -  Light Industrial
  -  Institutional
  -  Multiple Use
  -  Public Park / Open Space
  -  Water
-  1/4 Mile radius Transit Stop

# BAY TO BAY LINK FEASIBILITY STUDY



## Opportunities & Constraints Diagram Non-Tidal Channel Concept Alternative

- Redevelopment Area Boundary
- Multiple Species Conservation Program  
Brackish Marsh, Coastal Salt Marsh, Intertidal
- Cultural Resources, *general locations*
- Subsurface Archaeological Sites
- Pedestrian/Bicycle access to the San Diego River Park Trail network
- 96" Sanitary Sewer
- 16" - 30" Sanitary Sewer
- 32" - 56" Storm Drain
- 22" - 30" Storm Drain
- 24" Water Line
- 8" Navy Jet Fuel Line
- Municipal Land Fill
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- Coastal Zone Boundary
- Community Noise Equivant Level (CNEL)
- + 10' Elevation

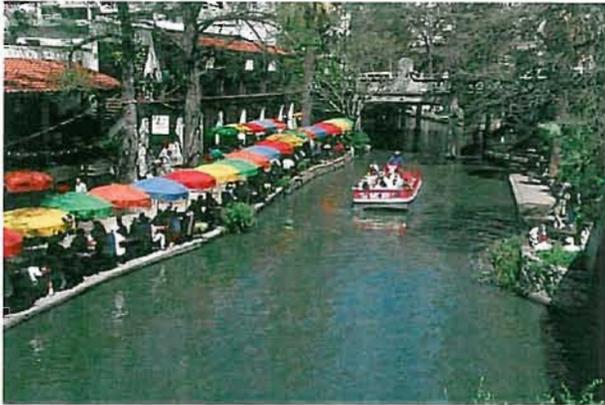
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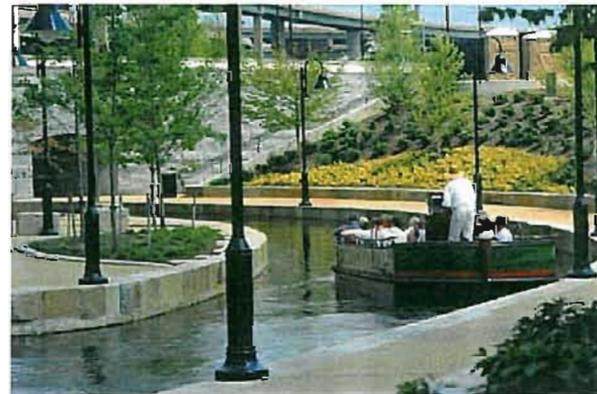
6 February 2003

# BAY TO BAY LINK FEASIBILITY STUDY

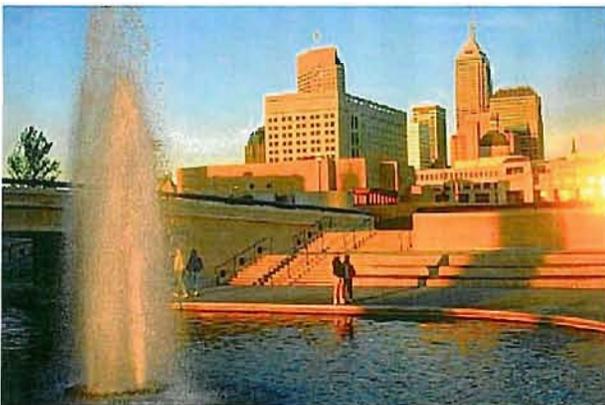
## Waterfront Engineering



**San Antonio Riverwalk**  
River Walk is an early example of a riverfront park that became a catalyst for revitalizing not just a neglected waterway, but an entire community. Twenty-one bridges, each unique, and 31 stone stairways connect the river level with downtown San Antonio streets; the varied landscape provides opportunities for people to jog or amble, people-watch, eat, shop, sightsee and celebrate, attend entertainment events - or just sit in tranquility.  
Source: [http://pps.org/gps/one?public\\_place\\_id=22](http://pps.org/gps/one?public_place_id=22)



**Richmond Canal, Richmond, Virginia**  
The Canal Redevelopment Project was developed in response to the federally mandated Combined Sewer Overflow project for downtown Richmond. The installation of the new collector pipes and regulators allowed redeveloping the canal as a public amenity and catalyst for redevelopment of adjacent districts.



**Capitol City Landing, Indianapolis, Indiana**

### Dredge Channel

#### Assumptions:

1. Average ground elevation is +10 ft MLLW.
2. Since an internal waterway is not subject to tidal influences, the channel depth is estimated at 6 feet, plus 2 feet of freeboard for flood control. Therefore, the channel bottom depth is at +2 feet MLLW.
3. There are two water loops proposed, the Western Loop and the Eastern Loop. The channels would be excavated from the land and in the dry, then filled with water after fully constructed.

### Construct Seawall

Because of the limited area, a vertical seawall is assumed for the Study Alternative. A revetted slope would require much more width than is available or assumed at this time. The vertical seawall will be more expensive to construct, but will utilize the space much better.

### Maintenance Dredging in Proposed Channels

Minimal maintenance dredging is expected for this alternative, since there would not be any natural deposition sources.

### Water Circulation (Pumps)

Pumps will probably be needed for the internal waterway park system. It is assumed that 4 pumps may be needed to provide adequate circulation and water quality (two in each loop).

### Relocate Wet Utilities

This alternative also includes demolition and relocation of sewer and storm systems. The 96-inch sewer main will not need to be relocated for this revised alternative. Only minor segments of the larger storm drain network may need to be relocated.

# BAY TO BAY LINK FEASIBILITY STUDY

## Water Quality & Biological Resources

### WATER QUALITY

Grading/excavation associated with redevelopment, public open space/park lands and two channel systems would result in a potential for erosion/sedimentation. The potential for contamination from construction-related hazardous materials also would exist from the construction activities. Similar to the situation described above for the Park System Linkage Concept Alternative, the potential for transport of sediment and contaminants would be limited because the project would not be directly connected to sensitive water bodies. The overall potential for contamination would, however, be greater than with the Park System Linkage Alternative because of the amount of construction involved and the associated length of the construction period. Because project-related grading would exceed five acres, the General Construction Activity Storm Water Permit, with associated measures to minimize potential water quality impacts, would be required as described above.

This alternative would result in the potential need for dewatering associated with grading activities, particularly channel creation. This would be of particular concern in areas containing hazardous materials.

Disposal of effluent in this situation could be problematic as the additional flows of dewatering groundwater could strain the sewer system. Regardless, water quality standards would need to be met, which would minimize any potential impact but could be difficult to achieve.

Similar to the Park System Linkage Concept Alternative, this alternative would result in the potential for the generation of urban contaminants associated with redevelopment and landscaping. There would be somewhat less park land (and presumably landscaping) associated with this alternative than with the Park System Linkage Alternative due to presence of the channel rather than greensward. As noted above, the project would be required to implement measures to comply with NPDES and associated City requirements regarding water quality and runoff discharge. Any water quality issues associated with the channel (including potential for seepage of contaminated groundwater) would be relatively contained, as the channels would not be connected to any existing water bodies.

### BIOLOGICAL RESOURCES

Similar to the Park System Linkage Concept Alternative, all activities associated with this alternative would be located south of Interstate 8 (and thus buffered from sensitive habitats in the San Diego River) and no changes to the San Diego Bay are proposed. No direct impacts to sensitive habitats would, therefore, occur, and any indirect impacts would be minimal. Runoff associated with redevelopment and landscaping would be filtered before reaching any natural water bodies. Any changes to the hydrologic regime associated with the construction of the proposed channels would be anticipated to be minimal.

There is some potential for the channel and park lands to be used by various wildlife species. This could be assessed as a (relatively minimal) benefit, but would be of concern if the water in the channel became highly polluted due to contaminated runoff, motorized boat usage or seepage of contaminated groundwater, and would be limited by the human use of the area. No long-term habitat changes would be anticipated for this alternative. Human use would likely be focused on the channels, and any related increase in human use of nearby habitat areas would be expected to be minimal. Any noise impact related to the use of motorized boats in the channels (which are removed from sensitive habitat areas) also would be minimal.

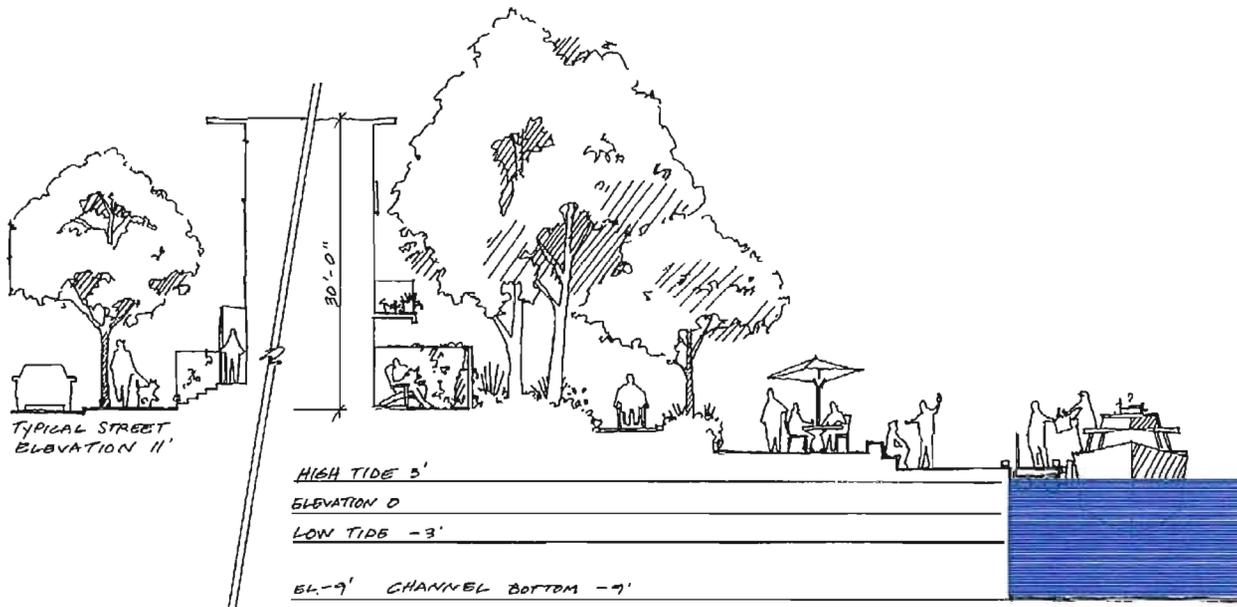
# BAY TO BAY LINK FEASIBILITY STUDY

## 2. Non-Tidal Channel Alternative

This Alternative proposes 34 acres of park land including:

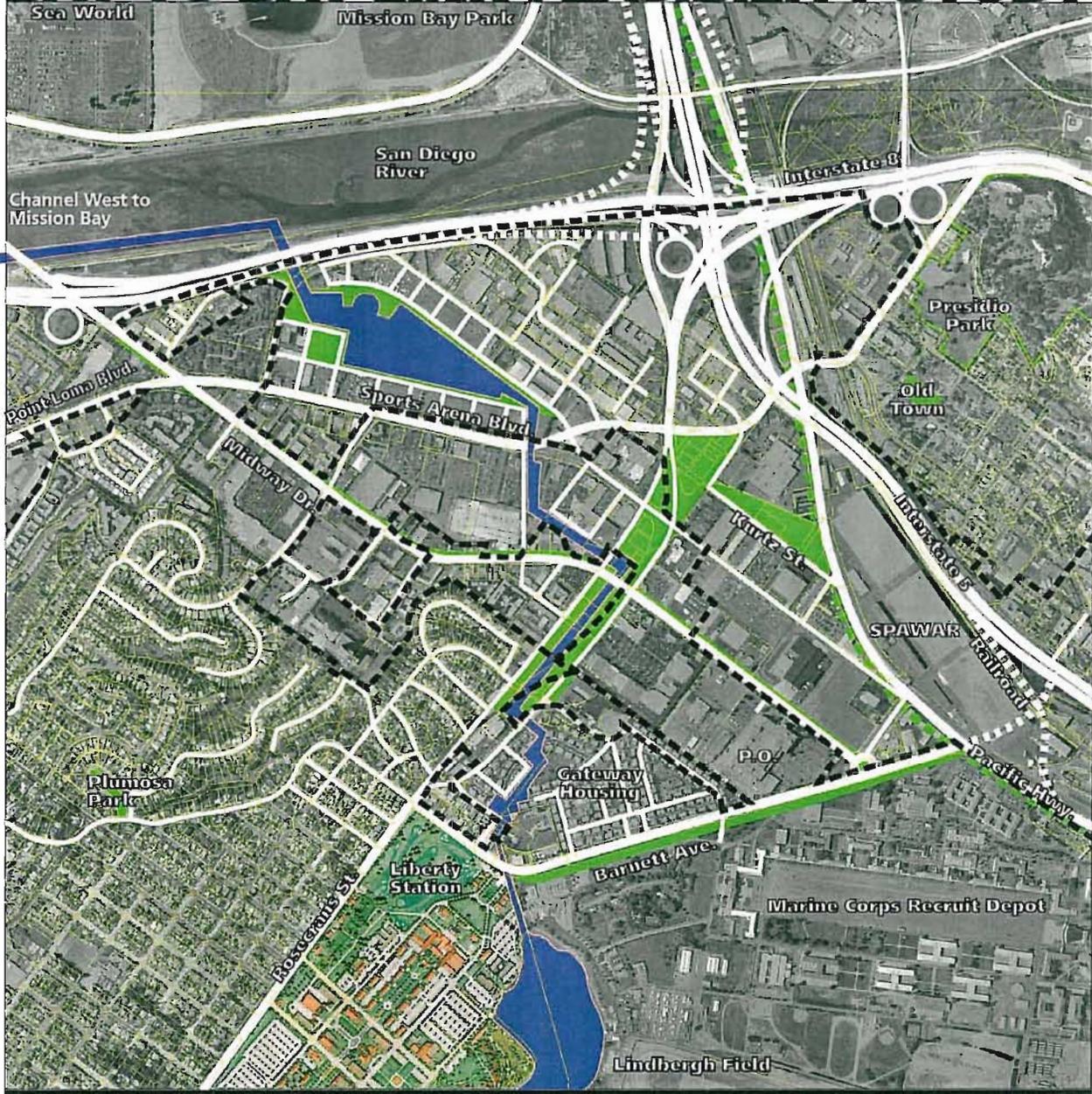
- Neighborhood park along Rosecrans; and
- Small park areas on the Sports Arena Site associated with the waterway, inland harbor, housing and multiple use development.
- Public park land along Kurtz Street, linking SPAWAR and commercial uses with the proposed multiple-use development and La Playa Park.

The water area would be unique type of public open space that could count toward meeting the park land requirements.



The channel extends through the center of La Playa Park.

# BAY TO BAY LINK FEASIBILITY STUDY



## Navigable Channel San Diego Bay to Mission Bay Concept Alternative

 Redevelopment Area Boundary

The triangular shaped park in the Multiple-use area will enhance the property and link the SPAWAR campus with the La Playa Park and residential areas to the north.



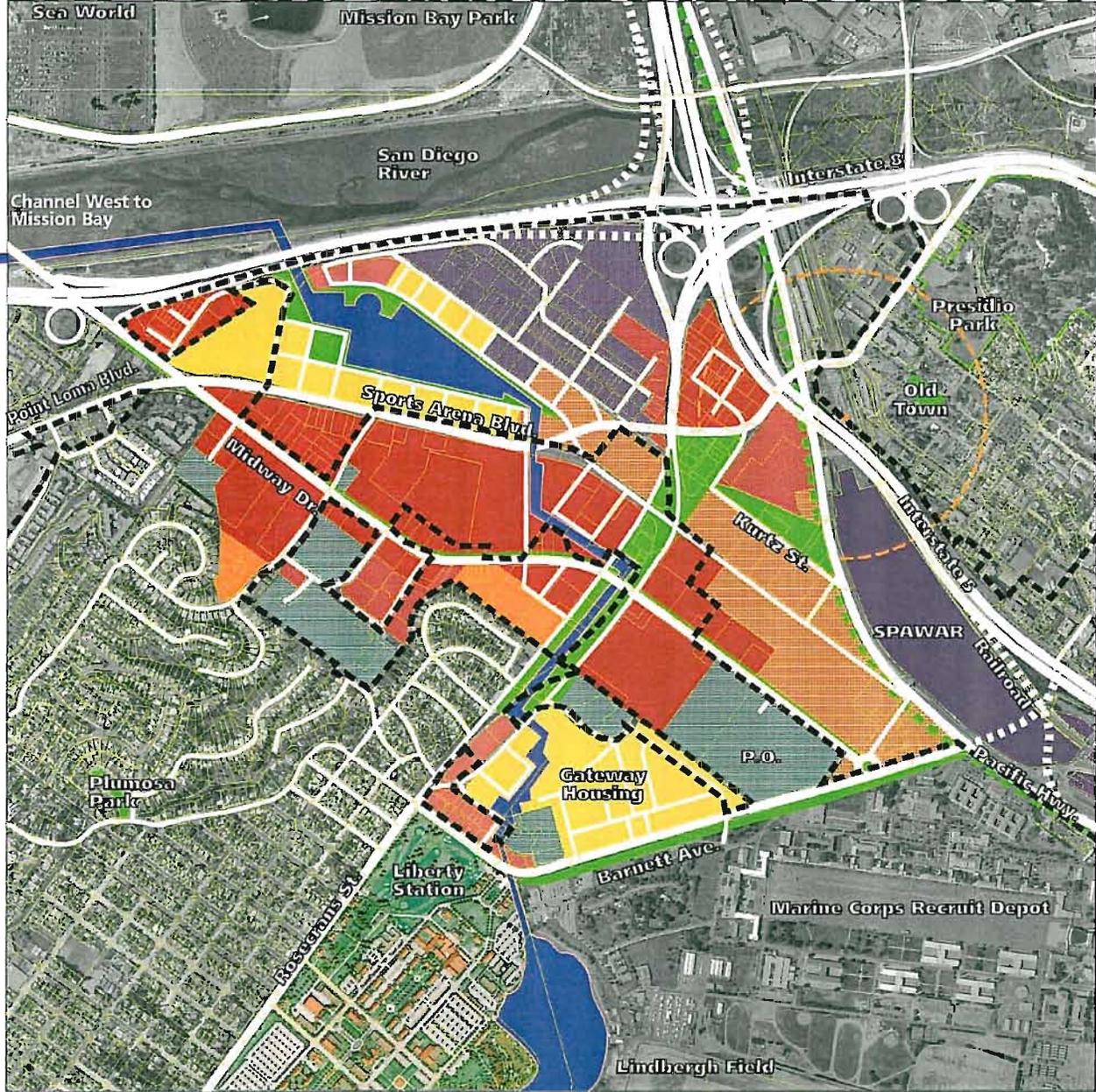
This Alternative invites a variety of boaters into a unique inland passage.



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# BAY TO BAY LINK FEASIBILITY STUDY



## Navigable Channel San Diego Bay to Mission Bay Concept Alternative

Midway / Pacific Highway Corridor Community Plan Amendment 1/99  
Proposed Land Use

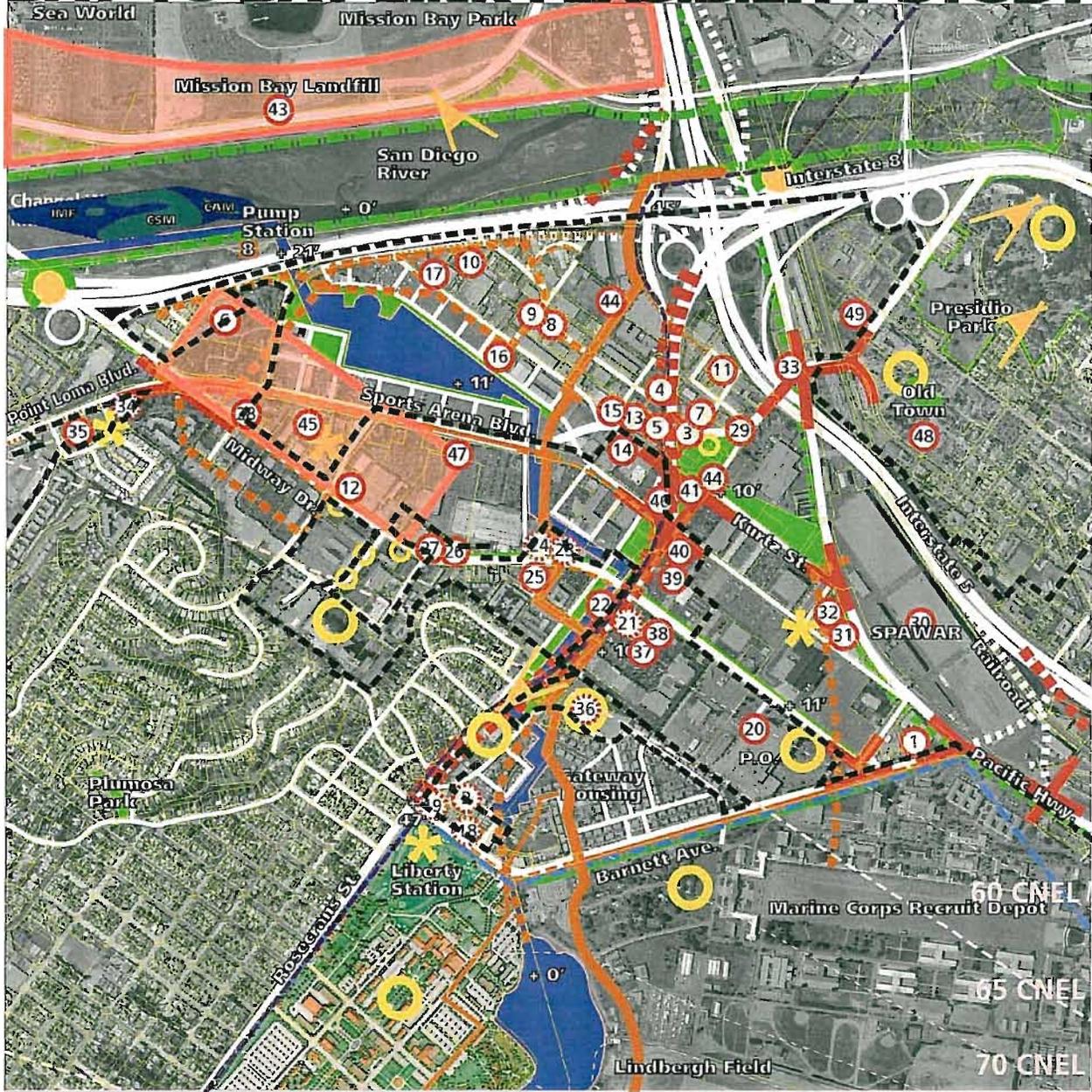
-  Redevelopment Area Boundary
  -  Residential Medium 29 DU/AC
  -  Residential Medium / High 43 DU/AC
  -  Commercial - Community
  -  Commercial - Neighborhood
  -  Commercial - Office
  -  Commercial - Recreation
  -  Commercial - Transportation Related
  -  Commercial - Visitor
  -  Industrial Park
  -  Light Industrial
  -  Institutional
  -  Multiple Use
  -  Public Park / Open Space
  -  Water
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Transit Stop

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# BAY TO BAY LINK FEASIBILITY STUDY



## Opportunities & Constraints Diagram Navigable Channel from San Diego Bay to Mission Bay

- Redevelopment Area Boundary
- Multiple Species Conservation Program  
Brackish Marsh, Coastal Salt Marsh, Intertidal
- Cultural Resources, *general locations*
- Subsurface Archaeological Sites
- Pedestrian/Bicycle access to the San Diego River Park Trail network
- 96" Sanitary Sewer
- 16" - 30" Sanitary Sewer
- 32" - 56" Storm Drain
- 22" - 30" Storm Drain
- 24" Water Line
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- Closed File for Leaking Underground Storage Tank
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- Coastal Zone Boundary
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# BAY TO BAY LINK FEASIBILITY STUDY

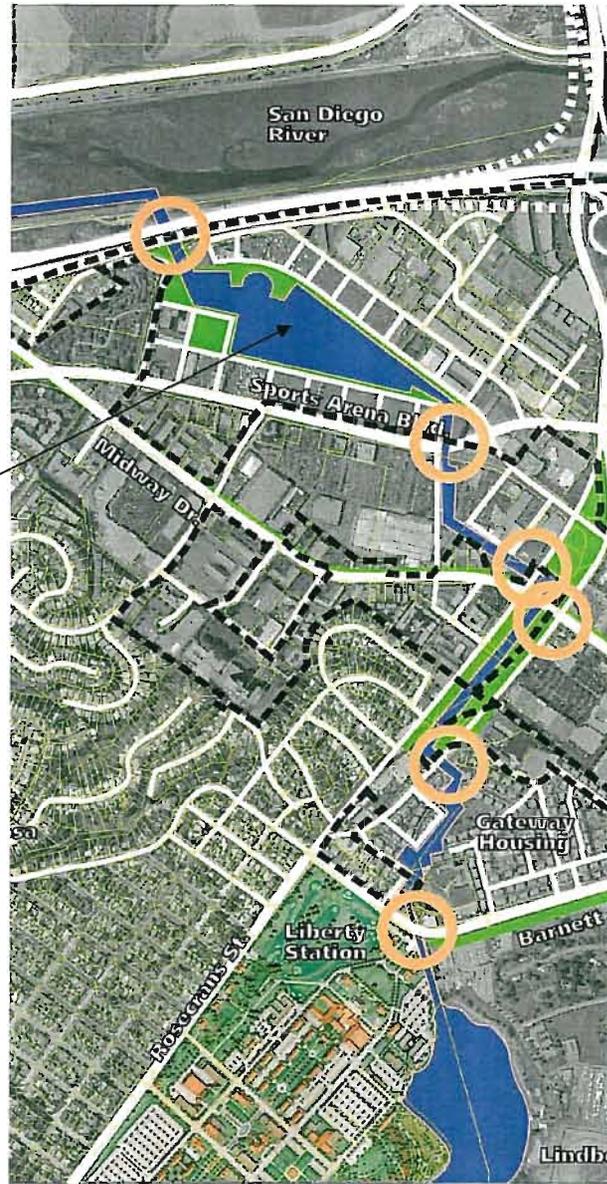


The Harbor Drive bridge over the NTC Channel has 23' vertical clearance, the inland parallel bridge has 21' clearance.

The inland marina illustrated could harbor approximately 415 boats between 20' and 50' long with areas of open water for general enjoyment. The water distance from this marina to the Ocean, via the San Diego River is 3 miles. In comparison, it is 14 miles from Coronado Cays, and Chula Vista marina.



The channel at Naples Island is defined by bridges with 8' vertical clearance.



## Bridges and Docks

The Feasibility Study Alternative includes six bridges with 15' vertical clearance from the Mean High Water surface to the bottom of the bridge. This height allows a variety of boat types to access the inland waterway. A review of harbors along the California coast identified a number of examples where successful waterfront communities are inland of low bridges.

- The bridge at Newport Island limits the size of boats entering the Balboa Coves with a 8' clearance.
- Santa Cruz Small Craft Harbor bridge has 18' clearance.
- Huntington Harbour limits boat size with a 23' bridge.

*The Study does assume no changes to the existing bridges on Harbor Drive or in the San Diego River.*



The edge of the channel, subject to tidal fluctuation, requires a variety of designed solutions to make it a functional and attractive urban element. For example the Mark Twain Dock in Hartford, CN (below) includes a safety rail and access to watercraft at any tidal height.



# BAY TO BAY LINK FEASIBILITY STUDY

## Dredge the Inland Channel

Assumptions:

1. Average ground elevation is +10 ft MLLW.
2. Dredging depth to -7 feet MLLW (17 feet).

This channel opens to a large basin in the north part of the Alternative for a marina and other boat slips. The channel would be excavated from the land and in the dry, then filled with water after fully constructed. Long hauling distances and possible saltwater content in the soils are calculated into the costs.

## Construct Seawall

Because of the limited area, a vertical seawall is assumed for the Alternative. A revetted slope would require much more width than is available or assumed at this time. The vertical seawall will be much more expensive to construct, but will utilize the space much better.

## Maintenance Dredging in Proposed Channels

It is assumed that minor dredging may need to occur near the connection to San Diego Bay from a build-up of sediments. It is assumed that 20% of the initial approach channel may fill in each year (as a maximum volume).

## Dredge in San Diego River

It is assumed that the average elevation within the San Diego River area to be dredged is about +5 feet MLLW (0 near mouth and maybe around +10 near flood gate area). It is assumed that the channel would need to be maintained to an adequate depth and would fill in rather quickly.

## Construct Gate at Mission Bay

A gate would need to be constructed through the center jetty between the San Diego River and Mission Bay. Currently, there is a weir that exists to control storm flows from the river. The proposed gate would be similar to the levee gate, but not necessarily as large or complex.

## Dredge through Levee

The last segment of channel that would extend from the northern-most channel, through the levee to the San Diego River. It is assumed that the ground elevation is approximately +10 feet MLLW and approximately +18 feet MLLW at the levee. This northernmost leg from the large basin towards the levee would also require about 1300 lf of seawall.

## Maintenance Dredging in North Channel.

This includes the direct link through the San Diego River to Mission Bay, therefore maintenance dredging would also need to be conducted along the northern reach.

## Construct Flood Gate at San Diego River

The flood gate is assumed to be a moveable gate that slides along a track separating the San Diego River and the new channels. The gate would probably be a steel gate with a support and driving mechanism. The dimensions would be about 75 feet long and 26 feet high (from +18 to -8 ft MLLW).

## Water Circulation (Pumps)

Pumps may or may not be required for the complete Bay-to-Bay channel. Without modelling, this is difficult to answer. In order to assume the worse case, we assume that several (5-10) pumps may be needed to provide adequate circulation and water quality.

## Wet Utilities

Some existing utilities will need to be replaced in order to attain the proposed alternative configuration. These include sewer mains, storm drains, and water mains. With rerouting of the sewer line, new lift stations may be needed. It is estimated that approximately 3,800 linear feet of 96- inch sewer main will need to be demolished and replaced with 4,400 linear feet in order to reroute around the navigable channel.

## Waterfront Engineering



Proposed route of the Navigable Channel Alternative. It cuts under Interstate near the existing pump station #8 (below) and follows the levee and maintenance road west to under existing bridges. Finally, it cuts north through the western levee and into Mission Bay.



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# BAY TO BAY LINK FEASIBILITY STUDY

## WATER QUALITY

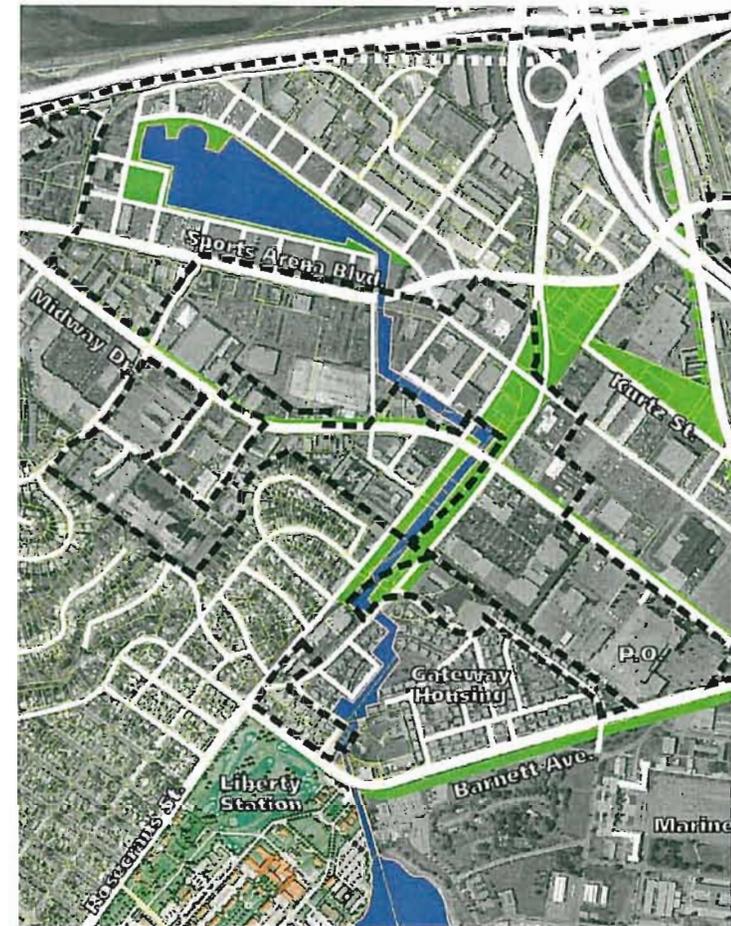
This alternative would result in the greatest potential water quality impacts of the alternatives reviewed because of both the extent of grading/excavation and the fact that it would directly connect to both San Diego Bay and the San Diego River. Although construction-related hazardous materials employed are assumed to be similar under any of the alternatives, they are assumed to be present over a longer duration with this alternative due to the extent of required construction activity. Urban contaminants actually generated by this alternative may be somewhat less with regard to landscaping than the other alternatives, but would involve potential for boating contaminants that would not occur with the other alternatives. The connection to sensitive water bodies could result in the channel being a conduit for sediment, construction-related hazardous materials and urban contaminants (both those associated with the project and those generated by surrounding activities) that would be difficult to filter.

The depth required for the tidal channel would increase the potential for dewatering activities to be required in association with excavation. The potential for this to occur in areas subject to existing groundwater contamination results in concerns associated both with construction and with long-term seepage into the channel (and transport to adjoining water bodies).

As noted in the discussion above, a major concern (and one associated only with this alternative) is associated with the channel's connectivity to, and mixing of flows between, the San Diego River, Mission Bay and San Diego Bay. The connection between San Diego River and San Diego Bay would be direct; although there is a jetty between the San Diego River channel and Mission Bay, it is possible that there would be some flow between the two related to tidal action. As described in the general discussion above, each of these water bodies is included on the list of impaired water bodies due to existing pollution. Each, however, has distinct pollution issues not currently shared by the other water bodies (e.g., phosphorus and chlordane in the San Diego River, sediment toxicity and dissolved copper in the San Diego Bay). The mixing of flows, therefore, could exacerbate the existing water quality issues in these areas, and further degrade their ability to support the designated beneficial uses related to recreation and wildlife habitat.

Given the relatively small amount of the San Diego River that lies downstream from the proposed connection point, it is possible that water quality impacts there could be relatively minimal; it also is possible, however, that flows could create a backwater that would affect some upstream areas of the river as well. Also, differences in net tidal flow between the two bays would have to be controlled to avoid scouring and associated turbidity. Determination of the direction, amount and rate of flow, as well as how far it would extend into each of the water bodies, would require a hydrologic analysis. This in turn would allow a more detailed assessment of the potential water quality impacts associated with this alternative. In the absence of this detailed assessment, water quality impacts are considered a potentially severe constraint to implementation of this alternative.

## Water Quality



*If a channel were connected only to San Diego Bay and not broken through to the San Diego River, impacts from mixing of flows between the two water bodies would be avoided, thereby substantially reducing anticipated impacts. The water in the channel would, however, be contaminated by flows from the Bay, and there would remain some potential for transfer of polluted groundwater to the Bay. These potential concerns are much less severe than those associated with a connection of the two waterbodies.*

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# BAY TO BAY LINK FEASIBILITY STUDY

## BIOLOGICAL RESOURCES

Construction of the channel linking San Diego Bay to the San Diego River could result in significant short- and long-term impacts to biological resources.

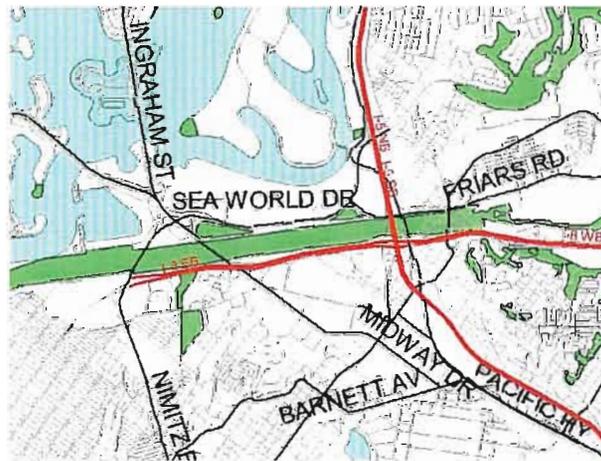
Dredging operations within or adjacent to San Diego Bay and the San Diego River could result in impacts to sensitive wetland (saltwater, brackish and freshwater) habitats and their associated species. There is a potential for impacts to eelgrass beds within San Diego and Mission Bays. These impacts would occur if dredging is necessary in eelgrass habitat. Based on preliminary design assumptions of a 100-foot wide channel, impacts to wetland habitats in the lower San Diego River would include approximately 2.0 acres of coastal salt marsh, 0.5 acre of mudflats and 7.6 acres of sand bars. Dredging in the lower San Diego River in areas that currently consist of open water would affect approximately 12.2 acres. This currently is relatively shallow water that supports aquatic vegetation. This vegetation is habitat for small fish, crustaceans and diving birds. Dredging within this habitat for the project will alter the wildlife values within the affected area to a deeper aquatic environment. These impacts could be difficult to mitigate because of their specialized requirements.

These impact numbers are based on a channel design within the San Diego River that is on the north side of the channel in the western project area. This is where a channel already exists and the sand bars are covered by the daily tides. If the channel were located further to the south the project could impact more terrestrial habitats, including sand dunes.

*Biological Resources within the Multiple Species Conservation Program.*

Impacts to wetland habitats (and associated species) could require compliance with a number of state and federal laws, including the Clean Water Act (Sections 10, 401 and 404), California Fish and Game Code (Section 1601), federal Migratory Bird Treaty Act (MBTA), and the state and federal Endangered Species Acts (CESA and FESA). Short-term impacts also could occur as a result of construction activities adjacent to sensitive habitats. Compliance with CESA, FESA and the MBTA to avoid impacts could require seasonal timing constraints for wetland habitat clearing, work corridor surveys for nesting birds and/or construction of noise barriers.

With the exception of the California least tern, the sensitive species known to occur in the study area are associated only with the San Diego River. In addition, the historic nesting grounds of the least tern, which forages in both the San Diego River and Bay, are adjacent to the river and at Mission Bay. Thus, both direct and indirect construction impacts to sensitive species would be much greater in association with activities in the river than in the bay.



## Biological Resources

There also is a potential for long-term impacts to sensitive biological resources. As noted above, the wetland habitats identified in the study area include saltwater, brackish water and freshwater. These habitats (and their attendant species) have developed in response to specific salinity regimes, and could be affected by changes to them. The salinities of the various portions of water bodies that would be affected by the project are not known at this time; nor (as noted with regard to water quality) are the flow patterns that would occur under this alternative. Although specific impacts, therefore, cannot be determined without a detailed hydrologic analysis, the effect of mixing of waters of varying salinities on the identified wetland habitats and associated species comprises a substantial area of concern for this alternative. Another potential source of habitat type conversion is the draining of water from wetland habitats as a result of dredging activities in adjacent areas. Historic changes in the vegetation in the San Diego River are evidence of habitat conversions that can result from changes in the hydrologic regime.

As described under water quality, above, this alternative could result in substantial water quality impacts, which could in turn affect sensitive species. The anticipated use of the canal by motorized boats would reduce the value of any wetland habitats created as part of its construction. Increased human presence, particularly the noise of motorized watercraft, also could affect sensitive wildlife species in the channel, San Diego Bay and San Diego River.

Another concern is related to the introduction of exotic plant and wildlife species. Specifically, ships docking in San Diego Bay discharge ballast water carried from distant locales, which contains species non-native to San Diego. A water link could allow these species to move from San Diego Bay into the San Diego River and Mission Bay. Any use of invasive plant species in landscaping adjacent to the channel also could result in the transport of non-native species into sensitive habitats.

# BAY TO BAY LINK FEASIBILITY STUDY

## Agency/Legislation Action Required

**U.S. Army Corps of Engineers (ACOE) Regulatory Branch**  
Section 10 and/or 404 permit

**U.S. Army Corps of Engineers (ACOE) Operations Branch\***  
Issues surrounding disruption of flood control in SD River channel and rip-rapped banks

**Regional Water Quality Control Board (RWQCB)**  
Section 401 waiver/certification

**U.S. Fish and Wildlife Service (USFWS)**  
Section 7 consultation

**California Department of Fish and Game (CDFG)**  
1601/3 streambed alteration agreement & 20.81 (California Endangered Species Act) permit

**California Coastal Commission (CCC) & City of San Diego**  
Coastal Development Permit (CDP)

**Multiple Species Conservation Program (MSCP)**  
Site Development Permit (by City of San Diego)

**California Environmental Quality Act (CEQA)**  
Environmental compliance document

**National Environmental Policy Act (NEPA)**  
Environmental compliance document

*\* It is anticipated that coordination and approval(s) would be necessary from one or more of these agencies, depending on the chosen Alternative. The responsible agency(ies) and required action requires further research to be ascertained.*

**Land fill regulatory agencies: City of San Diego, RWQCB and Integrated Waste Management Board\***  
Landfill disturbance and pollutant issues

**City of San Diego Solid Waste Local Enforcement Agency**  
Submit Work Plans, Project Reports, Boring and Well construction/destruction permits

**Closed LUSK Cases**  
**San Diego County Department of Environmental Health (DEH)**  
Reevaluate the case status

**Open LUSK Cases**  
**DEH**  
Submit Work Plans, Project Reports, Boring and Well construction/destruction permits

**City of San Diego Wastewater Department**  
batch discharge permit for disposal of groundwater into the sewer

**County of San Diego Air Pollution Control District**  
Active Remediation Equipment Permit



Wetland habitat in Mission Bay

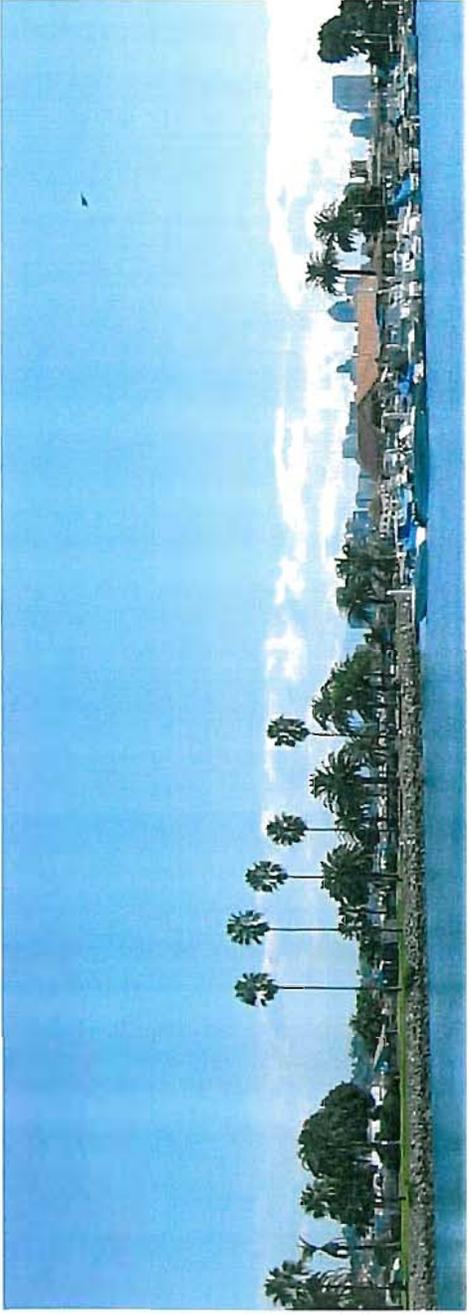
## Permitting & Environmental Review Requirements



Channel alignment studied through San Diego River  
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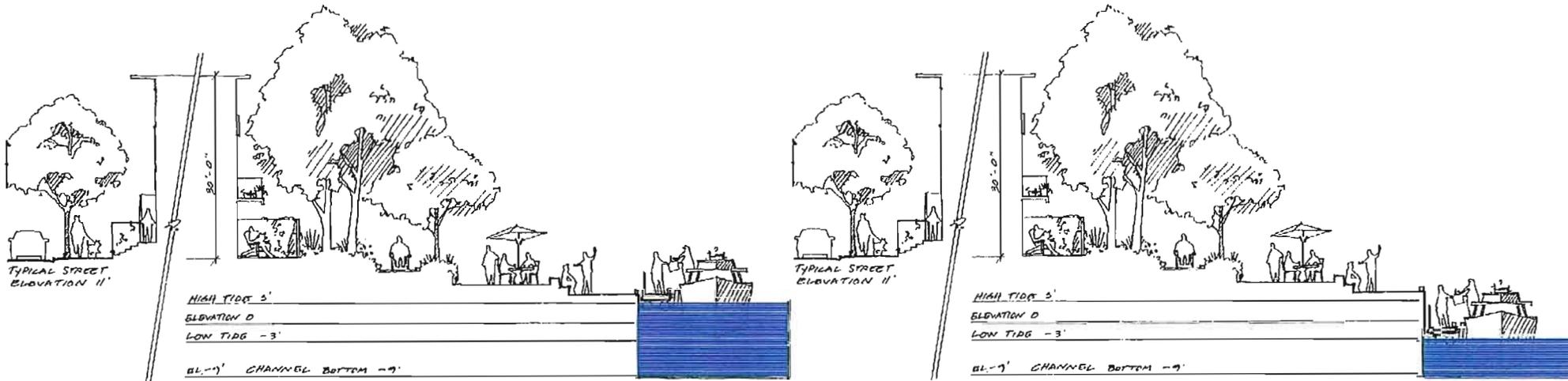


## D. Evaluation

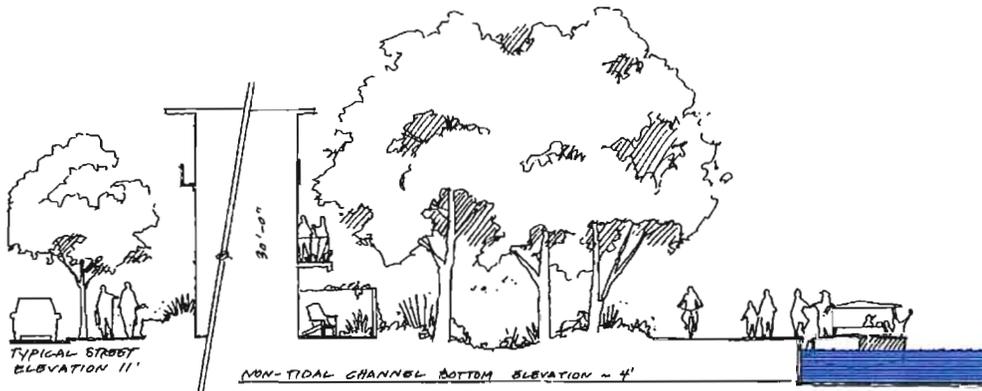


# BAY TO BAY LINK FEASIBILITY STUDY

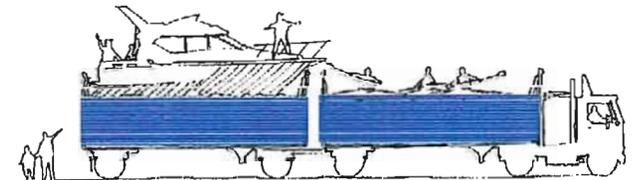
## Sections to Consider Channel Type



The Navigable Channel alternatives which are connected to one or both of the bays would be influenced by the approximately 5.5 feet of daily tidal fluctuation. These sections illustrate the required grading and removal of soil to reach a depth to accommodate boats. Floating walkways and docks are typically used to provide access to the water.



The Non-Tidal Channel alternative, not linked to the San Diego River or the bays, could be at a higher elevation.



The Park System Link Alternative would require boaters to find other means of transit. (This was kindly suggested by a community member).

# BAY TO BAY LINK FEASIBILITY STUDY

COSTS				
Parks and Open Space	Unit	Park System	Non-Tidal	Navigable Channel
Sidewalk pavement, colored concrete, exposed	linear foot	6,272,000	5,656,000	5,880,000
Channel ROW trees, groundcover & irrigation	linear foot	-	4,704,000	6,115,200
Street median trees, groundcover & irrigation	linear foot	2,240,000	2,020,000	2,100,000
Street tree planting, 36" box in tree grate & irri	linear foot	2,240,000	2,020,000	2,100,000
Frontage zone shrubs, groundcover & irrigation	linear foot	806,400	727,200	756,000
Seating	linear foot	716,800	646,400	672,000
Trash receptacles	linear foot	149,333	134,667	140,000
Pedestrian lighting	linear foot	1,680,000	1,515,000	1,575,000
Transit shelters	linear foot	224,000	202,000	210,000
Floating docks	linear foot	-	-	3,120,000
River Channel Walk	linear foot	-	-	300,960
Park construction	acre	14,275,000	7,325,000	8,400,000
<b>Subtotal</b>		<b>28,603,533</b>	<b>24,950,267</b>	<b>31,369,160</b>
<b>Biological Resources</b>				
Coastal marsh habitat mitigation	acre			550,000
Mudflat habitat mitigation	acre			5,000
Sand bar habitat mitigation	acre			76,000
Open water habitat mitigation	acre			183,000
Interpretive Facility	each	4,000,000	4,000,000	4,000,000
Outdoor interpretive kiosk	each	500,000	500,000	500,000
Interpretive trail, 0.5 mile, 4 stations	each	50,000	50,000	50,000
<b>Subtotal</b>		<b>4,550,000</b>	<b>4,550,000</b>	<b>5,364,000</b>
<b>Hydraulics/Waterfront Engineering</b>				
Excavate channel	cubic yard		900,000	11,200,000
Excavate channel	cubic yard		900,000	
Construct seawall along excavated channel	linear foot		9,600,000	52,000,000
Construct seawall along excavated channel	linear foot		14,400,000	
Dredge through levee	cubic yard			810,000
Construct Flood gate	each			1,000,000
Levee adjustments for flood gate	each			500,000
Dredge the San Diego River	cubic yard			8,500,000
Construct Gate at Mission Bay	each			750,000
Pumps for water circulation	each		300,000	750,000
Remove 96" Sewer Main	linear foot			1,140,000
Remove 30" Sewer Main	linear foot			150,000
Remove 56" Storm Drain	linear foot		255,000	800,000
Remove 24" Water Main	linear foot			150,000
Construct 96" Sewer Main	linear foot			4,400,000
Construct 30" Sewer Main	linear foot			600,000
Construct Sewer Lift Station	each			6,000,000
Construct 56" Storm Drain	linear foot		960,000	3,000,000
Construct 24" Water Main	linear foot			600,000
Construct Storm Drain Network (Local Streets)	lump sum	2,500,000	2,500,000	2,500,000
<b>Subtotal</b>		<b>2,500,000</b>	<b>29,900,000</b>	<b>94,900,000</b>
<b>Dry Utilities</b>				
Telephone Distribution	linear foot	11,973,773	16,338,323	5,262,712
Telephone Transmission	linear foot	9,122,188	12,449,904	4,009,211
Cable Television (CATV) Distribution	linear foot	1,661,294	1,426,390	885,186
Cable Television (CATV) Transmission	linear foot	1,504,586	1,477,338	802,146
Gas Distribution	linear foot	4,127,223	6,681,752	2,741,593
Gas Transmission	linear foot	4,501,176	-	522,476
Electric Distribution	linear foot	67,564,293	46,162,823	17,023,675
Electric Transmission	linear foot	7,344,452	-	495,153
<b>Subtotal</b>		<b>107,800,000</b>	<b>84,600,000</b>	<b>31,800,000</b>

## Construction & Maintenance Costs

The evaluation of the three Study Alternatives includes a comparison of the following:

- opinion of construction and maintenance costs of identifiable components;
- opinion of relative implementation feasibility;
- economics

Transportation	Unit	Park System	Non-Tidal	Navigable Channel
Roadway Cross Section 4 Lane Collector W/O	linear foot	10,830,845	8,877,742	7,279,748
Roadway Cross Section 4 Lane Major W/	linear foot	370,724	370,724	370,724
Roadway Cross Section 6 Lane Major W/	linear foot	2,276,008	2,276,008	4,552,016
Roadway Cross Section 6 Lane Major (One Way)	linear foot	6,239,829	6,239,829	6,568,241
Traffic Signal W/ Lighting at Intersection Only	each	3,000,000	2,400,000	2,880,000
Bridge Structure	square foot	-	3,700,000	20,050,000
Structural Fill	cubic yard	-	-	448,000
Roadway Removal	linear foot	2,900,000	3,160,000	2,600,000
Support Cost	%	6,404,352	6,756,076	11,187,183
Business Relocation		-	-	-
Right-of-Way	square foot	-	-	-
<b>Subtotal</b>		<b>32,021,758</b>	<b>33,780,379</b>	<b>55,935,913</b>
<b>Subtotal</b>		<b>175,475,292</b>	<b>177,780,646</b>	<b>219,369,073</b>
Contingency				
20% Contingency		35,100,000	35,600,000	43,900,000
<b>GRAND TOTAL</b>		<b>\$ 211,295,291.75</b>	<b>\$ 213,860,646.13</b>	<b>\$ 268,369,072.88</b>

Annual Maintenance	Unit	Park System	Non-Tidal	Navigable Channel
Park Maintenance	acre/year	571,000	293,000	336,000
Maintenance of habitat areas	acre/year			200,700
Biological Monitoring	acre/year			33,450
Maintenance dredging in south channel near SD	cubic yard/yr			126,000
Maintenance dredging in north channel near SD	cubic yard/yr			800,000
Maintenance dredging within San Diego River	cubic yard/yr			2,600,000
Pump maintenance	year		10,000	30,000
<b>Subtotal</b>		<b>600,000</b>	<b>400,000</b>	<b>4,200,000</b>
20% Contingency		120,000	80,000	900,000
<b>Total Annual Maintenance</b>		<b>720,000</b>	<b>480,000</b>	<b>5,100,000</b>

# BAY TO BAY LINK FEASIBILITY STUDY

## Hazardous Materials Approach for Redevelopment Projects

A variety of methods can be utilized to identify potential environmental issues regarding a property to assess the extent and severity of existing contamination, to remediate the contamination in a cost-effective manner, to meet regulatory compliance requirements and to manage low-level, post-remediation contamination that may be an issue during construction. A generalized project management approach is summarized below.

- Understand the site, perform a Phase I Environmental Site Assessment (ESA).
- Develop and define the project description.
- Develop a partnering relationship with the project stakeholders
- Develop a strategy for assessing and remediating potential environmental conditions.
- Address hazardous building materials.
- Perform a Phase II ESA.
- Prepare a project specific soils protocol.
- Prepare contractor bid specifications.
- Perform health and ecological risk assessment
- Know the regulatory requirements
- Develop generic protocols.

## Hazardous Release Regulations, Programs, Guidelines & Mechanisms

The following are typically combined to assist in the investigation and remediation of hazardous sites:

- Polanco Redevelopment Act
- Site Designation Program
- Voluntary Assistance Program
- U.S. Environmental Protection Agency Sites Program
- CALReUSE Program
- CLEAN Loan Program
- California Land Environmental Restoration and Reuse Act
- SWRCB Tank Fund

*Source: Letter to CCDC from Ninyo & Moore, see the Appendix.*

At a Feasibility Study level of effort, it is impossible to calculate the costs for mitigating sites contaminated by hazardous materials.

The cost to develop any of the Study Alternatives the number of sites of environmental concern that are encountered, the nature of the environmental issue and the status of investigation/remediation activities, and other costs associated with the development of the site (e.g., costs to export soil dewatering). These costs are extremely variable, and not possible to estimate in a meaningful way. The findings in some studies and files reviewed contradicted each other. Based on the lack of definitive data regarding the to known landfills, it is not possible to estimate whether investigating and remediating the landfills would cost tens of thousands of dollars or tens of millions. In addition, even for those sites that have been remediated and for which regulatory agency closure has been received, often closure is predicated on the use of the land remaining unchanged. In many cases if the land use changes, further assessment of a site may be required.

In summary, each of the Study Alternatives suggests some type of land use change to a number of sites known to have a history of contaminated soils.

## Caveats for Soil and Utility Costs

### Dry Utility Costs and Recommended Approach

The dry utility system portion of the cost estimates are representative of the costs dry utility companies would project as their cost to remedying impacts to their systems as a result of improvements proposed by the Bay to Bay Link Feasibility Study.

The dry utility system cost estimates include all work dry utility companies would be normally require in order to complete the removal, relocation and undergrounding of existing overhead and underground facilities. The Bay to Bay Study Alternatives will cause all dry utility companies that have facilities in the area to have to modify their existing systems in order to accommodate planned improvements that will displace the utility's facilities. As a result, local utility companies will request full compensation for any work that they must perform to accommodate the proposed improvements.

Strategic Dry Utility Action Plan – Assuming a proposed project's budget cannot afford paying local utility companies the fees indicated in the report, the project must develop a strategy which will result in significant reductions in the projects dry utility cost obligation. The Strategic Dry Utility Action Plan, if developed and successfully implemented by a qualified dry utility consulting engineer, will force local utility companies to substantially reduce the project's dry utility financial obligation.

Most often a Strategic Dry Utility Action Plan, for public sector projects will include the following: 1). Utility system design control to achieve favorable utility service rule application, 2). Input on information that will be shown on the project consultant teams plans, 3). Public agency enforcement of utility franchise agreements, 4). Utility's adherence to state and federal case law.

In our professional opinion, the project's financial obligation can be reduced by eighty to ninety percent depending on the successful implementation of a Strategic Dry Utility Action Plan and the number and types of easements utilities may have for their existing facilities.

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# BAY TO BAY LINK FEASIBILITY STUDY

## Comparative Evaluation

This table illustrates the relative feasibility of each alternative for the topics that can not have costs assigned.

Relative Feasibility			
Water Quality	Park System	Non-Tidal	Navigable Channel
Avoid water quality impacts related to mixing of flows between water bodies	10	10	1
Avoid erosion and transport of material to water body receptors, particularly at water body boundaries	5	5	1
Avoid discharge of construction-related hazardous materials	6	5	1
Minimize need to dewater construction site, particularly in areas with contaminated soils	7	3	1
Avoid long-term generation/ transport of urban contaminants	6	6	3 to 4
<i>1-3 = low feasibility; 4-6 = moderate feasibility; 7-10 = high feasibility</i>			
<b>Biological Resources</b>			
Avoid mixing waters of varying salinities	10	10	1
Avoid potential transport of exotic species from discharge ballast water	10	10	2
Avoid direct and/or indirect impacts to wetland habitats and associated species	10	10	1
Minimize construction noise adjacent to wetland habitats	10	9	3
Minimize presence of humans and motorized watercraft adjacent to sensitive habitats	10	10	1
Plant only native species in areas connected to native habitats	10	10	7
<i>1-3 = low feasibility; 4-6 = moderate feasibility; 7-10 = high feasibility</i>			
<b>Noise</b>			
Minimize construction noise impacts on sensitive receptors	6	5	4
Minimize public access to areas where public access is currently limited	5	5	4
Minimize noise impacts associated with motorized watercraft near sensitive receptors	8	6	4
<i>1-3 = low feasibility; 4-6 = moderate feasibility; 7-10 = high feasibility</i>			
<b>Visual Resources</b>			
Minimize auto and pedestrian bridges	6	5	4
Minimize visual impacts associated with demolition and construction	9	5	4
<i>1-3 = low feasibility; 4-6 = moderate feasibility; 7-10 = high feasibility</i>			
<b>Air Quality</b>			
Minimize construction emissions by minimizing the amount of earth movement	5	5	4
Avoid contributing to traffic congestion that could result in "hot spots"	7		
<i>4-6 = moderate feasibility; 7-10 = high feasibility</i>			
<b>Cultural Resources</b>			
Avoidance of Historic Structures	5	5	5
Avoidance of Archaeological Sites	9	9	9
<i>4-6 = moderate feasibility; 7-10 = high feasibility</i>			
<b>Geotechnically Related Impact to the Project</b>			
	Park System	Non-Tidal	Navigable Channel
Relative Amount of Earthwork	2	3	5
Shallow Groundwater	2	4	5
Excavatability by Dredging	1	3	4
Unstable Slopes Requiring Stabilization	1	2	4
Fault Hazards	1	1	1
Susceptibility to Liquefaction	2	4	4
5 = highest impact			

Construction costs associated with the Geological conditions are accounted for in the engineering estimates.

# BAY TO BAY LINK FEASIBILITY STUDY

As shown in Table 1, all of the scenarios incur significant deficits. In present value terms, the estimated order-of-magnitude deficits range from (\$342 million) to (\$295 million), before taking into account net fiscal costs to serve the potential new population and land uses associated with the Bay-to-Bay project. Detailed estimates for each scenario are presented in Appendix I.

These order-of-magnitude estimates are for planning purposes only based on broad hypothetical development scenarios and assumptions about future land use and development, and should be reviewed only in aggregate. They do not in any way represent site appraisals or valuations for specific properties, and should not be relied upon for financial offerings without further due diligence.

Most of the deficit is attributable to the estimated property acquisition costs and development costs associated with each alternative. Preliminary order-of-magnitude property acquisition cost estimates, which range from \$285 million in Alternative 1 to \$218 million in Alternative 3, are particularly high because of the need to buy property with existing commercial, industrial, and residential buildings. Consequently, the City or redevelopment agency would have to purchase not just land for the right-of-way, but buildings as well, and would have to incur relocation costs for displaced residents and businesses, including possibly good will associated with existing businesses. Also, the existing leases on the City's Sports Arena property would have to be purchased, including the remaining value of the improvements.

Order-of-magnitude, preliminary development cost estimates are also significant, ranging from \$221 million in Alternative 1 to \$211 million in Alternative 3.

The project would generate significant revenue by selling or leasing remnant land not needed for the Bay-to-Bay right-of-way, and some minor revenue from marina leases under Alternative 1. The value of the land, including substantial site premiums associated with adjacency or proximity to the water or greenbelt, however, would only cover perhaps 12-14 percent of the project costs at given community plan land use designations and densities. This analysis was based on the land use plan and densities consistent with the existing community plan, and an assumed hypothetical development program for the Sports Arena site. Generally, the development program assumed housing at 29-units per acre, and commercial retail at a 0.5 floor-area ratio and commercial office at a 1.5 floor-area-ratio to reflect a compact, pedestrian-oriented pattern that would not exceed the designated height limit. While an increase in allowable development capacity and height would enhance land values, the increase in revenue from the sale or lease of remnant land would probably still fall well short of Bay-to-Bay property acquisition and development costs.

In short, to implement the alternatives, the City would have to purchase the full value of property with buildings and businesses, and sell back only a portion of what it purchases as simply land, albeit with amenity premiums.

The capitalized value of annual maintenance costs, which may range from \$480,000 to \$720,000 per year, is another project cost that must be funded.

## Economic Summary

The present value of the tax increment from the redevelopment of the properties associated with the Bay-to-Bay project is marginally negative in all scenarios. The Bay-to-Bay project would take remove a significant amount of land from the tax rolls as property is acquired. The land dedicated to the Bay-to-Bay right of way would be off the tax roles permanently. During the time of property acquisition and Bay-to-Bay development, the tax base is negative, which would affect the tax increment of the broader North Bay Redevelopment Project Area. While new development associated with the reuse of remnant parcels and the portion of the Sports Arena site that is not used for a canal or greenbelt would generate new tax increment, the tax increment revenue is over the long term, and, in present value terms, does not compensate for the loss of taxable properties.

Tax increment impacts were estimated only for the parcels that are acquired for the Bay-to-Bay project, and those that are adjacent or near the Bay-to-Bay right of way. There may be some marginal increase in value, and, therefore, of tax increment of other properties in the redevelopment project area that are not located near the canal or greenbelt. Interior lots in golf-course communities, which typically attain a 5 percent premium, may provide some guidance.

While the redevelopment of remnant parcels would generate new sales and transient-occupancy taxes (if a hotel is built as assumed), it would not compensate for the significant amount of retail land and uses taken away by the Bay-to-Bay project. Since a significant share of the loss or gain of taxable retail sales would probably result in a transfer of retail sales activity to elsewhere in the community or city, the net loss to the City may not be as great as initially estimated.

# BAY TO BAY LINK FEASIBILITY STUDY

## Economic Summary

### Recommendations to Reduce Project Deficits

The City would have to use external funding sources to finance any of the Bay-to-Bay alternatives, such as voter approved general obligation bonds, dedicated general fund sources, benefit assessment districts or special tax districts, and/or state grants.

Alternatively, the City could reduce project deficits, particularly those associated with acquisition and development costs, by redesigning the Bay-to-Bay link initially as a greenbelt linear park, designated within the North Bay's larger properties such as those to the east of Rosecrans and the Sports Arena site. Implementation would only occur as those properties redevelop, with the greenbelt right-of-way a condition for plan amendments, zoning changes, and subdivision approval, perhaps with a density bonus to compensate. While the Sports Arena site may be redeveloped in the near to mid-term, and could accommodate a portion of the linear park, several of the larger parcels in the area, such as the Navy's property, MCRD, and GSA properties are not proposed for redevelopment anytime soon. Consequently, implementation of the completed Bay-to-Bay link may occur over decades, rather than years, under this approach. However, the cost would probably be less if property acquisition costs can be minimized, and the long term possibility of converting the greenbelt into a channel at some future time would not be precluded.

Present Value of:	Surplus/(Deficit) (\$2003)		
	Alternative 1: Navigable Channel	Alternative 2: Non-Tidal Channel	Alternative 3: Park System Link
Project Generated Net Revenue (Deficit)	(\$336,894,151)	(\$309,815,772)	(\$293,646,839)
Tax Increment Revenue (Deficit) to Redevelopment Age	(\$22,962)	(\$470,980)	(\$397,398)
Property Tax Revenue (Deficit) to City of San Diego	\$20,465	(\$12,275)	(\$22,323)
Net Sales Tax & TOT Revenue (Deficit)	(\$5,010,588)	(\$1,390,391)	(\$1,054,653)
<b>Total Net Revenue (Deficit)</b>	<b>(\$341,907,236)</b>	<b>(\$311,689,418)</b>	<b>(\$295,121,213)</b>

Source: Economics Research Associates.

# BAY TO BAY LINK FEASIBILITY STUDY

## Acknowledgements



### City of San Diego

Samal Batta, Senior Civil Engineer  
Transportation & Drainage Design Division, Engineering and Capital Projects

Maureen Ostrye, Project Manager  
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Coastal and Civil Engineering

Jinyo & Moore  
Geotechnical, Water Quality

Helix Environmental  
Biology, Marine and Cultural Resources

Economics Research Assoc.  
Economic and Financial Analysis

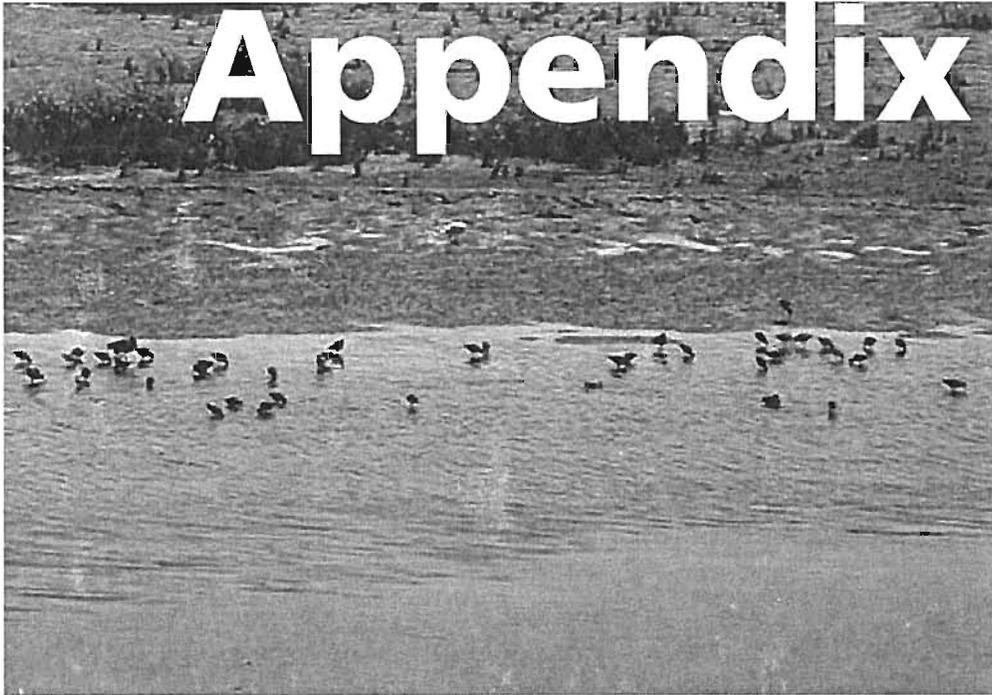
Katz, Okitsu & Assoc.  
Transportation Planning

Professional Consulting Group  
Dry Utilities and Infrastructure

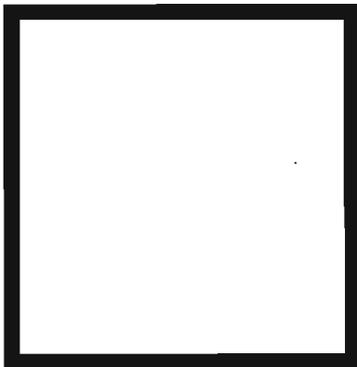
*The Study Area in comparison to relevant locations.*



DRAFT



Economics  
Water Quality  
Biological Resources  
Noise  
Visual Quality  
Air Quality  
Cultural Resources  
Waterfront Engineering  
Dry Utilities  
Transportation  
Geotechnical Evaluation  
Hazardous Materials  
Public Meeting #1  
Public Meeting #2  
Permites  
Bibliography



# Bay to Bay Link Feasibility Study

City of San Diego

Transportation & Drainage Design Division, Engineering &  
Capital Projects

Redevelopment Agency, Community & Economic  
Development



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**I. ECONOMICS SUMMARY**

As shown in Table 1, all of the scenarios incur significant deficits. In present value terms, the estimated order-of-magnitude deficits range from (\$342 million) to (\$295 million), before taking into account net fiscal costs to serve the potential new population and land uses associated with the Bay-to-Bay project. Detailed estimates for each scenario are presented in Appendix A.

These order-of-magnitude estimates are for planning purposes only based on broad hypothetical development scenarios and assumptions about future land use and development, and should be reviewed only in aggregate. They do not in any way represent site appraisals or valuations for specific properties, and should not be relied upon for financial offerings without further due diligence.

Most of the deficit is attributable to the estimated property acquisition costs and development costs associated with each alternative. Preliminary order-of-magnitude property acquisition cost estimates, which range from \$285 million in Alternative 1 to \$218 million in Alternative 3, are particularly high because of the need to buy property with existing commercial, industrial, and residential buildings. Consequently, the City or redevelopment agency would have to purchase not just land for the right-of-way, but buildings as well, and would have to incur relocation costs for displaced residents and businesses, including possibly good will associated with existing businesses. Also, the existing leases on the City's Sports Arena property would have to be purchased, including the remaining value of the improvements.

Order-of-magnitude, preliminary development cost estimates are also significant, ranging from \$221 million in Alternative 1 to \$211 million in Alternative 3.

The project would generate significant revenue by selling or leasing remnant land not needed for the Bay-to-Bay right-of-way, and some minor revenue from marina leases under Alternative 1. The value of the land, including substantial site premiums associated with adjacency or proximity to the water or greenbelt, however, would only cover perhaps 12-14 percent of the project costs at given community plan land use designations and densities. This analysis was based on the land use plan and densities consistent with the existing community plan, and an assumed hypothetical development program for the Sports Arena site. Generally, the development program assumed housing at 29-units per acre, and commercial retail at a 0.5 floor-area ratio and commercial office at a 1.5 floor-area-ratio to reflect a compact, pedestrian-oriented pattern that would not exceed the designated height limit. While an increase in allowable development capacity and height would enhance land values, the increase in revenue from the sale or lease of remnant land would probably still fall well short of Bay-to-Bay property acquisition and development costs.

In short, to implement the alternatives, the City would have to purchase the full value of property with buildings and businesses, and sell back only a portion of what it purchases as simply land, albeit with amenity premiums.

The capitalized value of annual maintenance costs, which may range from \$480,000 to \$720,000 per year, is another project cost that must be funded.

The present value of the tax increment from the redevelopment of the properties associated with the Bay-to-Bay project is marginally negative in all scenarios. The Bay-to-Bay project would take remove a significant amount of land from the tax rolls as property is acquired. The land dedicated to the Bay-to-Bay right of way would be off the tax roles permanently. During the time of property acquisition and Bay-to-Bay development, the tax base is negative, which would affect the tax increment of the broader North Bay Redevelopment Project Area. While new development associated with the reuse of remnant parcels and the portion of the Sports Arena site that is not used for a canal or greenbelt would generate new tax increment, the tax increment revenue is over the long term, and, in present value terms, does not compensate for the loss of taxable properties.

Tax increment impacts were estimated only for the parcels that are acquired for the Bay-to-Bay project, and those that are adjacent or near the Bay-to-Bay right of way. There may be some marginal increase in value, and, therefore, of tax increment of other properties in the redevelopment project area that are not located near the canal or greenbelt. Interior lots in golf-course communities, which typically attain a 5 percent premium, may provide some guidance.

While the redevelopment of remnant parcels would generate new sales and transient-occupancy taxes (if a hotel is built as assumed), it would not compensate for the significant amount of retail land and uses taken away by the Bay-to-Bay project. Since a significant share of the loss or gain of taxable retail sales would probably result in a transfer of retail sales activity to elsewhere in the community or city, the net loss to the City may not be as great as initially estimated.

### **RECOMMENDATIONS TO REDUCE PROJECT DEFICITS**

The City would have to use external funding sources to finance any of the Bay-to-Bay alternatives, such as voter approved general obligation bonds, dedicated general fund sources, benefit assessment districts or special tax districts, and/or state grants.

Alternatively, the City could reduce project deficits, particularly those associated with acquisition and development costs, by redesigning the Bay-to-Bay link initially as a greenbelt linear park, designated within the North Bay's larger properties such as those to the east of Rosecrans and the Sports Arena site. Implementation would only occur as those properties redevelop, with the greenbelt right-of-way a condition for plan amendments, zoning changes, and subdivision approval, perhaps with a density bonus to compensate. While the Sports Arena site may be redeveloped in the near to mid-term, and could accommodate a portion of the linear park, several of the larger parcels in the area, such as the Navy's property, MCRD, and GSA properties are not proposed for redevelopment anytime soon. Consequently, implementation of the completed Bay-to-Bay link may occur over decades, rather than years, under this approach. However, the cost would probably be less if property acquisition costs can be minimized, and the long term possibility of converting the greenbelt into a channel at some future time would not be precluded.

**TABLE 1**  
**SUMMARY RESULTS OF BAY-TO-BAY LINK PROPOSED ALTERNATIVES**

<b>Present Value of:</b>	<b>Surplus/(Deficit)</b> <b>(\$2003)</b>		
	<b>Alternative 1: Navigable Channel</b>	<b>Alternative 2: Non-Tidal Channel</b>	<b>Alternative 3: Park System Link</b>
Project Generated Net Revenue (Deficit)	(\$336,894,151)	(\$309,815,772)	(\$293,646,839)
Tax Increment Revenue (Deficit) to Redevelopment Agency	(\$22,962)	(\$470,980)	(\$397,398)
Property Tax Revenue (Deficit) to City of San Diego	\$20,465	(\$12,275)	(\$22,323)
Net Sales Tax & TOT Revenue (Deficit)	(\$5,010,588)	(\$1,390,391)	(\$1,054,653)
<b>Total Net Revenue (Deficit)</b>	<b>(\$341,907,236)</b>	<b>(\$311,689,418)</b>	<b>(\$295,121,213)</b>

Source: Economics Research Associates.

**TABLE A-1**  
**ESTIMATED COST TO ACQUIRE RIGHT-OF WAY**

	<u>Total Land Area to be Acquired</u>				<u>Land &amp; Building Acquisition Costs</u>		<u>Related Costs</u>		<u>Total Cost</u>
	<u>Acres</u>	<u>Sq. Ft. of Land Area</u>			<u>Assumed Average Value</u>	<u>Total Estimated Value</u>	<u>Demolition Allowance</u>	<u>Relocation Allowance<sup>3</sup></u>	
<b>Vacant Land</b>					<u>Per Acre</u>				
Vacant Residential	0.00	0			\$409,000	\$0	n/a	n/a	\$0
Vacant Commercial	0.51	22,296			\$1,546,000	\$791,316	n/a	n/a	\$791,316
Vacant Industrial	0.00	0			\$1,277,000	\$0	n/a	n/a	\$0
<b>Residential Property</b>			<u>Units per Acre<sup>4</sup></u>	<u>Total Units</u>	<u>Per Unit</u>				
Single Family Residential	0.23	9,832	n.a.	1	\$250,000	\$250,000	\$5,000	\$12,500	\$267,500
Multi Family Apartments	2.12	92,284	29	61	\$98,000	\$6,020,901	\$120,418	\$301,045	\$6,442,364
<b>Commercial/Other Property</b>			<u>FAR<sup>4</sup></u>	<u>Sq. Ft. of Bldg. Area</u>	<u>Per Sq. Ft. of Bldg. Area</u>				
Retail	79.71	3,472,168	0.25	868,042	\$170	\$147,458,801	\$2,949,176	\$29,491,760	\$179,899,737
Office/Other Commercial	12.94	563,611	0.25	140,903	\$120	\$16,908,329	\$338,167	\$3,381,666	\$20,628,162
Light Industrial	2.92	127,298	0.25	31,824	\$95	\$3,032,723	\$60,654	\$606,545	\$3,699,922
Other <sup>5</sup>	0.64	28,009	0.25	7,002	\$95	\$665,223	\$13,304	\$133,045	\$811,572
<b>Sports Arena Leases</b>									
Commercial Land Leases	66.69	2,905,016				\$50,986,072	\$1,019,721	\$10,197,214	\$62,203,007
<b>Other Government Property</b>									
Attached SF Residential	3.00	130,680	16	48	\$200,000	\$9,600,000	\$192,000	\$480,000	\$10,272,000
<b>Total</b>	<b>168.76</b>						<b>\$4,698,441</b>	<b>\$44,603,775</b>	<b>\$285,015,580</b>

<sup>1</sup>Estimated based on total area to be acquired with an average FAR of .25.

<sup>2</sup>Assumes an additional 2% of building value.

<sup>3</sup>Assumes an additional 5% on residential properties and 20% on commercial properties (to include goodwill).

<sup>4</sup>Based on Community Plan allowances.

<sup>5</sup>Includes a carwash.

Source: DataQuick, CoStar Comps, area commercial real estate brokers, and Economics Research Associates.

**TABLE A-2**  
**VALUE OF REMNANT PARCELS AVAILABLE FOR RESALE<sup>1</sup>**

<b>Land Use</b>	<b>Assumed % Distribution</b>	<b>Approximate Acres</b>	<b>Base Land Value Per Acre</b>	<b>Base Land Value Per S.F.</b>	<b>Amenity Premium<sup>2</sup></b>	<b>Total Value</b>
<b>Sports Arena Parcel</b>						
Condominiums	25%	10.13	\$3,828,000	\$88	45%	\$5,550,600
Apartments	25%	10.13	\$1,586,880	\$36	45%	\$2,300,976
Retail	20%	8.10	\$1,814,884	\$42	23%	\$2,223,233
Office	20%	8.10	\$3,850,146	\$88	45%	\$5,582,712
Hotel <sup>2</sup>	10%	4.05	\$2,909,245	\$67	50%	\$4,363,867
		40.52	<b>Subtotal</b>			<b>\$20,021,388</b>
<b>Waterfront Parcels</b>						
Condominiums	35%	1.42	\$3,828,000	\$88	75%	\$6,699,000
Apartments	35%	1.42	\$1,586,880	\$36	75%	\$2,777,040
Retail	10%	0.41	\$1,814,884	\$42	38%	\$2,495,465
Office	15%	0.61	\$3,850,146	\$88	75%	\$6,737,756
Other	5%	0.20	\$2,832,515	\$65	75%	\$4,956,901
		4.06	<b>Subtotal</b>			<b>\$23,666,163</b>
<b>Recreation Corridor Parcels</b>						
Condominiums	35%	18.16	\$3,828,000	\$88	50%	\$5,742,000
Apartments	35%	18.16	\$1,586,880	\$36	50%	\$2,380,320
Retail	10%	5.19	\$1,814,884	\$42	25%	\$2,268,605
Office	15%	7.78	\$3,850,146	\$88	50%	\$5,775,220
Other	5%	2.59	\$2,832,515	\$65	50%	\$4,248,773
		51.88	<b>Subtotal</b>			<b>\$20,414,917</b>
<b>Total Value</b>						<b>\$64,102,468</b>

<sup>1</sup>Some parcels purchased will have developable remnants, which must be subdivided and re-sold to private owners.

<sup>2</sup>Assumes a premium of 20% for residential waterfront parcels and 10% on residential greenbelt parcels; waterfront premium assumption based on those experienced in similar projects in Southern California including Naples, Venice, and east-facing lots on Balboa Island; greenbelt premium assumption based on premium for active recreation corridors in Southern California.

<sup>3</sup>Hypothetical 300-room hotel.

Source: CB Richard Ellis, area commercial real estate brokers, DataQuick, CoStar Comps, and Economics Research Associates.

**TABLE A-3  
REVENUE FROM MARINA SLIPS**

**Key Operating Assumptions**

<u>Slips (Length):</u>	<u>#</u>	<u>Monthly Rate</u>	<u>Average Annual Occupancy</u>	<u>Average Annual Revenue</u>
50'	32	\$515	95%	\$187,955
40'	38	\$393	95%	\$170,311
30'	31	\$269	95%	\$95,063
20'	314	\$217	95%	\$777,722

**Revenue / Expense Projections (Stabilized)**

Total Projected Revenues	\$1,231,050
% of Gross Revenues to City of San Diego	25%
Annual Lease Revenue	\$307,763

<b>CAPITALIZED VALUE OF MARINA SLIPS</b> (Cap Rate Factor 9% )	<b>\$3,419,584</b>
<b>Project Value Per Slip</b> (415 slips)	<b>\$8,240</b>

<sup>1</sup>Slip rental rate based on prevailing monthly rents at Chula Vista Marina.

<sup>2</sup>Before depreciation, rent, interest, amortization, and income taxes.

Source: Economics Research Associates.

**TABLE A-4  
PRESENT VALUE OF PROJECT GENERATED REVENUES AND COSTS**

	<u>2003 \$</u>								
<b>Costs</b>									
Total Cost to Acquire Properties		\$285,015,580							
Total Cost of Improvements		\$220,656,913							
Annual Maintenance Costs		\$600,000							
<b>Revenue</b>									
Sale or Capitalized Lease of Sports Arena Parc		\$20,021,388							
Resale of Remnant Lots		\$44,081,080							
Annual Revenue from Marina Slips		\$307,763							
			<b>Costs &amp; Revenues Over Time (\$2003)</b>						
			2003	2004	2005	2006	2007	2008	2009
<b>Revenue</b>									
Sale or Capitalized Lease of Sports Arena Parcels			--	\$0	\$5,005,347	\$5,005,347	\$5,005,347	\$5,005,347	\$0
Resale of Remnant Lots			--	\$0	\$0	\$0	\$0	\$0	\$0
Revenue from Marina Slips			--	\$0	\$0	\$0	\$0	\$0	\$0
<b>Total Revenue</b>			--	\$0	\$5,005,347	\$5,005,347	\$5,005,347	\$5,005,347	\$0
<b>Costs</b>									
Cost to Acquire Properties			--	\$0	\$57,003,116	\$57,003,116	\$57,003,116	\$57,003,116	\$57,003,116
Total Improvement Costs			--	\$0	\$0	\$0	\$0	\$55,164,228	\$55,164,228
Annual Maintenance Costs			--	\$0	\$0	\$0	\$0	\$0	\$0
<b>Total Costs</b>			--	\$0	\$57,003,116	\$57,003,116	\$57,003,116	\$112,167,344	\$112,167,344
<b>Surplus/(Deficit)</b>			--		\$(51,997,769)	\$(51,997,769)	\$(51,997,769)	\$(107,161,997)	\$(112,167,344)
Capitalized Terminal Value @	8.0%								
<b>Net Cash Flow</b>			--		\$(51,997,769)	\$(51,997,769)	\$(51,997,769)	\$(107,161,997)	\$(112,167,344)
<b>Present Value<sup>1</sup> of Annual Costs/Revenues @</b>	8.0%	\$			(336,894,151)				

Source: Economics Research Associates.

**TABLE A-4 (concluded)**  
**PRESENT VALUE OF PROJECT AREA ECONOMIC COSTS & REVENUES**

Costs & Revenues Over Time (\$2003)									
2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
\$0	\$0	\$11,020,270	\$11,020,270	\$11,020,270	\$11,020,270	\$0	\$0	\$0	\$0
\$0	\$0	\$307,763	\$307,763	\$307,763	\$307,763	\$307,763	\$307,763	\$307,763	\$307,763
\$0	\$0	\$11,328,033	\$11,328,033	\$11,328,033	\$11,328,033	\$307,763	\$307,763	\$307,763	\$307,763
\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
\$55,164,228	\$55,164,228	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
\$0	\$0	\$600,000	\$600,000	\$600,000	\$600,000	\$600,000	\$600,000	\$600,000	\$600,000
\$55,164,228	\$55,164,228	\$600,000	\$600,000	\$600,000	\$600,000	\$600,000	\$600,000	\$600,000	\$600,000
\$(55,164,228)	\$(55,164,228)	\$ 10,728,033	\$ 10,728,033	\$ 10,728,033	\$ 10,728,033	\$ (292,237)	\$ (292,237)	\$ (292,237)	\$ (292,237)
									(\$3,652,968)
\$(55,164,228)	\$(55,164,228)	\$ 10,728,033	\$ 10,728,033	\$ 10,728,033	\$ 10,728,033	\$ (292,237)	\$ (292,237)	\$ (292,237)	\$ (3,945,205)

**TABLE A-5  
ANALYSIS OF PROJECT GENERATED ASSESSED VALUE & TAX INCREMENT TO REDEVELOPMENT AGENCY**

	(Constant 2003 Dollars)						
	2003	2004	2005	2006	2007	2008	2009
<b>Changes in Assessed Valuation (AV)</b>							
Existing AV of Project Parcels	\$105,862,658	\$105,862,658	\$105,862,658	\$105,862,658	\$84,690,126	\$63,517,595	\$42,345,063
Less AV of Parcels Acquired in Prior Year (-)	\$0	\$0	\$0	(\$21,172,532)	(\$21,172,532)	(\$21,172,532)	(\$21,172,532)
AV of Parcels After Acquisition	\$105,862,658	\$105,862,658	\$105,862,658	\$84,690,126	\$63,517,595	\$42,345,063	\$21,172,532
AV of Sports Arena Parcels Sold or Leased (+)	\$0	\$0	\$0	\$5,005,347	\$10,010,694	\$15,016,041	\$20,021,388
Additional AV of New Bldgs on Sports Arena Site	\$0	\$0	\$0	\$0	\$0	\$7,575,484	\$15,150,969
AV of Remnant Parcels Resold (+)	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Additional AV of New Bldgs on Remnant Parcels	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>Net Assessed Valuation</b>	\$105,862,658	\$105,862,658	\$105,862,658	\$89,695,473	\$73,528,289	\$64,936,588	\$56,344,888
Property Tax on Assessed Value of Prior Year @ 1%	\$1,058,627	\$1,058,627	\$1,058,627	\$1,058,627	\$896,955	\$735,283	\$649,366
Property Tax Increment from Project	\$0	\$0	\$0	\$0	(\$161,672)	(\$323,344)	(\$409,261)
<b>Housing Set-Aside Fund Share (20%)</b>	\$0	\$0	\$0	\$0	(\$32,334)	(\$64,669)	(\$81,852)
<b>Balance Prior to Distribution to Taxing Entities (80%)</b>	\$0	\$0	\$0	\$0	(\$129,337)	(\$258,675)	(\$327,409)
<b>Distribution of Tax Increment to RDA &amp; City of SD</b>							
Redevelopment Agency <sup>1</sup>	\$0	\$0	\$0	\$0	(\$97,003)	(\$194,006)	(\$245,556)
Capitalized Value @ 8% cap rate							
Total	\$0	\$0	\$0	\$0	(\$97,003)	(\$194,006)	(\$245,556)
City of San Diego <sup>2</sup>	\$0	\$0	\$0	\$0	(\$6,772)	(\$13,543)	(\$17,142)
Capitalized Value @ 8% cap rate							
Total	\$0	\$0	\$0	\$0	(\$6,772)	(\$13,543)	(\$17,142)
<b>NET PRESENT VALUE OF TAX INCREMENT TO REDEVELOPMENT AGENCY (2003 \$) @</b>				8.0%	(\$22,962)		
<b>NET PRESENT VALUE OF TAX INCREMENT TO CITY (2003 \$) @</b>				8.0%	\$20,465		

<sup>1</sup>From 2003-2012, the Redevelopment Agency receives 75% of Taxing Entity & Redevelopment Agency tax increment (which is the portion remaining after the Housing Set-Aside Fund share is allocated). In 2013, the Redevelopment Agency receives 54% of Taxing Entity & Redevelopment Agency tax increment.

<sup>2</sup>The City of San Diego receives 20.942190% of the remaining 25% of Taxing Entity & Redevelopment Agency tax increment (which is the portion remaining after the Housing Set-Aside Fund share is allocated). Beginning in 2013, the Redevelopment Agency receives 54% of Taxing Entity & Redevelopment Agency tax increment.

Source: Economics Research Associates

**TABLE A-5 (concluded)**  
**ANALYSIS OF PROJECT GENERATED ASSESSED VALUE & TAX INCREMENT TO REDEVELOPMENT AGENCY**

(Constant 2003 Dollars)										
2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	
\$21,172,532	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
(\$21,172,532)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
\$20,021,388	\$20,021,388	\$20,021,388	\$20,021,388	\$20,021,388	\$20,021,388	\$20,021,388	\$20,021,388	\$20,021,388	\$20,021,388	\$20,021,388
\$22,726,453	\$30,301,937	\$37,877,422	\$37,877,422	\$37,877,422	\$37,877,422	\$37,877,422	\$37,877,422	\$37,877,422	\$37,877,422	\$37,877,422
\$0	\$0	\$0	\$11,020,270	\$22,040,540	\$33,060,810	\$44,081,080	\$44,081,080	\$44,081,080	\$44,081,080	\$44,081,080
\$0	\$0	\$0	\$0	\$9,576,826	\$19,153,652	\$28,730,478	\$38,307,304	\$47,884,130	\$57,460,957	
\$42,747,841	\$50,323,325	\$57,898,810	\$68,919,080	\$89,516,176	\$110,113,272	\$130,710,368	\$140,287,194	\$149,864,020	\$159,440,846	
\$563,449	\$427,478	\$503,233	\$578,988	\$689,191	\$895,162	\$1,101,133	\$1,307,104	\$1,402,872	\$1,498,640	
(\$495,178)	(\$631,148)	(\$555,393)	(\$479,638)	(\$369,436)	(\$163,465)	\$42,506	\$248,477	\$344,245	\$440,014	
(\$99,036)	(\$126,230)	(\$111,079)	(\$95,928)	(\$73,887)	(\$32,693)	\$8,501	\$49,695	\$68,849	\$88,003	
(\$396,142)	(\$504,919)	(\$444,315)	(\$383,711)	(\$295,549)	(\$130,772)	\$34,005	\$198,782	\$275,396	\$352,011	
(\$297,107)	(\$378,689)	(\$333,236)	(\$207,204)	(\$159,596)	(\$70,617)	\$18,363	\$107,342	\$148,714	\$190,086	
(\$297,107)	(\$378,689)	(\$333,236)	(\$207,204)	(\$159,596)	(\$70,617)	\$18,363	\$107,342	\$148,714	\$3,168,098	\$3,358,184
(\$20,740)	(\$26,435)	(\$23,262)	(\$20,089)	(\$15,474)	(\$6,847)	\$1,780	\$10,407	\$14,419	\$18,430	\$307,162
(\$20,740)	(\$26,435)	(\$23,262)	(\$20,089)	(\$15,474)	(\$6,847)	\$1,780	\$10,407	\$14,419	\$325,591	

d). Beginning

allocated).

**TABLE A-6**  
**ESTIMATED SALES TAXES AND TRANSIENT OCCUPANCY TAXES**

		(Constant 2003 Dollars)						
		2003	2004	2005	2006	2007	2008	2009
<b>Estimated Sales Tax Revenue</b>								
Estimated Decrease in Existing Occupied Retail Space <sup>1</sup>		-	(156,241)	(312,482)	(468,722)	(468,722)	(743,602)	(1,018,482)
Estimated Loss of Retail Sales <sup>2</sup> @	\$225 / (sq. ft.)	\$0	(\$35,154,180)	(\$70,308,360)	(\$105,462,540)	(\$105,462,540)	(\$167,310,529)	(\$229,158,519)
Estimated New Retail Space <sup>3</sup>	FAR: 50%	-	-	-	44,126	88,253	132,379	176,505
Occupancy Rate (%)		0%	0%	0%	80%	95%	95%	95%
Occupied Sq.Ft.		-	-	-	35,301	83,840	125,760	167,680
Total Estimated Retail Sales <sup>2</sup> @	\$300 / (sq. ft.)	\$0	\$0	\$0	\$10,590,307	\$25,151,980	\$37,727,969	\$50,303,959
Assumed New Retail Sales <sup>4</sup> @	100%	\$0	\$0	\$0	\$10,590,307	\$25,151,980	\$37,727,969	\$50,303,959
<b>Net Change in Retail Sales</b>		\$0	(\$35,154,180)	(\$70,308,360)	(\$94,872,233)	(\$80,310,560)	(\$129,582,560)	(\$178,854,560)
Net Change in Sales Tax Revenue @	1%	\$0	(\$351,542)	(\$703,084)	(\$948,722)	(\$803,106)	(\$1,295,826)	(\$1,788,546)
<b>Estimated Transient Occupancy Tax Revenue (TOT)</b>								
Hotel Rooms		-	-	-	-	300	300	300
Occupancy Rate		0%	0%	0%	0%	65%	70%	70%
Occupied Room Nights/Year		-	-	-	-	71,175	76,650	76,650
Annual Revenue with Av. Room Rate @	\$200	\$0	\$0	\$0	\$0	\$14,235,000	\$15,330,000	\$15,330,000
Estimated Annual TOT Revenue @	10.5%	\$0	\$0	\$0	\$0	\$1,494,675	\$1,609,650	\$1,609,650
<b>Annual Sales Tax &amp; TOT Revenue</b>		\$0	(\$351,542)	(\$703,084)	(\$948,722)	\$691,569	\$313,824	(\$178,896)
Capitalized Value @	8%							
<b>Net Cash Flow</b>		\$0	(\$351,542)	(\$703,084)	(\$948,722)	\$691,569	\$313,824	(\$178,896)
<b>Present Value of Annual Sales Tax &amp; TOT Revenue @</b>		8%	(\$5,010,588)					

<sup>1</sup>Loss of retail space through acquisition of Sports Arena and other parcels.

<sup>2</sup>Based on average sales per sq.ft. of \$225 for existing and \$300 for new.

<sup>3</sup>Based on an FAR of 0.5.

<sup>4</sup>Assumes 100% are new sales generated by development.

Source: Economics Research Associates

**TABLE A-6**  
**ESTIMATED SALES TAXES AND TRANSIENT OCCUPANCY TAXES**

(Constant 2003 Dollars)									
2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
(1,293,362)	(1,293,362)	(1,293,362)	(1,293,362)	(1,293,362)	(1,293,362)	(1,293,362)	(1,293,362)	(1,293,362)	(1,293,362)
(\$291,006,508)	(\$291,006,508)	(\$291,006,508)	(\$291,006,508)	(\$291,006,508)	(\$291,006,508)	(\$291,006,508)	(\$291,006,508)	(\$291,006,508)	(\$291,006,508)
176,505	176,505	176,505	206,966	237,426	267,887	298,347	298,347	298,347	298,347
95%	95%	95%	95%	95%	95%	95%	95%	95%	95%
167,680	167,680	167,680	196,617	225,555	254,492	283,430	283,430	283,430	283,430
\$50,303,959	\$50,303,959	\$50,303,959	\$58,985,220	\$67,666,482	\$76,347,743	\$85,029,004	\$85,029,004	\$85,029,004	\$85,029,004
\$50,303,959	\$50,303,959	\$50,303,959	\$58,985,220	\$67,666,482	\$76,347,743	\$85,029,004	\$85,029,004	\$85,029,004	\$85,029,004
(\$240,702,549)	(\$240,702,549)	(\$240,702,549)	(\$232,021,288)	(\$223,340,027)	(\$214,658,766)	(\$205,977,504)	(\$205,977,504)	(\$205,977,504)	(\$205,977,504)
(\$2,407,025)	(\$2,407,025)	(\$2,407,025)	(\$2,320,213)	(\$2,233,400)	(\$2,146,588)	(\$2,059,775)	(\$2,059,775)	(\$2,059,775)	(\$2,059,775)
300	300	300	300	300	300	300	300	300	300
70%	70%	70%	70%	70%	70%	70%	70%	70%	70%
76,650	76,650	76,650	76,650	76,650	76,650	76,650	76,650	76,650	76,650
\$15,330,000	\$15,330,000	\$15,330,000	\$15,330,000	\$15,330,000	\$15,330,000	\$15,330,000	\$15,330,000	\$15,330,000	\$15,330,000
\$1,609,650	\$1,609,650	\$1,609,650	\$1,609,650	\$1,609,650	\$1,609,650	\$1,609,650	\$1,609,650	\$1,609,650	\$1,609,650
(\$797,375)	(\$797,375)	(\$797,375)	(\$710,563)	(\$623,750)	(\$536,938)	(\$450,125)	(\$450,125)	(\$450,125)	(\$450,125)
(\$797,375)	(\$797,375)	(\$797,375)	(\$710,563)	(\$623,750)	(\$536,938)	(\$450,125)	(\$450,125)	(\$450,125)	(\$5,626,563)
(\$797,375)	(\$797,375)	(\$797,375)	(\$710,563)	(\$623,750)	(\$536,938)	(\$450,125)	(\$450,125)	(\$450,125)	(\$6,076,688)

**TABLE A-7**  
**ESTIMATED FISCAL COST TO PROVIDE SERVICES TO NEW DEVELOPMENT**

			(Constant 2003 Dollars)						
			2003	2004	2005	2006	2007	2008	2009
<b>Equivalent Dwelling Units (EDU) Generated by Project<sup>1</sup></b>									
<b><u>Resident EDUs</u></b>									
Residential Units @	29	units/acre	0	0	0	147	294	441	588
Occupancy Rate			0%	0%	0%	75%	85%	95%	95%
EDUs = Occupied Housing Units (Households)			0	0	0	110	250	419	558
<b><u>Employment EDUs</u></b>									
<b>Retail</b>									
Sq. Ft. of Retail Space			0	0	0	44,126	88,253	132,379	176,505
Occupancy Rate			0%	0%	0%	80%	95%	95%	95%
Occupied Sq. Ft. of Retail Space			0	0	0	35,301	83,840	125,760	167,680
Employment Generation @	500	sq.ft./employee	0	0	0	71	168	252	335
<b>Office</b>									
Sq. Ft. of Commercial Space @ FAR:		1.0	0	0	0	88,253	176,505	264,758	353,010
Occupancy Rate			0%	0%	0%	80%	93%	93%	93%
Occupied Sq. Ft. of Commercial Space			0	0	0	70,602	164,150	246,225	328,300
Employment Generation @	270	sq.ft./employee	0	0	0	261	608	912	1,216
Total Employment			0	0	0	332	776	1,163	1,551
EDU's Based on Ave. Household Size	2.61		0	0	0	127	297	446	594
<b>Total EDUs</b>			0	0	0	237	547	864	1,153
Fiscal Cost <sup>2</sup> @	\$3,529 /EDU		\$0	\$0	\$0	\$837,814	\$1,930,011	\$3,050,528	\$4,067,371
Capitalized Value @	8%								
<b>Net Fiscal Cost</b>			\$0.00	\$0	\$0	\$837,814	\$1,930,011	\$3,050,528	\$4,067,371
<b>Present Value of Annual Fiscal Cost @</b>				8%		<b>\$65,586,747</b>			

<sup>1</sup>Based on new households and employment created by development.

<sup>2</sup>Based on the fiscal cost per EDU Citywide in FY2001.

Source: Economics Research Associates.

**TABLE A-7**  
**ESTIMATED FISCAL COST TO PROVIDE SERVICES TO NEW DEVELOPMENT**

(Constant 2003 Dollars)									
2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
588	588	588	871	1,155	1,439	1,723	1,723	1,723	1,723
95%	95%	95%	80%	85%	90%	95%	95%	95%	95%
558	558	558	697	982	1,295	1,637	1,637	1,637	1,637
176,505	176,505	176,505	206,966	237,426	267,887	298,347	298,347	298,347	298,347
95%	95%	95%	95%	95%	95%	95%	95%	95%	95%
167,680	167,680	167,680	196,617	225,555	254,492	283,430	283,430	283,430	283,430
335	335	335	393	451	509	567	567	567	567
353,010	353,010	353,010	444,392	535,774	627,155	718,537	718,537	718,537	718,537
93%	93%	93%	93%	93%	93%	93%	93%	93%	93%
328,300	328,300	328,300	413,285	498,269	583,254	668,239	668,239	668,239	668,239
1,216	1,216	1,216	1,531	1,845	2,160	2,475	2,475	2,475	2,475
1,551	1,551	1,551	1,924	2,297	2,669	3,042	3,042	3,042	3,042
594	594	594	737	880	1,023	1,165	1,165	1,165	1,165
1,153	1,153	1,153	1,434	1,862	2,318	2,802	2,802	2,802	2,802
\$4,067,371	\$4,067,371	\$4,067,371	\$5,061,752	\$6,571,023	\$8,180,488	\$9,890,147	\$9,890,147	\$9,890,147	\$9,890,147
									\$ 123,626,835
\$4,067,371	\$4,067,371	\$4,067,371	\$5,061,752	\$6,571,023	\$8,180,488	\$9,890,147	\$9,890,147	\$9,890,147	\$133,516,982

**TABLE A-8**  
**SUMMARY RESULTS OF ALTERNATIVE 1: NAVIGABLE CHANNEL ALTERNATIVE**

<b>Present Value of:</b>	<b>Surplus/(Deficit)</b> <b>(\$ 2003)</b>
Project Generated Net Revenue (Deficit)	(\$336,894,151)
Tax Increment Revenue (Deficit) to Redevelopment Agency	(\$22,962)
Property Tax Revenue (Deficit) to City of San Diego	\$20,465
Net Sales Tax & TOT Revenue (Deficit)	(\$5,010,588)
<b>Sub-total Before Fiscal Cost of Services to New Development</b>	<b>(\$341,907,236)</b>
Estimated Fiscal Cost of Services to New Development	(\$65,586,747)
<b>Total (Deficit)</b>	<b>(\$407,493,984)</b>

<sup>1</sup>Includes land acquisition & resale & revenue from marina.  
Source: Economics Research Associates.

**TABLE B-1**  
**ESTIMATED COST TO ACQUIRE RIGHT-OF WAY**

	<u>Total Land Area to be Acquired</u>				<u>Land &amp; Building Acquisition Costs</u>		<u>Related Costs</u>		<u>Total Cost</u>
	<u>Acres</u>	<u>Sq. Ft. of Land Area</u>			<u>Average Value</u>	<u>Total Estimated Value</u>	<u>Cost of Demolition<sup>2</sup></u>	<u>Relocation Allowance<sup>3</sup></u>	
<b>Vacant Land</b>					<u>Per Acre</u>				
Vacant Residential	0.00	0			\$409,000	\$0	n/a	n/a	\$0
Vacant Commercial	0.51	22,296			\$1,546,000	\$791,316	n/a	n/a	\$791,316
Vacant Industrial	0.00	0			\$1,277,000	\$0	n/a	n/a	\$0
<b>Residential Property</b>			<u>Units per Acre<sup>4</sup></u>	<u>Total Units</u>	<u>Per Unit</u>				
Single Family Residential	0.00	0	16	0	\$250,000	\$0	\$0	\$0	\$0
Multi Family Apartments	1.72	74,803	29	50	\$98,000	\$4,880,374	\$97,607	\$244,019	\$5,222,000
<b>Commercial/Other Property</b>			<u>FAR<sup>4</sup></u>	<u>Sq. Ft. of Bldg. Area</u>	<u>Per Sq. Ft. of Bldg. Area</u>				
Retail	68.04	2,964,000	0.25	741,000	\$170	\$125,877,503	\$2,517,550	\$25,175,501	\$153,570,554
Office/Other Commercial	10.44	454,692	0.25	113,673	\$120	\$13,640,765	\$272,815	\$2,728,153	\$16,641,733
Light Industrial	8.51	370,807	0.25	92,702	\$95	\$8,834,067	\$176,681	\$1,766,813	\$10,777,562
Other <sup>5</sup>	1.29	56,019	0.25	14,005	\$95	\$1,330,446	\$26,609	\$266,089	\$1,623,144
<b>Sports Arena Leases</b>									
Commercial Land Leases	66.69	2,905,016				\$50,986,072	\$1,019,721	\$10,197,214	\$62,203,007
<b>Total</b>	<b>157.20</b>						<b>\$4,110,985</b>	<b>\$40,377,789</b>	<b>\$250,829,317</b>

<sup>1</sup>Estimated based on total area to be acquired with an average FAR of .25.

<sup>2</sup>Assumes an additional 2% of building value.

<sup>3</sup>Assumes an additional 5% on residential properties and 20% on commercial properties (to include goodwill).

<sup>4</sup>Based on Community Plan allowances.

<sup>5</sup>Includes a carwash.

Source: DataQuick, CoStar Comps, area commercial real estate brokers, and Economics Research Associates.

**TABLE B-2  
VALUE OF REMNANT PARCELS AVAILABLE FOR RESALE<sup>1</sup>**

<b>Land Use</b>	<b>Assumed % Distribution</b>	<b>Approximate Acres</b>	<b>Base Land Value Per Acre</b>	<b>Base Land Value Per S.F.</b>	<b>Amenity Premium<sup>2</sup></b>	<b>Total Value</b>
<b>Sports Arena Parcel</b>						
Condominiums	25%	13.76	\$3,828,000	\$88	45%	\$5,550,600
Apartments	25%	13.76	\$1,586,880	\$36	45%	\$2,300,976
Retail	20%	11.00	\$1,814,884	\$42	23%	\$2,223,233
Office	20%	11.00	\$3,850,146	\$88	45%	\$5,582,712
Hotel <sup>2</sup>	10%	5.50	\$2,142,541	\$49	50%	\$3,213,811
		55.02	<b>Subtotal</b>			<b>\$18,871,332</b>
<b>Waterfront Parcels</b>						
Condominiums	35%	6.30	\$3,828,000	\$88	75%	\$6,699,000
Apartments	35%	6.30	\$1,586,880	\$36	75%	\$2,777,040
Retail	10%	1.80	\$1,814,884	\$42	38%	\$2,495,465
Office	15%	2.70	\$3,850,146	\$88	75%	\$6,737,756
Other	5%	0.90	\$2,832,515	\$65	75%	\$4,956,901
		18.00	<b>Subtotal</b>			<b>\$23,666,163</b>
<b>Recreation Corridor Parcels</b>						
Condominiums	35%	12.02	\$3,828,000	\$88	50%	\$5,742,000
Apartments	35%	12.02	\$1,586,880	\$36	50%	\$2,380,320
Retail	10%	3.44	\$1,814,884	\$42	25%	\$2,268,605
Office	15%	5.15	\$3,850,146	\$88	50%	\$5,775,220
Other	5%	1.72	\$2,832,515	\$65	50%	\$4,248,773
		34.35	<b>Subtotal</b>			<b>\$20,414,917</b>
<b>Total Value</b>						<b>\$62,952,412</b>

<sup>1</sup>Some parcels purchased will have developable remnants, which must be subdivided and re-sold to private owners.

<sup>2</sup>Assumes a premium of 20% for residential waterfront parcels and 10% on residential greenbelt parcels; waterfront premium assumption based on those experienced in similar projects in Southern California including Naples, Venice, and east-facing lots on Balboa Island; greenbelt premium assumption based on premium for active recreation corridors in Southern California.

<sup>3</sup>Hypothetical 300-room hotel.

Source: CB Richard Ellis, area commercial real estate brokers, DataQuick, CoStar Comps, and Economics Research Associates.

**TABLE B-3  
PRESENT VALUE OF PROJECT GENERATED REVENUES AND COSTS**

	<b>Costs &amp; Revenues Over Time (\$2003)</b>					
	2003	2004	2005	2006	2007	2008
<b>Costs</b>						
Total Cost to Acquire Properties						
Total Cost of Improvements						
Annual Maintenance Costs						
<b>Revenue</b>						
Sale or Capitalized Lease of Sports Arena Parcels						
Resale of Remnant Lots						
<b>Revenue</b>						
Sale or Capitalized Lease of Sports Arena Parcels	-	\$0	\$4,717,833	\$4,717,833	\$4,717,833	\$4,717,833
Resale of Remnant Lots	-	\$0	\$0	\$0	\$0	\$0
Total Revenue	-	\$0	\$4,717,833	\$4,717,833	\$4,717,833	\$4,717,833
<b>Costs</b>						
Cost to Acquire Properties	-	\$0	\$50,165,863	\$50,165,863	\$50,165,863	\$50,165,863
Total Improvement Costs	-	\$0	\$0	\$0	\$0	\$54,365,162
Annual Maintenance Costs	-	\$0	\$0	\$0	\$0	\$0
Total Costs	-	\$0	\$50,165,863	\$50,165,863	\$50,165,863	\$104,531,025
<b>Surplus/(Deficit)</b>	-	\$0	(\$45,448,030)	(\$45,448,030)	(\$45,448,030)	(\$99,813,192)
Capitalized Terminal Value @	8.0%					
<b>Net Cash Flow</b>	-		\$(45,448,030)	\$(45,448,030)	\$(45,448,030)	\$ (99,813,192)
<b>Present Value<sup>1</sup> of Annual Economic Costs/Revenues @</b>	8.0%		(\$309,815,772)			

Source: Economics Research Associates.

**TABLE B-3 (concluded)**  
**PRESENT VALUE OF PROJECT AREA ECONOMIC COSTS & REVENUES**

Costs & Revenues Over Time (\$2003)										
2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
\$0	\$0	\$0	\$11,020,270	\$11,020,270	\$11,020,270	\$11,020,270	\$0	\$0	\$0	\$0
\$0	\$0	\$0	\$11,020,270	\$11,020,270	\$11,020,270	\$11,020,270	\$0	\$0	\$0	\$0
\$50,165,863	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
\$54,365,162	\$54,365,162	\$54,365,162	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
\$0	\$0	\$0	\$480,000	\$480,000	\$480,000	\$480,000	\$480,000	\$480,000	\$480,000	\$480,000
\$104,531,025	\$54,365,162	\$54,365,162	\$480,000	\$480,000	\$480,000	\$480,000	\$480,000	\$480,000	\$480,000	\$480,000
(\$104,531,025)	(\$54,365,162)	(\$54,365,162)	\$10,540,270	\$10,540,270	\$10,540,270	\$10,540,270	(\$480,000)	(\$480,000)	(\$480,000)	(\$480,000)
										(\$6,000,000)
\$ (104,531,025)	\$ (54,365,162)	\$ (54,365,162)	\$ 10,540,270	\$ 10,540,270	\$ 10,540,270	\$ 10,540,270	\$ (480,000)	\$ (480,000)	\$ (480,000)	\$ (6,480,000)

**TABLE B-4**  
**ANALYSIS OF PROJECT GENERATED ASSESSED VALUE & TAX INCREMENT TO REDEVELOPMENT AGENCY**

	(Constant 2003 Dollars)						
	2003	2004	2005	2006	2007	2008	2009
<b>Changes in Assessed Valuation (AV)</b>							
Existing AV of Project Parcels	\$114,113,057	\$114,113,057	\$114,113,057	\$114,113,057	\$91,290,446	\$68,467,834	\$45,645,223
Less AV of Parcels Acquired in Prior Year (-)	\$0	\$0	\$0	-\$22,822,611	-\$22,822,611	-\$22,822,611	-\$22,822,611
AV of Parcels After Acquisition	\$114,113,057	\$114,113,057	\$114,113,057	\$91,290,446	\$68,467,834	\$45,645,223	\$22,822,611
AV of Sports Arena Parcels Sold (+)	\$0	\$0	\$0	\$4,717,833	\$9,435,666	\$14,153,499	\$18,871,332
Additional AV of New Bldgs on Sports Arena Site	\$0	\$0	\$0	\$0	\$0	\$6,808,780	\$13,617,561
AV of Remnant Parcels Resold (+)	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Additional AV of New Bldgs on Remnant Parcels	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>Net Assessed Valuation</b>	\$114,113,057	\$114,113,057	\$114,113,057	\$96,008,279	\$77,903,500	\$66,607,502	\$55,311,504
Property Tax on Assessed Value @ 1%	\$1,141,131	\$1,141,131	\$1,141,131	\$960,083	\$779,035	\$666,075	\$553,115
Property Tax Increment from Project	\$0	\$0	\$0	(\$181,048)	(\$362,096)	(\$475,056)	(\$588,016)
<b>Housing Set-Aside Fund Share (20%)</b>	\$0	\$0	\$0	(\$36,210)	(\$72,419)	(\$95,011)	(\$117,603)
<b>Balance Prior to Distribution to Taxing Entities (80%)</b>	\$0	\$0	\$0	(\$144,838)	(\$289,676)	(\$380,044)	(\$470,412)
<b>Distribution of Tax Increment to RDA &amp; City of SD</b>							
Redevelopment Agency <sup>1</sup>	\$0	\$0	\$0	(\$108,629)	(\$217,257)	(\$285,033)	(\$352,809)
Capitalized Value @ 6% cap rate							
Total	\$0	\$0	\$0	(\$108,629)	(\$217,257)	(\$285,033)	(\$352,809)
City of San Diego <sup>2</sup>	\$0	\$0	\$0	(\$7,583)	(\$15,166)	(\$19,897)	(\$24,629)
Capitalized Value @ 6% cap rate							
Total	\$0	\$0	\$0	(\$7,583)	(\$15,166)	(\$19,897)	(\$24,629)
<b>NET PRESENT VALUE OF TAX INCREMENT TO REDEVELOPMENT AGENCY (2003 \$) @</b>			8.0%	(\$470,980)			
<b>NET PRESENT VALUE OF TAX INCREMENT TO CITY OF SAN DIEGO (2003 \$) @</b>			8.0%	(\$12,275)			

<sup>1</sup>From 2003-2012, the Redevelopment Agency receives 75% of Taxing Entity & Redevelopment Agency tax increment (which is the portion remaining after the Housing Set-Aside Fund share is allocated). Beginning in 2013, the Redevelopment Agency receives 54% of Taxing Entity & Redevelopment Agency tax increment.

<sup>2</sup>The City of San Diego receives 20.942190% of the remaining 25% of Taxing Entity & Redevelopment Agency tax increment (which is the portion remaining after the Housing Set-Aside Fund share is allocated). Beginning in 2013, the Redevelopment Agency receives 54% of Taxing Entity & Redevelopment Agency tax increment.

Source: Economics Research Associates

**TABLE B-4  
ANALYSIS OF PROJECT GENERATED ASSESSED VALUE & TAX INCREMENT TO REDEVELOPMENT AGENCY**

(Constant 2003 Dollars)									
2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
\$22,822,611	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
-\$22,822,611	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
\$18,871,332	\$18,871,332	\$18,871,332	\$18,871,332	\$18,871,332	\$18,871,332	\$18,871,332	\$18,871,332	\$18,871,332	\$18,871,332
\$20,426,341	\$27,235,122	\$34,043,902	\$34,043,902	\$34,043,902	\$34,043,902	\$34,043,902	\$34,043,902	\$34,043,902	\$34,043,902
\$0	\$0	\$0	\$11,020,270	\$22,040,540	\$33,060,810	\$44,081,080	\$44,081,080	\$44,081,080	\$44,081,080
\$0	\$0	\$0	\$0	\$9,576,826	\$19,153,652	\$28,730,478	\$38,307,304	\$47,884,130	\$57,460,957
\$39,297,674	\$46,106,454	\$52,915,235	\$63,935,505	\$84,532,601	\$105,129,697	\$125,726,793	\$135,303,619	\$144,880,445	\$154,457,271
\$392,977	\$461,065	\$529,152	\$639,355	\$845,326	\$1,051,297	\$1,257,268	\$1,353,036	\$1,448,804	\$1,544,573
(\$748,154)	(\$680,066)	(\$611,978)	(\$501,776)	(\$295,805)	(\$89,834)	\$116,137	\$211,906	\$307,674	\$403,442
(\$149,631)	(\$136,013)	(\$122,396)	(\$100,355)	(\$59,161)	(\$17,967)	\$23,227	\$42,381	\$61,535	\$80,688
(\$598,523)	(\$544,053)	(\$489,583)	(\$401,420)	(\$236,644)	(\$71,867)	\$92,910	\$169,524	\$246,139	\$322,754
(\$448,892)	(\$408,040)	(\$367,187)	(\$216,767)	(\$127,788)	(\$38,808)	\$50,171	\$91,543	\$132,915	\$174,287
(\$448,892)	(\$408,040)	(\$367,187)	(\$216,767)	(\$127,788)	(\$38,808)	\$50,171	\$91,543	\$132,915	\$2,904,783
(\$31,336)	(\$28,484)	(\$25,632)	(\$21,017)	(\$12,390)	(\$3,763)	\$4,864	\$8,876	\$12,887	\$16,898
(\$31,336)	(\$28,484)	(\$25,632)	(\$21,017)	(\$12,390)	(\$3,763)	\$4,864	\$8,876	\$12,887	\$281,632
									\$298,530

d). Beginning

allocated).

**TABLE B-5  
ESTIMATED SALES TAXES AND TRANSIENT OCCUPANCY TAXES**

	(Constant 2003 Dollars)						
	2003	2004	2005	2006	2007	2008	2009
<b>Estimated Sales Tax Revenue</b>							
Estimated Decrease in Existing Occupied Retail Space <sup>1</sup>	0	(156,241)	(312,482)	(468,722)	(468,722)	(703,372)	(938,022)
Estimated Loss of Retail Sales <sup>2</sup> @ \$225 /sq.ft.)	\$0	(\$35,154,180)	(\$70,308,360)	(\$105,462,540)	(\$105,462,540)	(\$158,258,782)	(\$211,055,023)
Estimated Retail Space <sup>3</sup> FAR: 0.5	0	0	0	59,917	119,834	179,750	239,667
Occupancy Rate (%)	0%	0%	0%	80%	95%	95%	95%
Occupied Sq.Ft.	0	0	0	47,933	113,842	170,763	227,684
Total Estimated Retail Sales <sup>2</sup> @ \$300 /sq.ft.)	\$0	\$0	\$0	\$14,380,027	\$34,152,565	\$51,228,847	\$68,305,129
Assumed New Retail Sales <sup>4</sup> @ 100%	\$0	\$0	\$0	\$14,380,027	\$34,152,565	\$51,228,847	\$68,305,129
Net Change in Retail Sales	\$0	(\$35,154,180)	(\$70,308,360)	(\$91,082,513)	(\$71,309,975)	(\$107,029,935)	(\$142,749,894)
Net Change in Sales Tax Revenue 1%	\$0	(\$351,542)	(\$703,084)	(\$910,825)	(\$713,100)	(\$1,070,299)	(\$1,427,499)
<b>Estimated Transient Occupancy Tax Revenue (TOT)</b>							
Hotel Rooms	0	0	0	0	300	300	300
Occupancy Rate	0%	0%	0%	0%	65%	70%	70%
Hotel Nights/Year	0	0	0	0	71,175	76,650	76,650
Annual Revenue with Av. Room Rate @ \$200	\$0	\$0	\$0	\$0	\$14,235,000	\$15,330,000	\$15,330,000
Estimated Annual TOT Revenue @ 10.5%	\$0	\$0	\$0	\$0	\$1,494,675	\$1,609,650	\$1,609,650
<b>Current Value of Annual Sales Tax &amp; TOT Revenue Capitalized Value @ 8%</b>	\$ -	\$ (351,542)	\$ (703,084)	\$ (910,825)	\$ 781,575	\$ 539,351	\$ 182,151
<b>Net Cash Flow</b>	\$ -	(\$351,542)	(\$703,084)	(\$910,825)	\$781,575	\$539,351	\$182,151
<b>Present Value of Annual Sales Tax &amp; TOT Revenue @ 8%</b>		<b>(\$1,390,391)</b>					

<sup>1</sup>Loss of retail space through acquisition of Sports Arena and other parcels.

<sup>2</sup>Based on average sales per sq.ft. of \$225 for existing and \$300 for new.

<sup>3</sup>Based on an FAR of 0.5.

<sup>4</sup>Assumes 100% are new sales generated by development.

Source: Economics Research Associates

**TABLE B-5  
ESTIMATED SALES TAXES AND TRANSIENT OCCUPANCY TAXES**

(Constant 2003 Dollars)									
2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
(1,172,672)	(1,172,672)	(1,172,672)	(1,172,672)	(1,172,672)	(1,172,672)	(1,172,672)	(1,172,672)	(1,172,672)	(1,172,672)
(\$263,851,265)	(\$263,851,265)	(\$263,851,265)	(\$263,851,265)	(\$263,851,265)	(\$263,851,265)	(\$263,851,265)	(\$263,851,265)	(\$263,851,265)	(\$263,851,265)
239,667	239,667	239,667	268,175	296,683	325,192	353,700	353,700	353,700	353,700
95%	95%	95%	95%	95%	95%	95%	95%	95%	95%
227,684	227,684	227,684	254,767	281,849	308,932	336,015	336,015	336,015	336,015
\$68,305,129	\$68,305,129	\$68,305,129	\$76,429,957	\$84,554,784	\$92,679,611	\$100,804,439	\$100,804,439	\$100,804,439	\$100,804,439
\$68,305,129	\$68,305,129	\$68,305,129	\$76,429,957	\$84,554,784	\$92,679,611	\$100,804,439	\$100,804,439	\$100,804,439	\$100,804,439
(\$195,546,136)	(\$195,546,136)	(\$195,546,136)	(\$187,421,308)	(\$179,296,481)	(\$171,171,653)	(\$163,046,826)	(\$163,046,826)	(\$163,046,826)	(\$163,046,826)
(\$1,955,461)	(\$1,955,461)	(\$1,955,461)	(\$1,874,213)	(\$1,792,965)	(\$1,711,717)	(\$1,630,468)	(\$1,630,468)	(\$1,630,468)	(\$1,630,468)
300	300	300	300	300	300	300	300	300	300
70%	70%	70%	70%	70%	70%	70%	70%	70%	70%
76,650	76,650	76,650	76,650	76,650	76,650	76,650	76,650	76,650	76,650
\$15,330,000	\$15,330,000	\$15,330,000	\$15,330,000	\$15,330,000	\$15,330,000	\$15,330,000	\$15,330,000	\$15,330,000	\$15,330,000
\$1,609,650	\$1,609,650	\$1,609,650	\$1,609,650	\$1,609,650	\$1,609,650	\$1,609,650	\$1,609,650	\$1,609,650	\$1,609,650
\$ (345,811)	\$ (345,811)	\$ (345,811)	\$ (264,563)	\$ (183,315)	\$ (102,067)	\$ (20,818)	\$ (20,818)	\$ (20,818)	\$ (20,818)
									-\$260,228
(\$345,811)	(\$345,811)	(\$345,811)	(\$264,563)	(\$183,315)	(\$102,067)	(\$20,818)	(\$20,818)	(\$20,818)	(\$281,047)

**TABLE B-6  
ESTIMATED FISCAL COST TO PROVIDE SERVICES TO NEW DEVELOPMENT**

		(Constant 2003 Dollars)						
		2003	2004	2005	2006	2007	2008	2009
<b>Equivalent Dwelling Units (EDU) Generated by Project<sup>1</sup></b>								
<b>Resident EDUs</b>								
Residential Units @	29 units/acre	0	0	0	199	399	598	798
Occupancy Rate		0%	0%	0%	75%	85%	95%	95%
EDUs = Occupied Housing Units (Households)		0	0	0	150	339	568	758
<b>Employment EDUs</b>								
<b>Retail</b>								
Sq. Ft. of Retail Space		0	0	0	59,917	119,834	179,750	239,667
Occupancy Rate		0%	0%	0%	80%	95%	95%	95%
Occupied Sq. Ft. of Retail Space		0	0	0	47,933	113,842	170,763	227,684
Employment Generation @	500 sq.ft./employee	0	0	0	96	228	342	455
<b>Office</b>								
Sq. Ft. of Commercial Space @ FAR:	1.0	0	0	0	119,834	239,667	359,501	479,334
Occupancy Rate		0%	0%	0%	80%	93%	93%	93%
Occupied Sq. Ft. of Commercial Space		0	0	0	95,867	222,890	334,336	445,781
Employment Generation @	270 sq.ft./employee	0	0	0	355	826	1,238	1,651
Total Employment		0	0	0	451	1,053	1,580	2,106
EDU's Based on Ave. Household Size	2.61	0	0	0	173	404	605	807
<b>Total EDUs</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>322</b>	<b>743</b>	<b>1,174</b>	<b>1,565</b>
Fiscal Cost <sup>2</sup> @	\$3,529 /EDU	\$0	\$0	\$0	\$1,137,624	\$2,620,662	\$4,142,154	\$5,522,872
Capitalized Value @	8%	\$0	\$0	\$0	\$1,137,624	\$2,620,662	\$4,142,154	\$5,522,872
<b>Present Value of Annual Fiscal Cost @</b>	<b>8%</b>				<b>\$76,847,461</b>			

<sup>1</sup>Based on new households and employment created by development.

<sup>2</sup>Based on the fiscal cost per EDU Citywide in FY2001.

Source: Economics Research Associates.

**TABLE B-6**  
**ESTIMATED FISCAL COST TO PROVIDE SERVICES TO NEW DEVELOPMENT**

(Constant 2003 Dollars)									
2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
798	798	798	1,063	1,329	1,595	1,861	1,861	1,861	1,861
95%	95%	95%	95%	95%	90%	95%	95%	95%	95%
758	758	758	1,010	1,263	1,435	1,768	1,768	1,768	1,768
239,667	239,667	239,667	268,175	296,683	325,192	353,700	353,700	353,700	353,700
95%	95%	95%	95%	95%	95%	95%	95%	95%	95%
227,684	227,684	227,684	254,767	281,849	308,932	336,015	336,015	336,015	336,015
455	455	455	510	564	618	672	672	672	672
479,334	479,334	479,334	564,859	650,383	735,908	821,432	821,432	821,432	821,432
93%	93%	93%	93%	93%	93%	93%	93%	93%	93%
445,781	445,781	445,781	525,319	604,856	684,394	763,932	763,932	763,932	763,932
1,651	1,651	1,651	1,946	2,240	2,535	2,829	2,829	2,829	2,829
2,106	2,106	2,106	2,455	2,804	3,153	3,501	3,501	3,501	3,501
807	807	807	941	1,074	1,208	1,342	1,342	1,342	1,342
1,565	1,565	1,565	1,951	2,337	2,643	3,109	3,109	3,109	3,109
\$5,522,872	\$5,522,872	\$5,522,872	\$6,885,261	\$8,247,651	\$9,328,610	\$10,972,431	\$10,972,431	\$10,972,431	\$10,972,431
									\$137,155,387
\$5,522,872	\$5,522,872	\$5,522,872	\$6,885,261	\$8,247,651	\$9,328,610	\$10,972,431	\$10,972,431	\$10,972,431	\$148,127,818

**TABLE B-7**  
**SUMMARY RESULTS OF ALTERNATIVE 2: NON-TIDAL CHANNEL ALTERNATIVE**

<b>Present Value of:</b>	<b>Surplus/(Deficit) (2003)</b>
Project Generated Net Revenue (Deficit)	(\$309,815,772)
Tax Increment Revenue (Deficit) to Redevelopment Agency	(\$470,980)
Property Tax Revenue (Deficit) to City of San Diego	(\$12,275)
Net Sales Tax & TOT Revenue (Deficit)	(\$1,390,391)
<b>Sub-total Before Fiscal Cost of Services to New Development</b>	<b>(\$311,689,418)</b>
Estimated Fiscal Cost of Services to New Development	(\$76,847,461)
<b>Total (Deficit)</b>	<b>(\$388,536,879)</b>

<sup>1</sup>Includes land acquisition & resale.

Source: Economics Research Associates.

**TABLE C-1**  
**ESTIMATED COST TO ACQUIRE RIGHT-OF WAY**

	Acres	Sq. Ft. of Land Area	Land & Building Acquisition Costs		Related Costs		Total Cost		
			Average Value	Total Estimated Value	Cost of Demolition <sup>2</sup>	Relocation Allowance <sup>3</sup>			
<b>Vacant Land</b>									
			<u>Per Acre</u>						
Vacant Residential	0.00	0	\$409,000	\$0	n/a	n/a	\$0		
Vacant Commercial	0.51	22,296	\$1,546,000	\$791,316	n/a	n/a	\$791,316		
Vacant Industrial	0.00	0	\$1,277,000	\$0	n/a	n/a	\$0		
<b>Residential Property</b>									
			<u>Units per Acre<sup>4</sup></u>	<u>Total Units</u>	<u>Per Unit</u>				
Single Family Residential	0.00	0	16	0	\$250,000	\$0	\$0	\$0	
Multi Family Apartments	1.72	74,803	29	50	\$98,000	\$4,880,374	\$97,607	\$244,019	\$5,222,000
<b>Commercial/Other Property</b>									
			<u>FAR<sup>4</sup></u>	<u>Sq. Ft. of Bldg. Area</u>	<u>Per Sq. Ft. of Bldg. Area</u>				
Retail	58.37	2,542,630	0.25	635,658	\$170	\$107,982,453	\$2,159,649	\$21,596,491	\$131,738,592
Office/Other Commercial	8.29	361,167	0.25	90,292	\$120	\$10,835,005	\$216,700	\$2,167,001	\$13,218,706
Light Industrial	3.08	134,067	0.25	33,517	\$95	\$3,193,989	\$63,880	\$638,798	\$3,896,667
Other <sup>5</sup>	0.64	28,009	0.25	7,002	\$95	\$665,223	\$13,304	\$133,045	\$811,572
<b>Sports Arena Leases</b>									
Commercial Land Leases	66.69	2,905,016				\$50,986,072	\$1,019,721	\$10,197,214	\$62,203,007
<b>Total</b>	<b>139.30</b>						<b>\$3,570,862</b>	<b>\$34,976,567</b>	<b>\$217,881,860</b>

<sup>1</sup>Estimated based on total area to be acquired with an average FAR of .25.

<sup>2</sup>Assumes an additional 2% of building value.

<sup>3</sup>Assumes an additional 5% on residential properties and 20% on commercial properties (to include goodwill).

<sup>4</sup>Based on Community Plan allowances.

<sup>5</sup>Includes a carwash.

Source: DataQuick, CoStar Comps, area commercial real estate brokers, and Economics Research Associates.

**TABLE C-2  
VALUE OF REMNANT PARCELS AVAILABLE FOR RESALE<sup>1</sup>**

<b>Land Use</b>	<b>Assumed % Distribution</b>	<b>Approximate Acres</b>	<b>Base Land Value Per Acre</b>	<b>Base Land Value Per S.F.</b>	<b>Amenity Premium<sup>2</sup></b>	<b>Total Value</b>
<b>Sports Arena Parcel</b>						
Condominiums	25%	10.88	\$3,828,000	\$88	30%	\$4,976,400
Apartments	25%	10.88	\$1,586,880	\$36	30%	\$2,062,944
Retail	20%	8.70	\$1,814,884	\$42	15%	\$2,087,116
Office	20%	8.70	\$3,850,146	\$88	30%	\$5,005,190
Hotel <sup>3</sup>	10%	4.35	\$2,708,699	\$62	30%	\$3,521,309
		43.52	<b>Subtotal</b>			<b>\$17,652,960</b>
<b>Recreation Corridor Parcels</b>						
Condominiums	35%	16.38	\$3,828,000	\$88	50%	\$5,742,000
Apartments	35%	16.38	\$1,586,880	\$36	50%	\$2,380,320
Retail	10%	4.68	\$1,814,884	\$42	25%	\$2,268,605
Office	15%	7.02	\$3,850,146	\$88	50%	\$5,775,220
Other	5%	2.34	\$2,832,515	\$65	50%	\$4,248,773
		46.80	<b>Subtotal</b>			<b>\$20,414,917</b>
<b>Total Value</b>						<b>\$38,067,877</b>

<sup>1</sup>Some parcels purchased will have developable remnants, which must be subdivided and re-sold to private owners.

<sup>2</sup>Assumes a premium of 10% on residential greenbelt parcels; based on premium for active recreation corridors in Southern California.

<sup>3</sup>Hypothetical 300-room hotel.

Source: CB Richard Ellis, area commercial real estate brokers, DataQuick, CoStar Comps, and Economics Research Associates.

**TABLE C-3  
PRESENT VALUE OF PROJECT GENERATED REVENUES AND COSTS**

<b>2003 \$</b>								
<b>Costs</b>								
Total Cost to Acquire Properties	\$217,881,860							
Total Cost of Improvements	\$211,295,292							
Annual Maintenance Costs	\$720,000							
<b>Revenue</b>								
Sale of Sports Arena Parcels	\$17,652,960							
Resale of Remnant Lots	\$20,414,917							
		<b>Costs &amp; Revenues Over Time (\$2003)</b>						
		2003	2004	2005	2006	2007	2008	2009
<b>Revenue</b>								
Sale or Capitalized Lease of Sports Arena Parcels		--	\$0	\$4,413,240	\$4,413,240	\$4,413,240	\$4,413,240	\$0
Resale of Remnant Lots		--	\$0	\$0	\$0	\$0	\$0	\$0
<b>Total Revenue</b>		--	\$0	\$4,413,240	\$4,413,240	\$4,413,240	\$4,413,240	\$0
<b>Costs</b>								
Cost to Acquire Properties		--	\$0	\$43,576,372	\$43,576,372	\$43,576,372	\$43,576,372	\$43,576,372
Total Improvement Costs		--	\$0	\$0	\$0	\$0	\$52,823,823	\$52,823,823
Annual Maintenance Costs		--	\$0	\$0	\$0	\$0	\$0	\$0
<b>Total Costs</b>		--	\$0	\$43,576,372	\$43,576,372	\$43,576,372	\$96,400,195	\$96,400,195
<b>Surplus/(Deficit)</b>		--	\$ -	\$(39,163,132)	\$(39,163,132)	\$(39,163,132)	\$(91,986,955)	\$(96,400,195)
Capitalized Terminal Value @	8.0%							
<b>Net Cash Flow</b>		--	\$ -	\$(39,163,132)	\$(39,163,132)	\$(39,163,132)	\$(91,986,955)	\$(96,400,195)
<b>Present Value1 of Surplus/(Deficit) @</b>	<b>8.0%</b>			<b>\$ (293,646,839)</b>				

Source: Economics Research Associates.

**TABLE C-3 (concluded)**  
**PRESENT VALUE OF PROJECT AREA ECONOMIC COSTS & REVENUES**

Costs & Revenues Over Time (\$2003)									
2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
\$0	\$0	\$5,103,729	\$5,103,729	\$5,103,729	\$5,103,729	\$0	\$0	\$0	\$0
\$0	\$0	\$5,103,729	\$5,103,729	\$5,103,729	\$5,103,729	\$0	\$0	\$0	\$0
\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
\$52,823,823	\$52,823,823	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
\$0	\$0	\$720,000	\$720,000	\$720,000	\$720,000	\$720,000	\$720,000	\$720,000	\$720,000
\$52,823,823	\$52,823,823	\$720,000	\$720,000	\$720,000	\$720,000	\$720,000	\$720,000	\$720,000	\$720,000
\$(52,823,823)	\$(52,823,823)	\$ 4,383,729	\$ 4,383,729	\$ 4,383,729	\$ 4,383,729	\$ (720,000)	\$ (720,000)	\$ (720,000)	\$ (720,000)
									(\$9,000,000)
\$(52,823,823)	\$(52,823,823)	\$ 4,383,729	\$ 4,383,729	\$ 4,383,729	\$ 4,383,729	\$ (720,000)	\$ (720,000)	\$ (720,000)	\$ (9,720,000)

**TABLE C-4  
ANALYSIS OF PROJECT GENERATED ASSESSED VALUE & TAX INCREMENT TO REDEVELOPMENT AGENCY**

	(Constant 2003 Dollars)						
	2003	2004	2005	2006	2007	2008	2009
<b>Changes in Assessed Valuation (AV)</b>							
Existing AV of Project Parcels	\$84,041,472	\$84,041,472	\$84,041,472	\$84,041,472	\$67,233,178	\$50,424,883	\$33,616,589
Less AV of Parcels Acquired in Prior Year (-)	\$0	\$0	\$0	-\$16,808,294	-\$16,808,294	-\$16,808,294	-\$16,808,294
AV of Parcels After Acquisition	\$84,041,472	\$84,041,472	\$84,041,472	\$67,233,178	\$50,424,883	\$33,616,589	\$16,808,294
AV of Sports Arena Parcels Sold (+)	\$0	\$0	\$0	\$4,413,240	\$8,826,480	\$13,239,720	\$17,652,960
Additional AV of New Bldgs on Sports Arena Site	\$0	\$0	\$0	\$0	\$0	\$7,374,939	\$14,749,878
AV of Remnant Parcels Resold (+)	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Additional AV of New Bldgs on Remnant Parcels	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>Net Assessed Valuation</b>	\$84,041,472	\$84,041,472	\$84,041,472	\$71,646,418	\$59,251,363	\$54,231,248	\$49,211,132
Property Tax on Assessed Value of Prior Year @ 1%	\$840,415	\$840,415	\$840,415	\$840,415	\$716,464	\$592,514	\$542,312
Property Tax Increment from Project	\$0	\$0	\$0	\$0	(\$123,951)	(\$247,901)	(\$298,102)
<b>Housing Set-Aside Fund Share (20%)</b>	\$0	\$0	\$0	\$0	(\$24,790)	(\$49,580)	(\$59,620)
<b>Balance Prior to Distribution to Taxing Entities (80%)</b>	\$0	\$0	\$0	\$0	(\$99,160)	(\$198,321)	(\$238,482)
<b>Distribution of Tax Increment to RDA &amp; City of SD</b>							
Redevelopment Agency <sup>1</sup>	\$0	\$0	\$0	\$0	(\$74,370)	(\$148,741)	(\$178,861)
Capitalized Value @ 6% cap rate	\$0	\$0	\$0	\$0	(\$74,370)	(\$148,741)	(\$178,861)
<b>Total</b>	\$0	\$0	\$0	\$0	(\$74,370)	(\$148,741)	(\$178,861)
City of San Diego <sup>2</sup>	\$0	\$0	\$0	\$0	(\$5,192)	(\$10,383)	(\$12,486)
Capitalized Value @ 6% cap rate	\$0	\$0	\$0	\$0	(\$5,192)	(\$10,383)	(\$12,486)
<b>Total</b>	\$0	\$0	\$0	\$0	(\$5,192)	(\$10,383)	(\$12,486)
<b>NET PRESENT VALUE OF TAX INCREMENT TO REDEVELOPMENT AGENCY (2003 \$) @</b>			8.0%	(\$397,398)			
<b>NET PRESENT VALUE OF TAX INCREMENT TO CITY OF SAN DIEGO (2003 \$) @</b>			8.0%	(\$22,323)			

<sup>1</sup>From 2003-2012, the Redevelopment Agency receives 75% of Taxing Entity & Redevelopment Agency tax increment (which is the portion remaining after the Housing Set-Aside Fund share is allocated) in 2013, the Redevelopment Agency receives 54% of

<sup>2</sup>The City of San Diego receives 20.942190% of the remaining 25% of Taxing Entity & Redevelopment Agency tax increment (which is the portion remaining after the Housing Set-Aside Fund share is allocated) Beginning in 2013, the Redevelopment Agency receives

Source: Economics Research Associates

**TABLE C-4  
ANALYSIS OF PROJECT GENERATED ASSESSED VALUE & TAX INCREMENT TO REDEVELOPMENT AGENCY**

(Constant 2003 Dollars)										
2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	
\$16,808,294	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
-\$16,808,294	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
\$17,652,960	\$17,652,960	\$17,652,960	\$17,652,960	\$17,652,960	\$17,652,960	\$17,652,960	\$17,652,960	\$17,652,960	\$17,652,960	\$17,652,960
\$22,124,817	\$29,499,756	\$36,874,695	\$36,874,695	\$36,874,695	\$36,874,695	\$36,874,695	\$36,874,695	\$36,874,695	\$36,874,695	\$36,874,695
\$0	\$0	\$0	\$5,103,729	\$10,207,459	\$15,311,188	\$20,414,917	\$20,414,917	\$20,414,917	\$20,414,917	\$20,414,917
\$0	\$0	\$0	\$0	\$4,788,413	\$9,576,826	\$14,365,239	\$19,153,652	\$23,942,065	\$28,730,478	
\$39,777,777	\$47,152,716	\$54,527,655	\$59,631,384	\$69,523,526	\$79,415,669	\$89,307,811	\$94,096,224	\$98,884,637	\$103,673,050	
\$492,111	\$397,778	\$471,527	\$545,277	\$596,314	\$695,235	\$794,157	\$893,078	\$940,962	\$988,846	
(\$348,303)	(\$442,637)	(\$368,888)	(\$295,138)	(\$244,101)	(\$145,179)	(\$46,258)	\$52,663	\$100,548	\$148,432	
(\$69,661)	(\$88,527)	(\$73,778)	(\$59,028)	(\$48,820)	(\$29,036)	(\$9,252)	\$10,533	\$20,110	\$29,686	
(\$278,643)	(\$354,110)	(\$295,110)	(\$236,111)	(\$195,281)	(\$116,144)	(\$37,006)	\$42,131	\$80,438	\$118,745	
(\$208,982)	(\$265,582)	(\$221,333)	(\$127,500)	(\$105,452)	(\$62,718)	(\$19,983)	\$22,751	\$43,437	\$64,122	\$1,068,708
(\$208,982)	(\$265,582)	(\$221,333)	(\$127,500)	(\$105,452)	(\$62,718)	(\$19,983)	\$22,751	\$43,437	\$1,132,830	
(\$14,588)	(\$18,540)	(\$15,451)	(\$12,362)	(\$10,224)	(\$6,081)	(\$1,937)	\$2,206	\$4,211	\$6,217	\$103,616
(\$14,588)	(\$18,540)	(\$15,451)	(\$12,362)	(\$10,224)	(\$6,081)	(\$1,937)	\$2,206	\$4,211	\$109,833	

ed). Beginning

s allocated).

**TABLE C-5**  
**ESTIMATED SALES TAXES AND TRANSIENT OCCUPANCY TAXES**

	(Constant 2003 Dollars)						
	2003	2004	2005	2006	2007	2008	2009
<b>Estimated Sales Tax Revenue</b>							
Estimated Decrease in Existing Occupied Retail Space <sup>1</sup>	0	(156,241)	(312,482)	(468,722)	(468,722)	(670,014)	(871,306)
Estimated Loss of Retail Sales <sup>2</sup> @ \$225 /sq.ft.)	\$0	(\$35,154,180)	(\$70,308,360)	(\$105,462,540)	(\$105,462,540)	(\$150,753,140)	(\$196,043,740)
Estimated New Retail Space <sup>3</sup> FAR: 0.5	0	0	0	47,393	94,787	142,180	189,573
Occupancy Rate (%)	0%	0%	0%	80%	95%	95%	95%
Occupied Sq.Ft. New	0	0	0	37,915	90,047	135,071	180,094
Total Estimated Gain in Retail Sales <sup>2</sup> @ \$300 /sq.ft.)	\$0	\$0	\$0	\$11,374,387	\$27,014,170	\$40,521,254	\$54,028,339
Estimated New Retail Sales <sup>4</sup> @ 100%	\$0	\$0	\$0	\$11,374,387	\$27,014,170	\$40,521,254	\$54,028,339
<b>Net Change in Retail Sales</b>	<b>\$0</b>	<b>(\$35,154,180)</b>	<b>(\$70,308,360)</b>	<b>(\$94,088,153)</b>	<b>(\$78,448,370)</b>	<b>(\$110,231,886)</b>	<b>(\$142,015,401)</b>
<b>Net Change in Sales Tax Revenue @ 1%</b>	<b>\$0</b>	<b>(\$351,542)</b>	<b>(\$703,084)</b>	<b>(\$940,882)</b>	<b>(\$784,484)</b>	<b>(\$1,102,319)</b>	<b>(\$1,420,154)</b>
<b>Estimated Transient Occupancy Tax Revenue (TOT)</b>							
Hotel Rooms	0	0	0	0	300	300	300
Occupancy Rate	0%	0%	0%	0%	65%	70%	70%
Occupied Room Nights/Year	0	0	0	0	71,175	76,650	76,650
Annual Revenue with Av. Room Rate @ \$200	\$0	\$0	\$0	\$0	\$14,235,000	\$15,330,000	\$15,330,000
<b>Estimated Annual TOT Revenue @ 10.5%</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$1,494,675</b>	<b>\$1,609,650</b>	<b>\$1,609,650</b>
<b>Current Value of Annual Sales Tax &amp; TOT Revenue Capitalized Value @ 8%</b>	<b>\$0</b>	<b>(\$351,542)</b>	<b>(\$703,084)</b>	<b>(\$940,882)</b>	<b>\$710,191</b>	<b>\$507,331</b>	<b>\$189,496</b>
<b>Net Cash Flow</b>	<b>\$0</b>	<b>(\$351,542)</b>	<b>(\$703,084)</b>	<b>(\$940,882)</b>	<b>\$710,191</b>	<b>\$507,331</b>	<b>\$189,496</b>
<b>Present Value of Annual Sales Tax &amp; TOT Revenue @ 8%</b>	<b>\$0</b>	<b>(\$1,054,653)</b>					

<sup>1</sup>Loss of retail space through acquisition of Sports Arena and other parcels.

<sup>2</sup>Based on average sales per sq.ft. of \$225 for existing and \$300 for new.

<sup>3</sup>Based on an FAR of 0.5.

<sup>4</sup>Assumes 100% are new sales generated by development.

Source: Economics Research Associates

**TABLE C-5**  
**ESTIMATED SALES TAXES AND TRANSIENT OCCUPANCY TAXES**

(Constant 2003 Dollars)									
2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
(1,072,597)	(1,072,597)	(1,072,597)	(1,072,597)	(1,072,597)	(1,072,597)	(1,072,597)	(1,072,597)	(1,072,597)	(1,072,597)
(\$241,334,340)	(\$241,334,340)	(\$241,334,340)	(\$241,334,340)	(\$241,334,340)	(\$241,334,340)	(\$241,334,340)	(\$241,334,340)	(\$241,334,340)	(\$241,334,340)
189,573	189,573	189,573	215,054	240,535	266,015	291,496	291,496	291,496	291,496
95%	95%	95%	95%	95%	95%	95%	95%	95%	95%
180,094	180,094	180,094	204,301	228,508	252,715	276,921	276,921	276,921	276,921
\$54,028,339	\$54,028,339	\$54,028,339	\$61,290,343	\$68,552,346	\$75,814,350	\$83,076,354	\$83,076,354	\$83,076,354	\$83,076,354
\$54,028,339	\$54,028,339	\$54,028,339	\$61,290,343	\$68,552,346	\$75,814,350	\$83,076,354	\$83,076,354	\$83,076,354	\$83,076,354
(\$187,306,001)	(\$187,306,001)	(\$187,306,001)	(\$180,043,998)	(\$172,781,994)	(\$165,519,990)	(\$158,257,987)	(\$158,257,987)	(\$158,257,987)	(\$158,257,987)
(\$1,873,060)	(\$1,873,060)	(\$1,873,060)	(\$1,800,440)	(\$1,727,820)	(\$1,655,200)	(\$1,582,580)	(\$1,582,580)	(\$1,582,580)	(\$1,582,580)
300	300	300	300	300	300	300	300	300	300
70%	70%	70%	70%	70%	70%	70%	70%	70%	70%
76,650	76,650	76,650	76,650	76,650	76,650	76,650	76,650	76,650	76,650
\$15,330,000	\$15,330,000	\$15,330,000	\$15,330,000	\$15,330,000	\$15,330,000	\$15,330,000	\$15,330,000	\$15,330,000	\$15,330,000
\$1,609,650	\$1,609,650	\$1,609,650	\$1,609,650	\$1,609,650	\$1,609,650	\$1,609,650	\$1,609,650	\$1,609,650	\$1,609,650
(\$263,410)	(\$263,410)	(\$263,410)	(\$190,790)	(\$118,170)	(\$45,550)	\$27,070	\$27,070	\$27,070	\$27,070
									\$338,377
(\$263,410)	(\$263,410)	(\$263,410)	(\$190,790)	(\$118,170)	(\$45,550)	\$27,070	\$27,070	\$27,070	\$365,447

**TABLE C-6**  
**ESTIMATED FISCAL COST TO PROVIDE SERVICES TO NEW DEVELOPMENT**

		(Constant 2003 Dollars)							
		2003	2004	2005	2006	2007	2008	2009	
<b>Equivalent Dwelling Units (EDU) Generated by Project<sup>1</sup></b>									
<b><u>Resident EDUs</u></b>									
Residential Units @	29	units/acre	0	0	0	158	316	473	631
Occupancy Rate			0%	0%	0%	75%	85%	85%	95%
EDUs = Occupied Housing Units (Households)			0	0	0	118	268	402	599
<b><u>Employment EDUs</u></b>									
<b>Retail</b>									
Sq. Ft. of Retail Space			0	0	0	47,393	94,787	142,180	189,573
Occupancy Rate			0%	0%	0%	80%	95%	95%	95%
Occupied Sq. Ft. of Retail Space			0	0	0	37,915	90,047	135,071	180,094
Employment Generation @	500	sq.ft./employee	0	0	0	76	180	270	360
<b>Office</b>									
Sq. Ft. of Commercial Space @ FAR:	1.0		0	0	0	94,787	189,573	284,360	379,146
Occupancy Rate			0%	0%	0%	80%	93%	93%	93%
Occupied Sq. Ft. of Commercial Space			0	0	0	75,829	176,303	264,455	352,606
Employment Generation @	270	sq.ft./employee	0	0	0	281	653	979	1,306
Total Employment			0	0	0	357	833	1,250	1,666
EDU's Based on Ave. Household Size	2.61		0	0	0	137	319	479	638
<b>Total EDUs</b>			<b>0</b>	<b>0</b>	<b>0</b>	<b>255</b>	<b>587</b>	<b>881</b>	<b>1,238</b>
Fiscal Cost <sup>2</sup> @	\$3,529 /EDU		\$0	\$0	\$0	\$899,843	\$2,072,905	\$3,109,357	\$4,368,509
Capitalized Value @	8%		\$0	\$0	\$0	\$899,843	\$2,072,905	\$3,109,357	\$4,368,509
<b>Present Value of Annual Fiscal Cost @</b>		<b>8%</b>	<b>\$29,864,857</b>						

<sup>1</sup>Based on new households and employment created by development.

<sup>2</sup>Based on the fiscal cost per EDU Citywide in FY2001.

Source: Economics Research Associates.

**TABLE C-6**  
**ESTIMATED FISCAL COST TO PROVIDE SERVICES TO NEW DEVELOPMENT**

(Constant 2003 Dollars)									
2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
631	631	631	869	1,106	1,344	1,581	1,581	1,581	1,581
95%	95%	95%	95%	95%	90%	95%	95%	95%	95%
599	599	599	825	1,051	1,209	1,502	1,502	1,502	1,502
189,573	189,573	189,573	215,054	240,535	266,015	291,496	291,496	291,496	291,496
95%	95%	95%	95%	95%	95%	95%	95%	95%	95%
180,094	180,094	180,094	204,301	228,508	252,715	276,921	276,921	276,921	276,921
360	360	360	409	457	505	554	554	554	554
379,146	379,146	379,146	455,588	532,031	608,473	684,915	684,915	684,915	684,915
93%	93%	93%	93%	93%	93%	93%	93%	93%	93%
352,606	352,606	352,606	423,697	494,788	565,880	636,971	636,971	636,971	636,971
1,306	1,306	1,306	1,569	1,833	2,096	2,359	2,359	2,359	2,359
1,666	1,666	1,666	1,978	2,290	2,601	2,913	2,913	2,913	2,913
638	638	638	758	877	997	1,116	1,116	1,116	1,116
<b>1,238</b>	<b>1,238</b>	<b>1,238</b>	<b>1,583</b>	<b>1,928</b>	<b>2,206</b>	<b>2,618</b>	<b>2,618</b>	<b>2,618</b>	<b>2,618</b>
\$4,368,509	\$4,368,509	\$4,368,509	\$5,586,219	\$6,803,928	\$7,784,568	\$9,239,347	\$9,239,347	\$9,239,347	\$9,239,347
									\$115,491,841
\$4,368,509	\$4,368,509	\$4,368,509	\$5,586,219	\$6,803,928	\$7,784,568	\$9,239,347	\$9,239,347	\$9,239,347	\$124,731,189

**TABLE C-7**  
**SUMMARY RESULTS OF ALTERNATIVE 3: PARK SYSTEM LINK ALTERNATIVE**

<b>Present Value of:</b>	<b>Surplus/(Deficit)</b> <b>(2003)</b>
Project Generated Net Revenue (Deficit)	(\$293,646,839)
Tax Increment Revenue (Deficit) to Redevelopment Agency	(\$397,398)
Property Tax Revenue (Deficit) to City of San Diego	(\$22,323)
Net Sales Tax & TOT Revenue (Deficit)	(\$1,054,653)
<b>Sub-total Before Fiscal Cost of Services to New Development</b>	<b>(\$295,121,213)</b>
Estimated Fiscal Cost of Services to New Development	(\$29,864,857)
<b>Total (Deficit)</b>	<b>(\$324,986,070)</b>

<sup>1</sup>Includes land acquisition & resale.

Source: Economics Research Associates.

## II. WATER QUALITY

### INTRODUCTION

Several key issues relate to effects of project construction and operation on water quality: erosion/siltation, hazardous materials, dewatering, mixing of flows and urban contaminants. These issues are described below.

#### **Erosion/Siltation**

Proposed project grading, excavation and construction activities would increase the potential for erosion and transport of material both within or downstream of construction locales, particularly when they occur at the water's edge. The movement of eroded materials from the project site into downstream receiving waters could produce adverse water quality effects both directly through increased sediment loads, as well as indirectly through presence of small diameter particles (which provide loci for the adsorption of contaminants such as organic and petroleum compounds). Without control, such effects could significantly impair downstream water quality, as well as attendant wildlife habitats and species.

General Construction Activity Storm Water Permits (NPDES No. CAS000002) are required for construction sites where grading exceeds five acres (reduced to one acre on March 13, 2003), or for construction activities resulting in soil disturbances of less than five acres if the construction activity is part of a larger common plan of development. General permit conditions address notifications, prohibitions, effluent limitations, preparation and implementation of a stormwater pollution prevention plan (SWPPP), and monitoring program and record-keeping requirements. Construction activities carried out in compliance with the mandatory permit(s) noted above would result in less than significant water quality effects.

#### **Construction-related Hazardous Materials**

Project construction would involve the on-site use and/or storage of hazardous materials such as fuels, lubricants, solvents, concrete, paint and potentially portable septic system wastes. The accidental discharge of such materials during project construction could potentially result in significant impacts to surface water quality in downstream receiving waters, with certain of these materials (particularly petroleum compounds) potentially toxic to aquatic species in low concentrations. As described above for erosion and sedimentation, an approved SWPPP would be required as part of any alternative's General Construction Activity Storm Water Permit. The SWPPP would be required to address measures to avoid or mitigate effects related to the use and potential discharge of hazardous materials during construction, and would be expected to render potential construction-period impacts related to hazardous materials less than significant.

#### **Dewatering**

According to the Midway/Pacific Highway Corridor Community Plan (City of San Diego 1991, as amended), the existing groundwater table in much of the Midway area is at a depth of less than 25 feet. The Final EIR for the North Bay Revitalization Area (City of San Diego 1998) indicates that the water table is "expected to be near mean sea level for much of the Midway area." It is, therefore, likely that construction activities will encounter shallow groundwater, especially for alternatives proposing creation of a navigable water feature.

The degree to which this would represent a potential issue is dependent upon two factors: (1) the depth of planned excavations and (2) the need to convey water away from the construction area (i.e., whether subsequent construction activities, such as canal lining, are required in the construction area). This is a particular concern because a number of known hazardous materials sites are located in the project area, which could have contaminated the groundwater. An associated concern is the potential to create erosion/sedimentation impacts at the point of discharge. Disposal of extracted groundwater could impact downstream surface water quality (and associated biological habitats) through increased turbidity and the introduction of other contaminants. In particular, any temporary construction dewatering near a known groundwater contaminant plume would have to be designed, operated and coordinated so as not to exacerbate any existing contamination.

If temporary construction dewatering to a surface water body is necessary, a Dewatering Waste Discharge Permit (NPDES No. CA0108707) would be required. These permits are intended to ensure compliance with applicable water quality and beneficial use objectives, and would incorporate applicable best management practices (BMPs) to protect downstream water quality. The California Storm Water Best Management Practice Handbooks (Storm Water Quality Task Force 1993) identify the following types of measures for disposal of extracted groundwater: use of sediment catchment devices, filtering of groundwater prior to discharge (e.g., with gravel and filter fabric media), testing of extracted groundwater for contaminants prior to discharge, and, potentially, treatment of extracted groundwater.

The potential alternative to discharge to a surface water body is discharge to the City's sewer system. In this case, the effluent would need to meet the City's discharge requirements. Depending on the quality of the groundwater, the effluent may require treatment prior to discharge. Discharge of the dewatering effluent to the sewer system would reduce the potential impact to adjacent receiving waters; it is not, however, an efficient use of the sewer system. Compliance with the applicable permit requirements would result in less than significant effects related to dewatering.

### **Mixing of Flows**

Potential impacts could occur related to the long-term mixing of bay waters, ground waters and river flows. Such impacts would result only from alternatives that provide an hydraulic connection from the constructed channel to San Diego Bay and/or the San Diego River (which could in turn result in a hydraulic connection to Mission Bay). These concerns are related to the spread of water pollutants present in the water bodies as well as the mixing of salt and fresh waters.

Under Section 305 of the Clean Water Act, each state is required to periodically assess all surface waters within the state. Based on this assessment, each state must submit a list of those waters that do not, or are not expected to, attain water quality standards after application of required technology-based controls. This list, known as the 303(d) list, serves to focus water quality efforts and resources toward the most significant water quality problems. Once listed, the Regional Water Quality Control Board (RWQCB) is mandated to prioritize each waterbody/watershed for subsequent development of total maximum daily loads (TMDLs).

The lower San Diego River is identified on the 303(d) list for chlordane, dissolved oxygen, fecal coliform bacteria, phosphorus and total dissolved solids. Additionally, the list identifies Famosa Slough as “water quality limited” due to eutrophication (high levels of dissolved nutrients, deficient in oxygen). These areas were identified as moderate to low priority for TMDL establishment.

The water quality in the San Diego River likely varies significantly based on the amount of flow in the river (with larger flows diluting the pollutants). Based on data from a U.S. Geological Survey gauging station at Fashion Valley, annual mean flow since 1983 has varied from a low of 13.6 cubic feet per second (cfs) in 1999 to a high of 118 cfs in 1993. Within this broad range, daily flows are even more erratic, typically near zero, but increasing to approximately 3,000 cfs on several occasions. Additional water quality information is contained in the Final San Diego River Watershed Urban Runoff Management Plan (WURMP) submitted to the San Diego RWQCB January 2003. The draft January 2003 update of the 303(d) list (approved by the San Diego RWQCB on February 4, 2003) contains fact sheets in support of the listings that contain water quality data. Analysis of a composite of four largemouth bass filets from the San Diego River near Taylor Street in 1999 exceeded the Maximum Tissue Residue Level action levels for chlordane. The remaining water quality data were obtained by Padre Dam Municipal Water District. Dissolved oxygen levels, vital for aquatic life, were below the Basin Plan objective in 90 percent of samples taken in 1997 and 2000. Sampling in 2000 showed fecal coliform levels exceeding standards in 70 percent of the samples. Phosphorus concentrations exceeded the Basin Plan objective in 75 percent of samples in 1997 and 2000. Finally, 48 percent of water samples taken along Fashion Valley Road between 1997 and 2000 exceeded the Basin Plan objective for total dissolved solids; sampling showed a seasonal and increasing trend over the three-year period.

Based on bioassessment data for the San Diego River watershed gathered by the California Department of Fish and Game between 1997 and 2001, the benthic communities are moderately to substantially impacted. Levels of diazinon exceeded the California Department of Fish and Game-established level during the three storm events measured in the 2001-2 season. Other exceedances measured during that season were considered potentially associated with isolated events and not necessarily indicative of a persistent problem.

Much of the San Diego Bay also is included in the 303(d) list, and was identified as a high priority for TMDL development. Various areas in the northern portion of the bay are identified as having degraded benthic communities, sediment toxicity, dissolved copper and/or bacterial indicators. Finally, Mission Bay is included on the 303(d) list for eutrophication, lead and high coliform count. The first two were identified as medium priority for TMDL establishment, with coliform being assessed as a low priority. Detailed water quality data are not readily available for these two water bodies.

Mixing these waters of various pollutant profiles could further degrade their respective water qualities. If the water bodies are connected, it is anticipated that it would be extremely difficult to filter flows or keep the water from mixing.

### **Generation of Urban Contaminants**

Development associated with the proposed project (e.g., turf and parking lots) could result in the long-term generation of contaminants. The transport of urban contaminants from project facilities to downstream receiving waters could result in significant impacts to water quality (and attendant species) over the long term. The project would be required to conform to NPDES municipal storm water and urban runoff guidelines (NPDES No. CA0108758, RWQCB Order No. 2001-01), including the Standard Urban Storm Water Mitigation Plan (SUSMP) and/or specific implementation criteria for those guidelines currently under development by the City of San Diego. Specifically, this order requires new development (and redevelopment projects) to meet (among other criteria) a number of numeric and qualitative standards related to water quality and runoff discharge. The SUSMP identifies a number of post-construction or permanent best management practices (site design features and stormwater treatment devices) intended to protect and enhance the water quality of the region's surface waters. These measures are separate from the construction-related requirements discussed above, and remain operational once the site is in use. The SUSMP requires development of project-specific Water Quality Control Plans to identify pollutants of concern and applicable requirements. Compliance with the applicable standards would be expected to reduce operational impacts to below a level of significance.

The Limited Hazardous Materials Technical Study (HMTS Ninyo and Moore 2002) reviewed the study area and a 200-foot search radius including residential neighborhoods as well as light industrial and commercial districts. Database search and field reconnaissance resulted in identification of 107 properties of potential environmental concern within the search area, which includes schools, hospital and dental facilities, a post office, dry cleaning facilities, service stations and car washes, and printing and photo development facilities. Eliminating closed cases, duplicate records and sites actually located more than 200 feet beyond the study area boundaries the HMTS identifies spills including (but are not limited to) gasoline, oil, transmission fluids and detergents as determined by soil and groundwater samples collected through soil borings. Currently, all but 10 leaking underground storage tank (LUST) facilities located within the study area have completed mitigation for these known hazardous material spills. Typically, mitigation included excavating all contaminated soil, disposing of contaminated soil appropriately, and installing plastic liner and/or concrete slurry walls prior to backfilling the excavated area with clean, imported fill. Several of these facilities converted soil boring sites into soil/groundwater monitoring wells for the duration of remediation.

The HMTS concludes that the remaining 10 LUST sites within the study area are considered an environmental concern to the study area and that there is a moderate to high potential of encountering contaminated soil or groundwater.

The HMTS also identifies two landfills within the search area: the Mission Bay Landfill and the Sports Arena Landfill. The Mission Bay Landfill, located within the search area but north of Interstate 8, is considered a potential environmental concern. Subsurface investigations on the Sports Arena Landfill site have not been performed, however, and the site is considered a potential environmental concern.

It should be noted that each site was assessed and rated as a potential environmental concern individually. Cumulative impacts should also be considered.

**Park System Linkage Concept Alternative**

By foregoing construction of a channel, this alternative would minimize impacts related to erosion, sedimentation and the need for dewatering. The potential for some impacts related to these issues would, however, exist because of the (relatively limited) grading required in association with redevelopment and creation of public open space/park lands. The potential for contamination from construction-related hazardous materials also would exist, but the duration of this hazard would likely be somewhat less than with the other two alternatives. Although a potential exists for sediment and construction-related hazardous materials to drain to the San Diego Bay or River through storm drains, this would be limited because the project would not be directly connected to these sensitive water bodies. Because project-related grading would exceed five acres, the General Construction Activity Storm Water Permit, with associated measures to minimize potential water quality impacts, would be required as described above.

The absence of the channel in this alternative would substantially limit the amount of potential dewatering required, but some could still be expected in association with the above-noted grading activities. It is considered unlikely that any groundwater encountered would be directed to surface water bodies, because of the project's isolation from them. Under this alternative, it is more likely that the anticipated minimal amount of groundwater encountered would be directed to the City's sewage system, with the associated requirement that the effluent meet the City's discharge requirements, thus minimizing any potential impacts. This alternative also would eliminate the potential for mixing of bay waters and river flows, and associated potential impacts.

This alternative would result in the generation of urban contaminants associated with redevelopment (although likely not substantially different from existing conditions) and landscaping of the public open space/park lands. As noted above, the transport of these contaminants would be somewhat limited because there would be no direct connection from the project to sensitive water bodies. The project also would be required to implement measures to comply with NPDES and associated City requirements regarding water quality and runoff discharge.

**Non-tidal Channel Concept Alternative**

Grading/excavation associated with redevelopment, public open space/park lands and two channel systems would result in a potential for erosion/sedimentation. The potential for contamination from construction-related hazardous materials also would exist from the construction activities. Similar to the situation described above for the Park System Linkage Concept Alternative, the potential for transport of sediment and contaminants would be limited because the project would not be directly connected to sensitive water bodies. The overall potential for contamination would, however, be greater than with the Park System Linkage Alternative because of the amount of construction involved and the associated length of the construction period. Because project-related grading would exceed five acres, the General Construction Activity Storm Water Permit, with associated measures to minimize potential water quality impacts, would be required as described above.

This alternative would result in the potential need for dewatering associated with grading activities, particularly channel creation. This would be of particular concern in areas containing hazardous materials.

Disposal of effluent in this situation could be problematic as the additional flows of dewatering groundwater could strain the sewer system. Regardless, water quality standards would need to be met, which would minimize any potential impact but could be difficult to achieve.

Similar to the Park System Linkage Concept Alternative, this alternative would result in the potential for the generation of urban contaminants associated with redevelopment and landscaping. There would be somewhat less park land (and presumably landscaping) associated with this alternative than with the Park System Linkage Alternative due to presence of the channel rather than greensward. As noted above, the project would be required to implement measures to comply with NPDES and associated City requirements regarding water quality and runoff discharge. Any water quality issues associated with the channel (including potential for seepage of contaminated groundwater) would be relatively contained, as the channels would not be connected to any existing water bodies.

#### **Navigable Channel San Diego Bay to Mission Bay Concept Alternative**

This alternative would result in the greatest potential water quality impacts of the alternatives reviewed because of both the extent of grading/excavation and the fact that it would directly connect to both San Diego Bay and the San Diego River. Although construction-related hazardous materials employed are assumed to be similar under any of the alternatives, they are assumed to be present over a longer duration with this alternative due to the extent of required construction activity. Urban contaminants actually generated by this alternative may be somewhat less with regard to landscaping than the other alternatives, but would involve potential for boating contaminants that would not occur with the other alternatives. The connection to sensitive water bodies could result in the channel being a conduit for sediment, construction-related hazardous materials and urban contaminants (both those associated with the project and those generated by surrounding activities) that would be difficult to filter.

The depth required for the tidal channel would increase the potential for dewatering activities to be required in association with excavation. The potential for this to occur in areas subject to existing groundwater contamination results in concerns associated both with construction and with long-term seepage into the channel (and transport to adjoining water bodies).

As noted in the discussion above, a major concern (and one associated only with this alternative) is associated with the channel's connectivity to, and mixing of flows between, the San Diego River, Mission Bay and San Diego Bay. The connection between San Diego River and San Diego Bay would be direct; although there is a jetty between the San Diego River channel and Mission Bay, it is possible that there would be some flow between the two related to tidal action. As described in the general discussion above, each of these water bodies is included on the list of impaired water bodies due to existing pollution. Each, however, has distinct pollution issues not currently shared by the other water bodies (e.g., phosphorus and chlordane in the San Diego River, sediment toxicity and dissolved copper in the San Diego Bay). The mixing of flows, therefore, could exacerbate the existing water quality issues in these areas, and further degrade their ability to support the designated beneficial uses related to recreation and wildlife habitat.

Given the relatively small amount of the San Diego River that lies downstream from the proposed connection point, it is possible that water quality impacts there could be relatively minimal; it also is possible, however, that flows could create a backwater that would affect some upstream areas of the river as well. Also, differences in net tidal flow between the two bays would have to be controlled to avoid scouring and associated turbidity. Determination of the direction, amount and rate of flow, as well as how far it would extend into each of the water bodies, would require a hydrologic analysis. This in turn would allow a more detailed assessment of the potential water quality impacts associated with this alternative. In the absence of this detailed assessment, water quality impacts are considered a potentially severe constraint to implementation of this alternative.

If a channel were connected only to San Diego Bay and not broken through to the San Diego River, impacts from mixing of flows between the two water bodies would be avoided, thereby substantially reducing anticipated impacts. The water in the channel would, however, be contaminated by flows from the Bay, and there would remain some potential for transfer of polluted groundwater to the Bay. These potential concerns are much less severe than those associated with a connection of the two waterbodies.

**Summary Feasibility Comparison**

<u>WATER QUALITY</u>	<b>PARK SYSTEM LINKAGE</b>	<b>NON- TIDAL CHANNEL</b>	<b>NAVIGABLE CHANNEL BAY-TO-BAY</b>
Avoid water quality impacts related to mixing of flows between water bodies	10	10	1
Avoid erosion and transport of material to water body receptors, particularly at water's edge	7	6	1
Avoid discharge of construction-related hazardous materials	6	5	1
Minimize need to dewater construction site, particularly in areas with contaminated groundwater	7	3	1
Avoid long-term generation/ transport of urban contaminants	6	6	4

1-3 = low feasibility; 4-6 = moderate feasibility; 7-10 = high feasibility

### III. BIOLOGICAL RESOURCES

#### INTRODUCTION

The proposed project could result in both short- and long-term impacts to biological resources, as including both habitats and specific species. The vast majority of the study area is developed and does not support sensitive biological resources. Sensitive resources do occur in the San Diego River and San Diego and Mission bays, however, which could be directly affected by construction activities in these areas. Indirect impacts to sensitive species could occur as a result of construction noise adjacent to wetland habitats. Indirect impacts to biological resources also could occur through discharge of hydrocarbons, other construction materials and other pollutants, as described above under water quality.

Over the long term, a potential impact has been identified with regard to potential habitat changes. Concerns related to this topic include mixing waters of various salinities and pollutant profiles, as well as draining water from wetland habitats as a result of dredging activities in adjacent areas. The potential increased human presence, particularly the noise of small, motorized watercraft, also could affect sensitive wildlife species. The potential spread of exotic species of plants and animals also is of concern. Landscape plans should contain native species in order to reduce the spread of exotic species.

#### Habitats

Although the portion of the San Diego Bay within the study area is bordered by rip-rap and disturbed habitat; there is potential for eelgrass to occur on the floor of the bay. The lower San Diego River supports various types of wetland habitat. Wetlands are considered sensitive by local, state and federal agencies (City of San Diego 1990; County of San Diego 1991). Wetland habitat is defined by certain hydrological, vegetation and soil criteria. The EPA and U.S. Army Corps of Engineers (ACOE) definition of wetlands is "Those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas."

The U.S. Fish and Wildlife Service (USFWS) defines wetlands as:

...lands transitional between terrestrial and aquatic systems where the water table is usually at or near the surface or the land is covered by shallow water. For purposes of this classification wetlands must have one or more of the following three attributes: (1) at least periodically, the land supports predominantly hydrophytes, (2) the substrate is predominantly undrained hydric soil, and (3) the substrate is non-soil and is saturated with water or covered by shallow water at some time during the growing season of each year (Cowardin et al. 1979).

Wetland habitat is naturally limited, and remaining areas provide important island habitats for migrant birds. Other important wetland functions include flood conveyance, flood storage,

sediment control, providing surface water and insects for fish, amphibians and birds, spawning grounds for aquatic fauna, habitat for rare and endangered species, corridors for wildlife movement and control of water quality and erosion. Oberbauer (1991a) reports a reduction of 91 percent of freshwater marsh and a reduction of 68 percent of coastal salt marsh in San Diego County since the pre-European era. Given their sensitivity and level of loss, impacts to such habitats are considered significant. The sensitivity of the San Diego River channel in the study area has been recognized by the City through its designation as the Mission Bay Park Southern Wildlife Preserve and inclusion in the preserve established under the City's Multiple Species Conservation Program (MSCP).

The functional wetland roles of estuarine and other wetland systems include:

- hydrology, including flood control and shoreline protection
- food chain support and nutrient cycling
- provision of habitat for biotic organisms, providing surface water and insects for fish, amphibians and birds, spawning grounds for aquatic fauna, habitat for rare and endangered species, corridors for wildlife movement and control of water quality and sediment control

Potential construction and operation impacts to estuarine systems include filling; fragmentation; degradation of water quality from agricultural contaminants (fertilizers and pesticides) and sanitary effluent; the upstream channelization of riverine systems and construction of dams and culverts and appropriation of water which alters the amount of fresh water input into estuarine systems; increase in runoff from urban development due to increases in impervious surfaces; the closure of mouths of highly marine-influenced estuaries because of artificial barriers or sandbars which prevent tidal flushing; the artificial opening of highly freshwater-influenced estuaries that changes the natural water and salinity regimes of these estuaries; and the invasion of exotic plant species which displace native plant species (Ferren 1990). Specifically in southern California, wetland alteration has been accomplished by a variety of mechanisms including filling, draining, clearing of vegetation, water diversion projects, impoundment projects, increasing or decreasing nutrient levels within a system, grazing, channelization, increased sediment loading, lowering of water tables, human recreational activities, gravel mining, proliferation of exotic species and urban development (Bowler 1990).

#### Sensitive Habitats

Sensitive habitats are located within the San Diego River (see Figure BR-1) and bay portions of the proposed project area.

*Saltwater Wetland Complex.* Saltwater wetlands dominate the lower San Diego River portion of the project (Figure BR-1). Included within this category are open water, intertidal mudflats, sandbars, and coastal salt marsh. Coastal salt marsh has adapted to higher soil salinity levels and frequent inundation by water. Typical plant species include seablite, glasswort, and cord grass. There is also a freshwater influence in this area that has allowed brackish marsh species (e.g., southwestern spiny rush) to grow here. This habitat provides food and shelter to a wide variety of animals, including several sensitive birds and animals (e.g., least tern, Belding's savannah sparrow, light-footed clapper rail and the salt marsh yellowthroat).

In addition to the vegetated wetland habitats within the lower San Diego River, there are also unvegetated areas consisting of open water, mudflats and sandbars that comprise regionally important wildlife habitat. Resident and migratory waterfowl use these habitats for foraging and loafing.

*Eel Grass Beds.* Eel grass (*Zostera marina*) stands shelter spawning herring and other fish, provide food and hunting grounds for shorebirds and filter dangerous pollutants. These are known from both the San Diego and Mission bays.

### **Sensitive Species**

A number of sensitive bird species are known from the area.

#### **Light-footed clapper rail** (*Rallus longirostris levipes*)

**Status:** Federal- and State-listed Endangered, Fully Protected

**Distribution:** A very localized, year-round resident in central and southern California; Baja California, Mexico; and the Gulf of California.

**Habitat(s):** Saltwater and brackish marshes.

**Status on site:** Known from lower San Diego River.

#### **California least tern** (*Sterna antillarum browni*)

**Status:** Nesting colony Federal- and State-listed Endangered, Fully Protected

**Distribution:** Fairly common but local resident along the coast (San Luis Obispo County, south), casual spring and summer visitant to the Salton Sea.

**Habitat(s):** Nests on open sandy or gravelly shores (and occasionally on artificial surfaces); forages around bays, estuaries, tidal channels and harbors.

**Status on site:** Forages in open water of both San Diego River and Bay. Known breeding colony on Mariner's Point (Mission Bay). Historic and potential nesting sites occur adjacent to and north of San Diego River.

#### **Western snowy plover** (*Charadrius alexandrinus nivosus*)

**Status:** Federal-listed threatened; California Species of Concern (CSC)

**Distribution:** Year-round resident from coastal southern Washington to southern Baja California. Found inland at Mono Lake and the Salton Sea.

**Habitat(s):** Sandy or gravelly shores along bays and estuaries, salt ponds. Nests on ground, often with little or no cover.

**Status on site:** Known to breed at Mariner's Point. Forages (and potentially breeds) in the San Diego River.

#### **American peregrine falcon** (*Falco peregrinus anatum*)

**Status:** State-listed Endangered

**Distribution:** Until 1950, only a few pairs nested in San Diego County. Still occurs in southern California as a rare visitor, primarily along the coast where it feeds on waterfowl.

**Habitat(s):** Open grasslands and scrublands, cliffs and steep terrain, sometimes urban areas. Often found along the coast or near lagoons and ponds where waterfowl gather.

**Status on site:** Forages on shore birds in the San Diego River.

**Belding's savannah sparrow** (*Passerculus sandwichensis beldingi*)

**Status:** Federal Species of Concern, State-listed Endangered

**Distribution:** From Goleta in Santa Barbara County south to El Rosario, Baja California, Mexico.

**Habitat(s):** Salt marshes around coastal lagoons dominated by pickleweed (*Salicornia* spp.).

**Status on site:** Known from lower reach of San Diego River; breeds within the river channel.

Several other sensitive wildlife species are known or potentially occur in the lower San Diego River portion of the project.<sup>1</sup> These are California Special Concern species and are only regarded as sensitive where they breed. These species are not expected to breed in the project area and therefore would not be a constraint to project development.

**Park System Linkage Concept Alternative**

This alternative would avoid any direct impacts to sensitive habitat or species, as it would occur entirely in areas that are developed and do not support sensitive resources. There is some potential for indirect impacts to sensitive species in the San Diego River due to demolition/construction activities in the vicinity. These activities would, however, be separated from the river by Interstate 8, and changes near San Diego Bay would be minimal, so impacts would likely not be assessed as significant in the context of the existing conditions. As described above, this alternative would result in some short- and long-term water quality impacts; runoff would, however, be filtered before reaching sensitive biological resources. There is some limited potential for use of proposed park areas by common wildlife; this would not, however, be regarded as a significant environmental benefit.

Because none of the project elements would occur adjacent to or directly within sensitive habitats, the potential for long-term habitat impacts also would be minimal. No increase in motorized watercraft would occur. No mixing of waters of various salinities or potential for draining of water from wetland habitats would occur. Human presence in nearby habitats also would not be expected to noticeably increase. No invasion of exotic species into sensitive areas would be anticipated, because of the lack of connectivity between areas affected by the project and such areas.

**Non-tidal Channel Concept Alternative**

Similar to the Park System Linkage Concept Alternative, all activities associated with this alternative would be located south of Interstate 8 (and thus buffered from sensitive habitats in the San Diego River) and no changes to the San Diego Bay are proposed. No direct impacts to sensitive habitats would, therefore, occur, and any indirect impacts would be minimal. Runoff associated with redevelopment and landscaping would be filtered before reaching any natural water bodies. Any changes to the hydrologic regime associated with the construction of the proposed channels would be anticipated to be minimal.

There is some potential for the channel and park lands to be used by various wildlife species. This could be assessed as a (relatively minimal) benefit, but would be of concern if the water in the channel became highly polluted due to contaminated runoff, motorized boat usage or seepage

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<sup>1</sup>California brown pelican, American white pelican, double crested cormorant, osprey, long-billed curlew, California gull, and loggerhead shrike.

of contaminated groundwater, and would be limited by the human use of the area. No long-term habitat changes would be anticipated for this alternative. Human use would likely be focused on the channels, and any related increase in human use of nearby habitat areas would be expected to be minimal. Any noise impact related to the use of motorized boats in the channels (which are removed from sensitive habitat areas) also would be minimal.

**Navigable Channel San Diego Bay to Mission Bay Concept Alternative**

Construction of the channel linking San Diego Bay to the San Diego River could result in significant short- and long-term impacts to biological resources.

Dredging operations within or adjacent to San Diego Bay and the San Diego River could result in impacts to sensitive wetland (saltwater, brackish and freshwater) habitats and their associated species. There is a potential for impacts to eelgrass beds within San Diego and Mission Bays. These impacts would occur if dredging is necessary in eelgrass habitat. Based on preliminary design assumptions of a 100-foot wide channel, impacts to wetland habitats in the lower San Diego River would include approximately 2.0 acres of coastal salt marsh, 0.5 acre of mudflats and 7.6 acres of sand bars. Dredging in the lower San Diego River in areas that currently consist of open water would affect approximately 12.2 acres. This currently is relatively shallow water that supports aquatic vegetation. This vegetation is habitat for small fish, crustaceans and diving birds. Dredging within this habitat for the project will alter the wildlife values within the affected area to a deeper aquatic environment. These impacts could be difficult to mitigate because of their specialized requirements.

These impact numbers are based on a channel design within the San Diego River that is on the north side of the channel in the western project area. This is where a channel already exists and the sand bars are covered by the daily tides. If the channel were located further to the south the project could impact more terrestrial habitats, including sand dunes.

Impacts to wetland habitats (and associated species) could require compliance with a number of state and federal laws, including the Clean Water Act (Sections 10, 401 and 404), California Fish and Game Code (Section 1601), federal Migratory Bird Treaty Act (MBTA), and the state and federal Endangered Species Acts (CESA and FESA). Short-term impacts also could occur as a result of construction activities adjacent to sensitive habitats. Compliance with CESA, FESA and the MBTA to avoid impacts could require seasonal timing constraints for wetland habitat clearing, work corridor surveys for nesting birds and/or construction of noise barriers.

With the exception of the California least tern, the sensitive species known to occur in the study area are associated only with the San Diego River. In addition, the historic nesting grounds of the least tern, which forages in both the San Diego River and Bay, are adjacent to the river and at Mission Bay. Thus, both direct and indirect construction impacts to sensitive species would be much greater in association with activities in the river than in the bay.

There also is a potential for long-term impacts to sensitive biological resources. As noted above, the wetland habitats identified in the study area include saltwater, brackish water and freshwater. These habitats (and their attendant species) have developed in response to specific salinity regimes, and could be affected by changes to them. The salinities of the various portions of

water bodies that would be affected by the project are not known at this time; nor (as noted with regard to water quality) are the flow patterns that would occur under this alternative. Although specific impacts, therefore, cannot be determined without a detailed hydrologic analysis, the effect of mixing of waters of varying salinities on the identified wetland habitats and associated species comprises a substantial area of concern for this alternative. Another potential source of habitat type conversion is the draining of water from wetland habitats as a result of dredging activities in adjacent areas. Historic changes in the vegetation in the San Diego River are evidence of habitat conversions that can result from changes in the hydrologic regime.

As described under water quality, above, this alternative could result in substantial water quality impacts, which could in turn affect sensitive species. The anticipated use of the canal by motorized boats would reduce the value of any wetland habitats created as part of its construction. Increased human presence, particularly the noise of motorized watercraft, also could affect sensitive wildlife species in the channel, San Diego Bay and San Diego River.

Another concern is related to the introduction of exotic plant and wildlife species. Specifically, ships docking in San Diego Bay discharge ballast water carried from distant locales, which contains species non-native to San Diego. A water link could allow these species to move from San Diego Bay into the San Diego River and Mission Bay. Any use of invasive plant species in landscaping adjacent to the channel also could result in the transport of non-native species into sensitive habitats.

**Summary Feasibility Comparison**

<b><u>BIOLOGICAL RESOURCES</u></b>	<b>PARK SYSTEM LINKAGE</b>	<b>NON- TIDAL CHANNEL</b>	<b>NAVIGABLE CHANNEL BAY-TO-BAY</b>
Avoid mixing waters of varying salinities	10	10	1
Avoid potential transport of exotic species from discharge ballast water	10	10	2
Avoid direct and/or indirect impacts to wetland habitats and associated species	10	10	1
Minimize construction noise adjacent to wetland habitats	10	9	3
Minimize presence of humans and motorized watercraft adjacent to sensitive habitats	10	10	1
Plant only native species in areas connected to native habitats	10	10	7

1-3 = low feasibility; 4-6 = moderate feasibility; 7-10 = high feasibility



Note:  
 This map is based on site conditions as observed at the time of our field investigations. The information presented herein was developed by visual inspection and/or aerial photograph interpretation. Note that both site conditions and applicable regulatory requirements may change.

## San Diego River Habitats

BAY TO BAY LINK FEASIBILITY STUDY

Figure BR-1

## IV. NOISE

### INTRODUCTION

The City's standard for exterior noise level compatible with residential and other noise-sensitive uses (schools, day care facilities, hospitals, libraries and parks) is 65 A-weighted decibels (dBA) Community Noise Equivalent Level (CNEL) for useable outdoor living space. The maximum acceptable exterior noise level is 70 dBA CNEL for businesses and professional office uses, and 75 dBA CNEL for industrial and commercial uses. Interior noise levels for new residences, hotels and motels are not to exceed 45 dBA CNEL; they are not to exceed 50 dBA CNEL for business and professional office uses. These noise levels are already exceeded in some parts of the community as a result of traffic and aircraft noise.

Residential uses in or immediately adjacent to the study area primarily occur in the areas generally bounded by Hancock and West Mission Bay Drive, north of Sports Arena Boulevard; south of Meadow Grove Drive, west of Rosecrans Street; and Rosecrans Place, Sellers Drive/Upshur Drive and Barnett Avenue. Other sensitive receptors identified within the study area are associated with Dewey Elementary, St. Charles Borromeo Academy, County Health Services (including the County Psychiatric Hospital), Point Loma Convalescent Hospital, Sharp Cabrillo Hospital and Midway Adult School. There also are several hotels/motels along Rosecrans Street and Midway Drive. Other sensitive receptors within approximately one-half mile of the study area include Barnard Elementary School, Plumosa Park, Mission Bay Park and Sail Ho Golf Course.

### Construction Impacts

Construction activity has the potential to impact (on a short-term basis) sensitive receptors adjacent to individual construction sites. The impact of construction noise would depend on the type of equipment being used and distance to sensitive receptors. Construction equipment typically generates intermittent noise from 70 dB to 105 dB at a distance of 50 feet. The City's Noise Ordinance controls noise produced by construction activities. Construction activities are prohibited between the hours of 7:00 p.m. and 7:00 a.m., and on Sundays and legal holidays, except in case of emergency. Construction noise must not exceed an average sound level of 75 dB at the property line of any property zoned for residential use during the 12-hour period from 7:00 a.m. to 7:00 p.m. This may be accomplished by limiting the hours of construction in any one area or erecting temporary noise walls. Compliance with the ordinance would avoid any significant impacts.

### Long-term Impacts

Long-term noise impacts could result from the increased use of the proposed project area. For example, skateboards and loud conversations could occur in proposed public park areas adjacent to sensitive receptors where public use is currently limited. Motor boats could introduce an entirely new category of noise to portions of the study area currently widely separated from the bay. Changes in roadway alignments and traffic patterns also would have the potential to result in noise impacts; detailed modeling would, however, be required to assess such impacts, and they are not addressed here.

### **Park System Linkage Concept Alternative**

Demolition/grading/construction activities associated with this alternative would be limited compared to the other alternatives, as they would not include excavation of channels. Some activities would, however, occur adjacent to existing residential and other sensitive receptors, some of which are planned to remain and others of which are planned to be replaced by other land uses. For those sensitive receptors in areas that are proposed for redevelopment (e.g., Sharp Cabrillo Hospital, residential uses between Sports Arena Boulevard and Midway Drive), impacts would depend on the relative timing of the end of those uses and the surrounding redevelopment. Demolition/grading/ construction activities adjacent to remaining sensitive receptors (e.g., uses surrounding existing multi-family residential uses west of Hancock Street changing from primarily industrial to multiple use and open space) would result in relatively short-term noise impacts.

The land uses proposed adjacent to sensitive receptors would not be major noise generators relative to existing conditions. Specifically, the residential area just west of Hancock Street would have multiple use and open space/park adjacent to it rather than the existing industrial uses. The land uses around Gateway Village and St. Charles Borromeo Academy would be essentially the same as they are currently, with some additional open space to the south. Uses surrounding Dewey Elementary also largely would remain the same, with some additional open space along its northwestern and northeastern boundaries. Although these new areas of open space adjacent to sensitive receptors would not be expected to be major noise generators, they would result in public access (and associated potential for noise from activities such as skateboarding and loud talking) to areas that are currently subject to minimal public activity. This would be potentially balanced out by the removal of existing adjacent industrial uses. Most of the other sensitive receptors in the area would be phased out as part of the redevelopment plan.

### **Non-tidal Channel Concept Alternative**

This alternative would result in substantial amounts of noise associated with demolition, excavation of two channel systems and construction. It is assumed that structures housing sensitive receptors adjacent to the proposed channel areas would be demolished prior to initiation of excavation activities. Provided that this is the case, the only noticeable difference between this alternative and the previous alternative would be a short-term difference associated with the portion of the channel closest to the apartments west of Hancock Street (a distance of approximately 700 feet).

The land use reconfiguration proposed under this alternative essentially would be the same as that described above for the Park System Linkage Concept Alternative. Long-term noise impacts associated with land use adjacency issues would, therefore, also be similar. In addition to these impacts, however, this alternative also would result in noise generation associated with small, motorized boats (e.g., flat-bottomed tourist boats). Noise levels associated with the use of such watercraft are anticipated to be compatible with the surrounding proposed multiple use and light industrial/research campus designations.

**Navigable Channel San Diego Bay to Mission Bay Concept Alternative**

This alternative would result in substantial amounts of noise associated with demolition, channel excavation and construction activities. In particular, noise impacts to the remaining multi-family residential areas would be exacerbated by channel excavation (and, in the case of Gateway Village, bridge construction) immediately adjacent to them. This also could negatively affect St. Charles Borromeo Academy. Effects on Dewey Elementary would be slightly increased over the other alternatives, due to excavation of the channel approximately 300 feet away.

The amended Community Plan indicates that the bay-to-bay channel is envisioned to be navigable by small, motorized water craft (e.g., water taxis and private ocean-going motorized boats). The motors from these boats could potentially result in long-term noise impacts adjacent to the above-noted sensitive receptors, as well as to the mixed-use areas surrounding the channel. (The potential to have motor boat usage limited to certain hours would substantially alleviate negative aspects associated with this potential use, and should be reviewed.) This alternative also would include additional open space (relative to the other two alternatives) immediately north of Gateway Village. The channel and associated public open space network would result in substantial public use of areas adjacent to sensitive receptors that currently receive limited public use, with associated noise impacts.

**Summary Feasibility Comparison**

<u>NOISE</u>	<b>PARK SYSTEM LINKAGE</b>	<b>NON- TIDAL CHANNE L</b>	<b>NAVIGABLE CHANNEL BAY-TO- BAY</b>
Minimize construction noise impacts on sensitive receptors	6	5	4
Minimize public access to areas where public access is currently limited	6	6	4
Minimize noise impacts associated with motorized water craft near sensitive receptors	10	7	3

**1-3 = low feasibility; 4-6 = moderate feasibility; 7-10 = high feasibility**

## V. VISUAL QUALITY

### INTRODUCTION

The project area is located in a long-term urbanized portion of the City. Located just west of the juncture of two major interstates that serve San Diego region residents and visitors, the area is reflective of both its nature as a primary entrance/exit point to these freeways (containing numerous drive-through and sit-down restaurants, hotels, shopping centers, strip malls and a primary recreational feature in the Sports Arena—as well as their attendant parking lots or structures), as well as the mix of uses expected in an urban area that has developed over time with various development goals (single family dwellings, apartments, institutional uses such as postal facilities, military and/or medical facilities and schools), pocket parks, etc. These uses vary in every detail: architectural style, height, footprint size and setback from abutting roadways. Some of the most visually “dis-jointed” uses, the commercial uses that vary from individual store-front to big-box, uses are located along the most heavily traveled (and therefore viewed) thoroughfares: Sports Arena Boulevard, Rosecrans Street and Midway Drive. Because of their varied use and construction timeframe, there is no cohesive visual effect in the overall area (although some continuity is present in areas of contemporaneous and focused development, such as at NTC). When one drives or walks on the public roadways in the study area, there is a substantial amount of visual “noise” and few streetscape focal points in the way of public landscaping.

Geographically, the project area approaches a low of sea level at its northern and southern extents along the San Diego River and San Diego Bay, and traverses low-lying areas associated with the early San Diego River course and floodplain for the remainder of its extent. Views out of the area focus on adjacent hills associated with the mesas to the east (where the Presidio on the south and the University of San Diego on the north provide visual landmarks) and the hills of Point Loma to the west.

### Key Observation Points

The visual sensitivity analysis associated with this feasibility study focuses on potential effects to views enjoyed from public vantage points.

Parks in the vicinity of the study area include Old Town State Historic Park (including associated Presidio Community Park), Mission Bay Park and Plumosa Park. These parks and area roadways represent the primary public viewpoints of the project area. As most of the land surrounding the study area is relatively flat, views are typically short-distance. Plumosa Park, for example, is a depression surrounded by residences, and provides no views to the surrounding area. Sail Ho Golf Course, situated at the southeast corner of Rosecrans and Lytton Streets, immediately abuts the study area. The course slopes down away from the roads, and views are primarily directed toward the adjacent historic MCRD structures. Views to/from the road are partially screened by fencing and mature vegetation. Other notable visual features within the study area include the historic Loma Theatre (converted to a bookstore) and Dewey Elementary School.

Although Presidio Community Park is at a higher elevation, views of the project area are generally obscured by intervening rooftops, mature vegetation inside the park and beyond (palm

trees and silk oaks), terrain and freeways (elevated Interstates 5 and 8) from most roadway and greensward areas within the park. It is also expected that most users are focused on near distance views provided to park users by park amenities (the various statues, pergolas, structures and picnic/landscaped areas provided by the City for park users).

Clear views toward the project area are available, however, from some points within the park, and it is expected that these views would be observed by users looking toward the distant hills and ocean to the west. The viewer sees a clearly mixed use setting in the area between the park and the primarily residential uses along Point Loma, with a number of primary visual elements predominating because of their size and/or atypical nature, which draws the eye. These features include portions of Interstate 5 and Interstate 8, the long linear river channel trending westerly to the ocean, Lindbergh Field and large-scale industrial structures abutting Pacific Highway. In these views to the western horizon, the Sports Arena complex provides a focal point within the project area that draws the eye because of its large size, unusual round shape and lack of abutting (screening) uses due to the surrounding parking lot.

Portions of Sports Arena Boulevard and Rosecrans Street (between the Midway Community and the Old Town Transit Facility) are identified by the City as designated scenic routes. The amended Community Plan calls for installation of appropriate landscaping for both streets, as well as reinforcement of pedestrian-oriented amenities for Rosecrans. A more general policy is to improve the visual quality of the existing roadway system overall.

Urban design guidelines identified in the Community Plan include a focus on pedestrian paths and activity areas:

reinforced by providing benches, tables, overhead sun trellis, fountains, and decorative paving. Large unbroken areas of concrete or paving should be avoided; patterned paving related to architectural elements should be used to break up monotonous areas. Pedestrian linkages should be provided throughout and between shopping areas, parking lots and all public rights-of way (City 1991:61).

Unification of streetscape through use of standard street trees and landscaping is also recommended. Specific recommendations are included in Appendix B of the Community Plan for a number of area roadways, including the three major thoroughfares in the project area. Although some planting is already present, City proposals for the area are provided here both as guidelines both for: (1) augmentation of existing planting where appropriate, and (2) development of potential new landscaping plans associated with the proposed Bay to Bay project alternatives. For Sports Arena Boulevard, eucalyptus, sycamore and holly oak are suggested, to be used in both linear and clustered formats along landscaped parkway and median features. Medians are additionally to be planted with a combination of trees, groundcover and low shrubs. Washington robusta is proposed for Midway Drive, using the same planting scheme. For the Midway medians, landscaping should include low shrubs or a combination of shrubs and decorative hardscape. Along Rosecrans Street, queen and king palms are recommended in a linear planting format. The Rosecrans medians would be the most varied, as they should contain low-lying shrubs or trees, or a combination of shrubs, trees and decorative paving. At this time a landscape plan is not available for review. It is anticipated, however, that the landscape plan will

be developed in accordance with the new City Streetscape Design Guidelines, and that project effects would be beneficial.

### **Short-term Impacts**

Short-term impacts to visual quality could occur related to demolition and construction activities in the area. This could include the presence of unsightly features such as construction equipment and fencing. It also potentially could include views being temporarily blocked by the installation of construction noise barriers.

### **Long-term Impacts**

In the long term, some views could be opened up by the removal of existing structures. The replacement of large parking lots (such as at the Sports Arena) by structures, landscaping and/or water features would improve the quality of the view from Presidio Community Park, as well as for drivers along project area roadways. It is assumed that provision of the proposed amenities in any of the alternative designs would provide an opportunity for standardization of visual elements in this part of the City, as well as provision of greensward/park elements that would give the viewer a “visual break” from the mixed and frequently visually competing setting. Some visual continuity would be provided, the elements of which would give area users a refreshing change from the existing business-oriented uses along the major roadways.

The potential need to bridge some project features if water ways are implemented that bisect project area roads would introduce a new element into area viewscales, and would vary based on width of the water feature bridged and nature of the street for which the bridge is provided (two lane versus a six-lane major or urban arterial, etc.). Currently, it is expected that the base of the bridge will contain an 24-48-inch pavement thickness, and would be surmounted by a 30-inch high protective railing. The guard railing would be perforated or linear in nature, but would be visually “see through” so as not to obstruct area sight-lines any more than resulting from the bridge structural requirements. Although specifics of the ultimate visual assessment will depend in large part on landscaping plans, channel design (as appropriate), and details of bridge design, long-term overall visual effects are expected to be positive in nature.

### **Park System Linkage Concept Alternative**

This alternative would result in substantial construction activities as a result of redevelopment and creation of public open space/park lands. Because the alternative would not involve any single large element, it is presumed that construction activities could be phased over time. Construction would, therefore, likely be a less dominant element of the viewshed at any given time than would be the case with the other two alternatives. Thus, adverse but short-term visual impacts associated with construction would be minimized.

In the long term, as with the other alternatives, views would be improved by the removal of unsightly features (e.g., the Sports Arena and associated parking lot). Large greensward areas would be provided within the property containing the existing Sports Arena as well as along portions of Rosecrans Street and Kurtz Street. The proposed park system would provide a new, aesthetically pleasing element in the community.

### **Non-tidal Channel Concept Alternative**

Each of the channels and its surrounding land uses would likely need to undergo demolition/grading/ construction at roughly the same time (although the two channel systems could be constructed separately). This would result in a relatively large amount of disturbance at one time, resulting in a greater short-term visual impact than the previous alternative.

As noted above, the land use changes associated with redevelopment of the area would result in positive visual effects. The open space and channel systems also would provide aesthetically pleasing elements. Although, bridges could be required over the channels in numerous locations it is anticipated that the visual amenity provided by the water feature would outweigh any potential adverse visual effect resulting from bridge construction. Because these channels would be approximately 30 feet in width it is assumed that these would be generally at-grade crossings that would not require bridge footings located at a substantial distance from the bridged water feature (and thereby requiring the associated height to support the arch). Clearance for bridges for this alternative are proposed to be at least six feet from the mean high water (MHW) surface to the bottom of the bridge. Since these water features are not anticipated to be navigable, bridges would not need to accommodate sizable boats. Although providing noticeable elements within the immediate viewscape, therefore, it is not anticipated that bridges associated with this alternative would comprise visually adverse intrusive elements.

Because the water features associated with this alternative trend along areas both north and south of Rosecrans Street, and would provide recreational and visual amenities exceeding the parkways associated with the Park System Linkage Alternative, it may well be preferred over the lower impact park only scenario.

### **Navigable Channel San Diego Bay to Mission Bay Concept Alternative**

Construction of the channel and extension of Point Loma Boulevard would comprise massive undertakings that would need to occur in a continuous construction process, while redevelopment of the surrounding areas presumably could be phased. In addition, due to the close proximity to sensitive habitats, views to the San Diego River could be blocked by temporary noise walls at certain times of the year. Construction would result in a substantial limited-term visual impact across large portions of the community.

As noted for the other two alternatives, land use changes and the open space/channel system would be anticipated to result in a long-term improvement in the visual environment. The large scale and irregularly shaped water feature proposed for the Sports Arena area would create a new visual amenity that would draw the eye and substantially modify the viewers perception of this part of town. This alternative would, however, require construction of a number of bridges across the proposed channel, which could result in the potential for long-term visual change from existing conditions, the extent of which would depend on their specific design. Bridges constructed for this alternative would require a minimum 15 foot clearance from the MHW surface to the bottom of the bridge. This height allows a variety of boat types to access the inland waterway. Six bridges with this 15 foot vertical clearance are assumed for this alternative. Given the length of the navigable water feature and the relatively small number of bridges (six), it is not expected aesthetic improvements related to implementation of the channel would be

substantially minimized by bridge construction. The overall long-term visual impact of this alternative is considered as positive.

**Summary Feasibility Comparison**

<u>VISUAL RESOURCES</u>	<b>PARK SYSTEM LINKAGE</b>	<b>NON- TIDAL CHANNE L</b>	<b>NAVIGABLE CHANNEL BAY-TO- BAY</b>
Minimize auto and pedestrian bridges	10	4	1
Minimize visual impacts associated with demolition and construction	8	5	4

1-3 = low feasibility; 4-6 = moderate feasibility; 7-10 = high feasibility

## VI. AIR QUALITY

### INTRODUCTION

Both short- and long-term potential air quality impacts could occur, as discussed below. Receptors that would be sensitive to air quality impacts are the same as those identified for noise issues, above.

#### Demolition Activities

Older buildings potentially could contain asbestos in the building materials, which (along with dust) could be released into the environment during demolition activities. Although a number of structures within the study area (specifically on Western Street, Midway Drive, Michaelmas Terrace, Evergreen Street, Madrid Street, St. Charles Street, Pacific Highway) are estimated to be over 45 years of age (Archaeos 2003) many may have been constructed prior to use of asbestos and therefore may not be asbestos-bearing. Additional analysis will be necessary prior to making a determination. If asbestos is present, it would require appropriate handling and disposal via routine demolition procedures developed to adequately deal with asbestos-bearing building materials. Regardless, the redevelopment plans for all of the alternatives are essentially the same; therefore, demolition activities, while potentially resulting in significant but mitigable impacts related to this topic, are not meaningful factors in evaluating the differences between alternatives.

#### Construction Activities

Construction activities for the proposed project would generate emissions including dust (primarily PM<sub>10</sub>) and diesel-powered heavy equipment (primarily NO<sub>x</sub>). Amounts of construction emissions generally are proportional to the amount of earth movement. Construction emissions can be abated to a large extent through standard construction practices such as watering, ceasing activity in high winds, use of clean-fueled equipment and properly maintaining equipment.

#### Long-term Impacts

When traffic congestion occurs at intersections, it can result in the creation of carbon monoxide “hot spots.” The potential for creation of such hot spots related to potential modification of roadways associated with the project alternatives will be evaluated. Specifically, this evaluation will be based on the results of the traffic analyses conducted for the alternatives.

Pending completion of a traffic study it is assumed that reconfiguring the five-way intersection at Rosecrans Street and Sports Arena Boulevard would have an adverse impact upon traffic flow, a potential for increased idling time, and a resultant adverse effect on air quality. Similarly, rerouting of traffic (and the possibility of increased queue times) due to implementation of greensward or water features associated with project alternatives could have adverse long-term impacts on air quality. Pending detailed roadway proposals and levels of services analysis, it is assumed that each of the alternatives could potentially result in an increase in localized hotspots.

#### Park System Linkage Concept Alternative

This alternative would require relatively limited earth movement compared to the other two alternatives because it would not involve excavation of a channel. In addition, as noted above, it

is likely that activities under this alternative could be phased, such that a relatively small amount of graded land is exposed/construction activity is ongoing at any one time. This would in turn minimize potential air quality impacts related to construction.

**Non-tidal Channel Concept Alternative**

This alternative would result in a larger amount of earth movement than the previous alternative due to the excavation of two channel systems. Also, as noted for visual impacts, each of the channel redevelopment areas would likely require demolition/grading at one time. By decreasing the opportunity for gradual phasing, construction period air quality impacts would be increased.

**Navigable Channel San Diego Bay to Mission Bay Concept Alternative**

This alternative would substantially increase the earth movement requirements relative to the other two alternatives due to the excavation of the large navigable channel. As noted for visual impacts, the opportunities for phasing over time would likely be limited with this alternative, further increasing air quality impacts.

**Summary Feasibility Comparison**

<u>AIR QUALITY</u>	<b>PARK SYSTEM LINKAGE</b>	<b>NON- TIDAL CHANNEL</b>	<b>NAVIGABLE CHANNEL BAY-TO-BAY</b>
Minimize construction emissions by minimizing the amount of earth movement	8	5	4
Avoid contributing to traffic congestion that could result in "hot spots"	9	?	?

**4-6 = moderate feasibility; 7-10 = high feasibility**

## VII. CULTURAL RESOURCES

### INTRODUCTION

Cultural resources in the project area are primarily historic in nature, and largely date from the first half of the twentieth century. As noted in the Midway/Pacific Highway Corridor Community Plan (City of San Diego 1991: 9), early maps of Pueblo lands in the vicinity of Old Town show the San Diego River emptying from Mission Valley into the San Diego Bay over land that now comprises the Midway area.

### Archaeological Resources

Because of the cycles of flooding and siltation associated with the river trending to outfall in San Diego Bay, early prehistoric sites were largely eradicated or deeply buried. This situation is exacerbated by the amount of ground disturbance associated with historic-period development, which may have resulted in sites being dredged out or filled over. It is possible, however, that archaeological sites may be situated under existing features (older buildings, streets, etc.) located outside of fill areas. The areas surrounding and north of the San Diego River would have provided preferred camping locations for prehistoric inhabitants of the area.

A record search carried out at the South Coastal Information Center shows that with the exception of Old Town, just east of the study area, only six archaeological sites have been recorded within one-half mile of the Bay to Bay study area CA-SDI-42, -52, -10,530H, -14,018H, -14,062H and -15,951). These sites include: a camp site, a rancheria, two historic dumps, remnants of some World War II-period structures, and two historic-period graves. Of these sites, only two are within the potential project area. The campsite, historic graves, one of the historic dumps and the World War II-era structures are all outside of the potential footprint for the project.

Two known sites might be affected by project construction (CA-SDI-10,530H and -52). One is the City dump that was used between 1899 and 1908 in the vicinity of the current intersection of Sports Arena Boulevard and West Point Loma Boulevard southerly to the vicinity of Fordham Street/Wing Street. Historic archaeological material was found at this site during the Mission Bay Sewer Interceptor project. This site is completely beneath existing development and the potential significance of deposits in this site is unknown. The other site in this area was recorded by N.C. Nelson circa 1918 as "Old Rancheria." The site was described as "a cultivated town block with an old Indian cemetery in one corner. The man who cultivated this ground said that he plowed up several mortars, etc., on the place; and other informants stated that the site was once occupied by an Indian village of 300 inhabitants." The site is now under Pacific Highway, in the vicinity of Smith and Hancock. A 1990 survey indicated that the site "is possibly buried under or obscured by modern development and no remains could be located." Impacts occurring to these archaeological resources could be considered significant, and would require mitigation, but would not be expected to result in elimination of an otherwise feasible alternative.

### Historical Resources

In the mid-1800s a dike was constructed which diverted the course of the river into the channel of what is now known as the mouth of the San Diego River. This was the first of the major improvements that supported more intensive development of the project area.

In the early 1900s the central Midway area was an identifiable and known location (generally known as Dutch Flats--presumably due to the presence of standing water). Historic photos of the central Midway area show only sand, salt flats and a few isolated structures with virtually no development throughout the 1920s, although the Marine Advanced Expeditionary Base (Marine Corps Recruit Depot) was built along Barnett Avenue in the early 1920s. Prior to the 1930s little development occurred in the marshy salt flats of the Midway area. Major streets included Barnett Avenue, Midway Drive, Rosecrans Street and Sports Arena Boulevard (then Frontier Drive). (The Loma Portal Historic District [comprised of homes west of Rosecrans Street on Dumas, Elliott, Goldsmith, Homer and Ibsen streets] is located just outside the potential project area.)

During World War II, areas along the Pacific Highway were used for numerous wartime factories. Gunnery installations were located in the area and the top of the Convair Plant site was camouflaged to look like a nursery. At that time names associated with WWII such as Midway, Nimitz and Frontier Drive appeared as street names throughout the area. Growth in the area intensified, and by the 1940s the Midway area had become the location of numerous wartime industrial sites, with approximately 4,000 temporary wartime housing units. Some of the first permanent structures in the community appeared in the 1950s, when the triangularly shaped piece of land located at the Rosecrans/Camino Del Rio/I-5 intersection was subdivided and developed.

A records search was conducted at the South Coastal Information Center to obtain records on known area historic structures. The project study area contains a number of structures that are historic due to their age and potential association with (1) significant persons, (2) local, state or nationally important historic events, and/or (3) are contributors to local or National Register historic districts. These include USMCRD, NTC and the Loma Portal Historic District, along with numerous other structures (see Figure CR-1 and Table CR-1). A driving reconnaissance of the project area confirmed that each of the documented structures was still standing. In some cases, the potential for other historic structures (not yet documented but appearing to exceed 45 years of age) was noted. This occurred along Channel Way (three structures), Midway Drive (one structure each in the 2700 and 3500 blocks), Michaelmas Terrace (one structure), Evergreen and Madrid Streets (one structure in each of the 3000 blocks), Saint Charles Street (where the entire 3000 block contains duplicate structures), and Pacific Highway (one structure each in the 4300 and 4400 blocks). Although new historic structures might yet be documented, a substantial level of review has already occurred within this portion of the City. It is not expected that any newly documented resource would result in the elimination of an otherwise feasible alternative. Therefore, although impacts to these structures through removal or structural damage due to vibration associated with project construction activities would be considered significant, they are not expected to determine alternative feasibility.

#### **Park System Linkage Concept Alternative**

Impacts to the two known archaeological sites may result from implementation of the Park System Linkage Concept Alternative. A deficient intersection, which might require subsurface upgrades during project implementation is located in the area of the rancheria. The same is true for the vicinity of the old municipal dump. New large greensward areas (that may require

substantial existing structure removal and soil rehabilitation prior to park planting) also are located within portions of the old dump area.

The Park System Linkage Concept Alternative would entail park development in several areas potentially constrained by historical resources. North of the existing boat channel, a linear park feature would abut historical buildings within the former Naval Training Center's "Historic Core" (as designated by the City of San Diego). This alternative also would entail park development along several streets identified as containing historical resources, including Barnett Avenue (most of its length), Rosecrans Street (between Midway Drive and Barnett Avenue) and Midway Drive (near the existing Post Office and between Kemper and Wing Streets). Park development along Pacific Highway and Taylor Street (near Old Town) also could be constrained by historical resources.

**Non-tidal Channel Concept Alternative**

Impacts to archaeological sites would generally be the same for this alternative as for the Park System Linkage Concept Alternative listed above. The potential for disturbance to the historic dump is somewhat higher due to a larger proposed park area between Kemper and Fordham streets.

Historical resource constraints associated with the park component of this alternative would be similar to those described for the Park System Linkage Concept Alternative—proposed park areas that impact historical resources occur within the former Naval Training Center property and along the above-listed sections of Barnett Avenue, Rosecrans Street, Midway Drive, Pacific Highway and Taylor Street. The northwestern of the two non-tidal channels (near the existing Sports Arena) would not affect known historical resource constraints. The southeastern of the two non-tidal channels could affect buildings that front a segment of Pacific Highway identified as containing historical resources.

**Navigable Channel San Diego Bay to Mission Bay Concept Alternative**

This alternative potentially would be the least impactful to known archaeological resources. Potential effects to the rancheria would be the same as for the other two alternatives, and potential effects to the dump would be lessened over the other scenarios as less greensward is proposed in this area for the Navigable Channel scenario.

Historical resource constraints associated with the park component of this alternative also would be similar to those described for the Park System Linkage Concept Alternative. The navigable channel would be located near the above-noted "Historic Core" of the former Naval Training Center, and it would traverse a block of Rosecrans Street identified as containing historical resources. The majority of the channel, however, would be located in areas not known to contain historical resources.

**Summary Feasibility Comparison**

<b><u>CULTURAL RESOURCES</u></b>	<b>PARK SYSTEM LINKAGE</b>	<b>NON-TIDAL CHANNEL</b>	<b>NAVIGABLE CHANNEL BAY-TO-BAY</b>
Avoidance of Historic Structures	5	5	5
Avoidance of Archaeological Sites	9	9	9

**4-6 = moderate feasibility; 7-10 = high feasibility**

## LEGEND

- ★ General location of archaeological sites
- \* Approximately 25 archaeological sites located in the Old Town area
- ▨ Blocks identified as containing historical resources
- Blocks identified as containing potential historical resources



## Historically Constrained Loci

BAY TO BAY LINK FEASIBILITY STUDY

## REFERENCES

- Archaeos. 2003. Results of Bay-to-Bay Historical Constraints Survey. February 4.
- Bowler, P. 1990. Riparian woodlands: An endangered habitat in southern California. *In: Endangered Plant Communities of Southern California*. A. Schoenherr (ed.). Proceedings of the 15th Annual Symposium, Southern California Botanists, Special Publication No. 3, pp. 80-97.
- City of San Diego. 1990. Proposed Resource Protection Ordinance Amendments. 1991. Midway/Pacific Highway Corridor Community Plan and Local Coastal Program Land Use Plan. Amended by the City on January 19, 1999.
- Cotton/Beland/Associates, Inc. 1998. Final Environmental Impact Report for the North Bay Revitalization Area (Including the North Bay Redevelopment Project) Volume I. Prepared for the Redevelopment Agency of the City of San Diego.
- County of San Diego. Department of Planning and Land Use. 1991. Guidelines for the Implementation of the California Environmental Quality Act.
- Cowardin, L. M., F. C. Golet, and E. T. LaRoe. 1979. *Classification of wetlands and deepwater habitats of the United States*. U.S. Fish and Wildlife Service, Department of Interior, December.
- Ferren, W. 1990. Recent research on and new management issues for southern California estuarine systems. **IN** *Endangered Plant Communities of Southern California*. A Schoenherr (ed.). Proceedings of the 15th Annual Symposium. Southern California Botanists. Special Publication No. 3. pp.55-79.
- Ninyo & Moore. 2002. Limited Hazardous Materials Technical Study. December 18.
- Oberbauer, T. 1991a. Comparison of Pre-European and 1988 vegetation coverage for San Diego County. *In: Abbot, P. and B. Elliot. Geol. Soc. North Amer., So. Calif. Reg., Sympos. Oct. 21-24, 1991, San Diego, California.*

## VIII. WATERFRONT AND CIVIL ENGINEERING

### ALTERNATIVE 1 – NAVIGABLE CHANNEL

#### Dredge Channel

Assumptions: (1) Average ground elevation is +10 ft MLLW. (2) Dredging depth to -7 feet MLLW (17 feet). (3) The approximate main channel length is 6,600 linear feet with an average width of 50 feet. This channel opens to a large basin in the northern part of the project. This large basin is approximately 862,000 square feet in size (approx. 19.8 acres). This large basin is for a marina and other boat slips. The table below outlines approximate channel length (center line to center line) from south to north, the average width per segment, and the approximate dredging volume per channel segment and the approximate total. Also included is the area of the large basin.

Channel Length (ft)	Approximate Average Width (ft)	Dredging Depth (ft)	Approximate Volume (cy)
1,000	50	17	31,500
1,100	150	17	69,300
700	100	17	44,100
2,000	100	17	125,900
1,300	100	17	81,900
500	100	17	31,500
Large Basin (sf)	862,000	17	542,700
<b>TOTALS</b>	<b>6,600</b>	<b>---</b>	<b>926,900</b>

The channels would be excavated from the land and in the dry, then filled with water after fully constructed. Because of the expected long hauling distance and because of the possible saltwater content in the soils, the cost per cubic yard of excavated material may be on the order of \$12/cy.

**The total dredging cost is approximately \$11.2 million.**

#### Construct Seawall

Because of the limited area, a vertical seawall is assumed for the project. A revetted slope would require much more width than is available or assumed at this time (a slope of 3 to 1 would require 150 feet for a bottom channel width of 50 feet (17-ft depth x 3:1 slope x 2 sides = 100 ft + 50 ft chl width = 150 ft). The vertical seawall will be much more expensive to construct, but will utilize the space much better. Approximately 13,500 feet of seawall would be required in the main channel and approximately 6,000 ft would be required for the large basin. The total

seawall length required for this revised alternative is approximately 19,500 linear feet. The vertical seawall may cost on the order of \$2,500 per linear foot of wall.

**The total seawall cost is approximately \$49 million.**

### **Maintenance Dredging in Proposed Channels**

It is assumed that minor dredging may need to occur near the connection to San Diego Bay from a build-up of sediments. It is assumed that 20% of the initial approach channel may fill in each year (as a maximum volume). This is estimated as 20% of 31,500 cy, or 6,300 cy. The upland disposal cost of this sediment is probably about \$20 per cubic yard because of the salt water content of the material. If the material could be disposed of offshore or nearshore (suitable sandy material), then the costs could be less.

For these assumptions the maintenance dredging costs would be approximately \$126,000 each year, or \$6.3 million over a 50-year design life.

### **Water Circulation (Pumps)**

Pumps may or may not be required for the complete Bay-to-Bay channel. Without modelling, this is difficult to answer. In order to assume the worse case, we should assume that several (5-10) pumps may be needed to provide adequate circulation and water quality. The approximate cost of the pumps is approximately \$75,000 each. Also, there should be an annual maintenance cost factored in at approximately \$30,000 each year (\$1.5 million for the 50-year project life).

The cost for water circulation is approximately \$750,000 for 10 pumps and \$1.5 million over 50 years for maintenance.

### **Wet Utilities**

Some existing utilities will need to be replaced in order to attain the proposed alternative configuration. These include sewer mains, storm drains, and water mains. With rerouting of the sewer line, new lift stations may be needed. It is estimated that approximately 3,800 linear feet of 96-inch sewer main will need to be demolished and replaced with 4,400 linear feet in order to reroute around the navigable channel. The attached table outlines each utility demolition and construction. The total approximate cost for utility demolition and reconstruction is approximately \$18 million. Alternative 1A (below) has a slightly higher cost (\$19.3 million), because of additional storm drain relocation along the north segment, adjacent to the SD River levee. This cost does not include any increase in the existing City Treatment Facilities or construction of new treatment facilities. The increase in residential usage may warrant a need for such increase or new facility.

## **ALTERNATIVE 1A – SEPARATE BREAKDOWN FOR LINK TO MISSION BAY**

### **Dredge through Levee**

The last segment of channel that would extend from the northern-most channel, through the levee to the San Diego River would require approximately 54,000 cy of excavation (100 ft wide

x 700 ft long x 21 ft average depth). It is assumed that the ground elevation is approximately +10 feet MLLW and approximately +18 feet MLLW at the levee. The cost per cubic yard is estimated at \$15 per cubic yard. Costs are higher because of logistics of removing from channel (i.e., ramps and traffic, etc.). This northernmost leg from the large basin towards the levee would also require about 1300 lf of seawall.

The cost of the final channel leg would be approximately \$810,000 plus approximately \$100,000 for Mobilization costs.

### **Maintenance Dredging in North Channel.**

This alternative includes the direct link through the San Diego River to Mission Bay, therefore maintenance dredging would also need to be conducted along the northern reach. It is assumed that approximately 40,000 cy may need to be dredged each year.

The maintenance dredging costs would be approximately \$800,000 each year, or \$40 million over a 50-year design life.

### **Construct Flood Gate at San Diego River**

The flood gate is assumed to be a moveable gate that slides along a track separating the San Diego River and the new channels. The gate would probably be a steel gate with a support and driving mechanism. The dimensions would be about 75 feet long and 26 feet high (from +18 to -8 ft MLLW).

The approximate cost for the gate is approximately \$1,000,000 and would also require approximately \$500,000 in levee adjustments for gate construction.

### **Dredge in San Diego River**

It is assumed that the average elevation within the San Diego River area to be dredged is about +5 feet MLLW (0 near mouth and maybe around +10 near flood gate area). The length of the channel would be approximately 10,000 feet long by 75 feet wide and the depth would be to -10 feet MLLW to allow for some deposition without the need for constant maintenance. The total approximate volume is 425,000 cy. The upland disposal cost of this sediment is probably about \$20 per cubic yard because of the salt water content of the material. If the material could be disposed of offshore or nearshore (suitable sandy material), then the costs could be less.

The approximate initial dredging cost is \$8.5 million.

It is assumed that the channel would need to be maintained to an adequate depth and would fill in rather quickly. It is assumed that average maintenance of 30% of the initial dredging volume would be needed on an annual basis. Some years it may be less and others it may be more frequent. It is therefore assumed that 130,000 cy would need to be dredged annually and the disposal cost is \$20 per cubic yard.

The approximate maintenance cost is \$2.6 million per year, or \$130 million over a 50-year design life.

### **Construct Gate at Mission Bay**

A gate would need to be constructed through the center jetty between the San Diego River and Mission Bay. Currently, there is a weir that exists to control storm flows from the river. The proposed gate would be similar to the levee gate, but not necessarily as large or complex.

It is estimated that the cost for this gate is around \$750,000.

## **ALTERNATIVE 2 – INTERNAL WATERWAY AND PARK SYSTEM**

### **Dredge Channel**

Assumptions: (1) Average ground elevation is +10 ft MLLW. (2) Since an internal waterway is not subject to tidal influences, the channel depth is estimated at 6 feet, plus 2 feet of freeboard for flood control. Therefore, the channel bottom depth is at +2 feet MLLW. (3) There are two water loops proposed, the Western Loop and the Eastern Loop. The channels would be excavated from the land and in the dry, then filled with water after fully constructed. Because of the expected long hauling distance, the cost per cubic yard of excavated material may be on the order of \$12/cy

Western Loop. The length is approximately 2,700 feet long with widths varying from 50 feet to 200 feet. The average width is approximately 90 feet wide. Therefore, the total volume of material to be dredged for the Western Loop is approximately 72,000 cy.

Eastern Loop. The length is approximately 4,800 feet long with a constant width of 50 feet. Therefore, the total volume of material to be dredged for the Eastern Loop is approximately 71,000 cy.

**The total dredging cost is approximately \$1.7 million.**

### **Construct Seawall**

Because of the limited area, a vertical seawall is assumed for the project. A revetted slope would require much more width than is available or assumed at this time. The vertical seawall will be more expensive to construct, but will utilize the space much better. The vertical seawall may cost on the order of \$1,500 per linear foot of wall. It is less expensive for this alternative compared to Alternative 1 because the height will be much less. The total length of seawall required for this alternative is approximately 16,000 linear feet (i.e., a wall on both sides of the channel).

**The total seawall cost is approximately \$24.0 million.**

### **Maintenance Dredging in Proposed Channels**

Minimal maintenance dredging is expected for this alternative, since there would not be any natural deposition sources.

**Water Circulation (Pumps)**

Pumps will probably be needed for the internal waterway park system. It is assumed that 4 pumps may be needed to provide adequate circulation and water quality (two in each loop). The approximate cost of the pumps is approximately \$75,000 each. Also, there should be an annual maintenance cost factored in at approximately \$10,000 each year (\$500,000 for the 50-year project life).

The cost for water circulation is approximately \$300,000 for 4 pumps and \$0.5 million over 50 years for maintenance.

**Relocate Wet Utilities**

This alternative also includes demolition and relocation of sewer and storm systems. The 96-inch sewer main will not need to be relocated for this revised alternative. Only minor segments of the larger storm drain network may need to be relocated. The total approximate cost for utility demolition and reconstruction is approximately \$3.7 million, which includes a new storm drain network will be needed at an estimated cost of \$2.5 million. This cost does not include any increase in the existing City Treatment Facilities or construction of new treatment facilities. The increase in residential usage may warrant a need for such increase or new facility.

**ALTERNATIVE 3 – OPEN PARK SPACE (NO WATER ALTERNATIVE)**

There is no water way proposed for this alternative. Therefore, there are no costs for excavation of seawall construction. The only costs that we will consider is the relocation of utilities.

**Wet Utilities**

This alternative will not need to alter the existing 96-inch sewer main. However, a new storm drain network will be needed at an estimated cost of \$2.5 million.

**Bay to Bay Link Feasibility Study**

		<b>ORDER OF MAGNITUDE ESTIMATE</b>				JOB. NO. 4986	
		PROJECT: Bay to Bay Link Feasibility Study				SHEET 1 OF 2	1
		EST. FOR: Utility Relocation				EST. BY: ER	DATE: 1/31/2003
EFF. DATE		TYPE EST. PRELIMINARY	FINAL			CKD BY: AL	DATE: 1/31/2003
<b>ALTERNATIVE 3 - PARK SYSTEM LINKAGE</b>							
ITEM NO.	ITEM	QUANTITY	UNIT	UNIT COST	TOTAL		
<b>FIRST COSTS</b>							
A	<b>UTILITY CONSTRUCTION</b>						
1	Construct Storm Drain Network (Local Streets)	1	LS	\$2,500,000	\$2,500,000		
	<b>Sub Total</b>				<b>\$2,500,000</b>		
	<b>TOTAL</b>				<b>\$2,500,000</b>		
	<b>20% Contingency</b>				<b>\$500,000</b>		
	<b>GRAND TOTAL. FIRST COST</b>				<b>\$3,000,000</b>		

**IX. DRY UTILITIES**

Existing dry utility systems will be impacted by all three design alternatives. San Diego Gas & Electric, Pacific Telephone (SBC), and Cox Communications have existing overhead and underground utility systems located within the projects study areas that would have to be removed, relocated, overhead systems placed underground, and new utility service constructed to new and existing structures. The basis for the construction cost estimates, that are presented, in this feasibility report, are standard local utility company system engineering, design, construction standards, and actual utility company unit construction costs. The utility’s unit cost are comprised of labor, material, and overhead cost components.

**Assumptions:**

Due to the significant size of the study areas, detailed itemized cost estimates would be impractical. As a result, system models were developed which represent various system types that currently exist in the project areas. The two main dry utility system categories used in this report are:

- **Distribution Systems** – Distribution systems are systems that would normally be used by utility companies to transport and provide service to customers in a given area.
- **Transmission / Trunk Systems** – Transmission (gas and electric) and trunk systems (telecommunication) are those systems that are required by utilities to transport substantial system capacities and / or are required when distance is a factor for transporting the utility’s required capacity to an area.

The models used in representing the two system types contain cost for removing, relocating, Undergrounding, and extending new service to existing and new structures. All cost estimates include the following cost components:

- Trench • Substructure Excavation • Substructures • Padmount Equipment  
 Conduits • Cable • Wire • Splices • Fiber Optics • Street Repair • Cable Poles

**Cost Estimate Mythology:**

The method used in determining a per-foot cost for each utility model is based on all system requirements that would be required for a system of 1100 feet in length. The actual system design is for a representative system of 550 feet. The dimension of 550 feet is used in order to eliminate doubling the cost of the number of major substructures that would normally be specified if we were to use 1100 feet from substructure to substructure. The following is a listing of the per foot cost projections for the two system types:

• **DISTRIBUTION SYSTEMS**

System Type	Cost Estimate	System Footage	System Footage Estimate
Telephone	\$ 564,557.29	550	\$ 1,026.47
Cable Television (CATV)	121,196.17	550	220.36
Gas	138,285.77	550	251.43
Electric	536,255.63	550	975.01
Fiber Optics (included in CATV cost)	0.00	550	0.00

• **TRANSMISSION SYSTEMS**

<b>System Type</b>	<b>Cost Estimate</b>	<b>System Footage</b>	<b>System Footage Estimate</b>
Telephone	645,134.45	550	\$ 1,172.97
Cable Television (CATV)	164,680.11	550	299.42
Gas	99,469.66	550	180.85
Electric	1,035,490.35	550	1,882.71
Fiber Optics (included in CATV cost)	0.00	550	0.00

**Dry Utility System Cost Estimate Summary:**

The following cost estimates represent potential dry utility system cost that should be taken into consideration in obtaining a complete perspective of all applicable project cost. The dry utility system costs were prepared based on a worst-case scenario and should not be construed as the project's actual dry utility financial liability.

The dry utility system cost estimates include all work dry utility companies would be normally require in order to complete the removal, relocation and undergrounding of existing overhead and underground facilities. The Bay to Bay Project will cause all dry utility companies that have facilities in the area to have to modify their existing systems in order to accommodate planned improvements that will displace the utility's facilities. As a result, local utility companies will request full compensation for any work that they must perform to accommodate the proposed improvements.

Strategic Dry Utility Action Plan – Assuming the proposed project's budget cannot afford paying local utility companies the fees indicated in the report, the project must develop a strategy which will result in significant reductions in the projects dry utility cost obligation. The Strategic Dry Utility Action Plan, if developed and successfully implemented by a qualified dry utility consulting engineer, will force local utility companies to substantially reduce the project's dry utility financial obligation.

Most often a Strategic Dry Utility Action Plan, for public sector projects will include the following: 1). Utility system design control to achieve favorable utility service rule application, 2). Input on information that will be shown on the project consultant teams plans, 3). Public agency enforcement of utility franchise agreements, 4). Utility's adherence to state and federal case law.

In our professional opinion, the project's financial obligation can be reduced by eighty to ninety percent depending on the successful implementation of a Strategic Dry Utility Action Plan and the number and types of easements utilities may have for their existing facilities.

The following dry utility system cost estimates are representative of the cost dry utility companies would project as their cost to remedying impacts to their systems as a result of improvements proposed by the Bay to Bay Project:

**Bay to Bay Link Feasibility Study**

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**ALTERNATIVE 1 – NAVIGABLE CHANNEL**

**PARKS**

<b>System</b>	<b>Distribution Systems</b>	<b>Transmission Systems</b>	<b>Subtotal</b>
Telephone	\$ 4,133,596	\$ 3,148,251	\$ 7,281,847
Cable Television (CATV)	594,531	538,657	1,133,188
Gas	2,339,304	476,178	2,815,482
Electric	11,583,119	293,703	11,876,822
Fiber Optics (included in CATV cost)	N/A	N/A	N/A
	<u>\$ 18,650,550</u>	<u>\$ 4,456,789</u>	<u>\$ 23,107,339</u>

**WATERWAYS**

<b>System</b>	<b>Distribution Systems</b>	<b>Transmission Systems</b>	<b>Subtotal</b>
Telephone	\$ 1,129,117	\$ 860,960	\$ 1,990,077
Cable Television (CATV)	290,655	263,490	554,145
Gas	402,288	46,297	448,585
Electric	5,440,556	201,450	5,642,006
Fiber Optics (included in CATV cost)	N/A	N/A	N/A
	<u>\$ 7,262,616</u>	<u>\$ 1,372,197</u>	<u>\$ 8,634,813</u>

**ALTERNATIVE 1 – NAVIGABLE CHANNEL TOTAL DRY UTILITY COST ESTIMATE** **\$ 31,742,152**

**ALTERNATIVE 2 – NON - TIDAL CHANNEL**

**PARKS**

<b>System</b>	<b>Distribution Systems</b>	<b>Transmission Systems</b>	<b>Subtotal</b>
Telephone	\$ 15,481,221	\$ 11,795,386	\$ 27,276,607
Cable Television (CATV)	611,279	738,669	1,349,948
Gas	5,578,729	0	5,578,729
Electric	38,030,265	0	38,030,265
Fiber Optics (included in CATV cost)	N/A	N/A	N/A
	<u>\$ 59,701,494</u>	<u>\$ 12,534,055</u>	<u>\$ 72,235,549</u>

**WATERWAYS**

<b>System</b>	<b>Distribution Systems</b>	<b>Transmission Systems</b>	<b>Subtotal</b>
Telephone	\$ 857,102	\$ 654,517	\$ 1,511,619
Cable Television (CATV)	815,112	738,669	1,553,811
Gas	1,103,023	0	1,103,023
Electric	8,135,844	0	8,135,844
Fiber Optics (included in CATV cost)	N/A	N/A	N/A
	<u>\$ 10,911,081</u>	<u>\$ 1,393,186</u>	<u>\$ 12,304,297</u>

**ALTERNATIVE 2 – NON-TIDAL CHANNEL TOTAL DRY UTILITY COST ESTIMATE** **\$ 84,539,816**

**Bay to Bay Link Feasibility Study**

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**ALTERNATIVE 3 – PARK SYSTEM LINKAGE**

**PARKS**

<b>System</b>	<b>Distribution Systems</b>	<b>Transmission Systems</b>	<b>Subtotal</b>
Telephone	\$ 11,973,773	\$ 9,122,188	\$ 21,095,961
Cable Television (CATV)	1,736,684	1,504,586	3,241,270
Gas	4,127,223	4,501,176	8,628,399
Electric	67,564,293	7,344,452	74,908,745
Fiber Optics (included in CATV cost)	N/A	N/A	N/A
	<u>\$ 85,401,973</u>	<u>\$ 22,472,402</u>	<u>\$107,874,375</u>

**WATERWAYS**

<b>System</b>	<b>Distribution Systems</b>	<b>Transmission Systems</b>	<b>Subtotal</b>
Telephone	\$ 0	\$ 0	\$ 0
Cable Television (CATV)	0	0	0
Gas	0	0	0
Electric	0	0	0
Fiber Optics (included in CATV cost)	N/A	N/A	N/A
	<u>\$ 0</u>	<u>\$ 0</u>	<u>\$ 0</u>

**ALTERNATIVE 3 – PARK SYSTEM LINKAGE DRY UTILITY COST ESTIMATE** **\$107,874,375**

## X. TRANSPORTATION

### CIRCULATION

This section includes several circulation-related issues. In addition to the obvious vehicular circulation concerns including street cross sections and intersections, the subjects of pedestrian and bicycle circulation and transit circulation are addressed.

Our approach made extensive use of previous studies that have been conducted in the area, and the plan is focused on continuing the existing grid system within the Midway Pacific Highway Corridor planning area. We recognize that the study area is influenced by circulation patterns that are not within the Master Planning Area. An example is the heavy traffic movement between the airport and Interstate 8.

#### **Characterization**

The Midway Pacific Highway Planning Area characterized by its system of wide streets, heavy traffic flows and non-standard intersection configurations. The area is bounded by two major freeways: Interstate 5 to the east and Interstate 8 to the north. State Route 209 bisects the central commercial core of the community and numerous one-way streets add to the complexity of circulation in the area.

#### **Vehicular Circulation**

Roadway segments in the area operate for the most part under their optimal capacities – the exceptions are Sports Arena Boulevard between I-8 and Midway Drive and Rosecrans/Camino Del Rio West between Midway and I-8/I-5 interchange. These segments and adjacent intersections are highly congested during peak hours.

The most significant observations in terms of existing circulation conditions are:

- ▲ Sports Arena Boulevard, Pacific Highway, Midway Drive, Barnett Avenue and Rosecrans Street (between Pacific Highway and Kurtz Street) have and are expected to continue to have excess capacity to accommodate additional traffic from redevelopment/redirection from the Bay-to-Bay Link.
- ▲ Incomplete freeway ramps cause non-local through traffic congestion. Non-standard interchanges limit access to/from the area.
- ▲ Multiple curb cuts for commercial properties along Rosecrans reduce capacity and add to congestion.
- ▲ Many commercial properties have garages that open directly onto streets and limit on-street parking opportunities (Hancock Street, Kurtz Street).
- ▲ Confusing street patterns create longer than necessary trip lengths. Streets intersect at acute angles constraining traffic flows and contributing to congestion.

- ▲ The Midway/Pacific Corridor Community Plan calls for grade separation of the Rosecrans/Sports Arena intersection via flyover or tunnel to accommodate future traffic.
- ▲ Currently all of the intersections in the area operate at LOS D or better during peak hours.

## **PEDESTRIAN AND BICYCLE CIRCULATION**

Special pedestrian amenities are limited in the area. They either consist of the normal sidewalks along the streets, and some of these are in deteriorated condition or do not meet current standards.

### **Bikeways**

Few bicycle facilities are provided in the study area. These facilities include:

- Class II (Bike Lane)  
In this case, a lane is painted for one-way travel on the pavement for exclusive use by bicycles, with crossings by pedestrians and motorists permitted.
- Class III (Bike Route)  
This type of bikeway is designated solely by signs or other such markings and is shared with motorists and pedestrians.

A Class II Bike Lane is provided along Pacific Highway linking Seaworld Drive to downtown San Diego. A Class III Bike Route is designated on Sports Arena Boulevard between I-8 and Midway Drive.

## **TRANSIT CIRCULATION**

The Midway/Pacific Corridor has several transit options including bus service, trolley and heavy rail all of which can be used to get to almost any major destination within the City of San Diego. The Old Town Transit Center offers convenient access to the San Diego Trolley, the Coaster and ten bus routes.

The bus service offers both local routes and express routes with stops throughout the area. The streets with the highest amount of bus service are Rosecrans and Pacific Highway. The Metropolitan Transit Development Board (MTDB) provides the bus service.

The San Diego Trolley stops at the Old Town Transit Center and provides access to downtown as well as Mission Valley. The Metropolitan Transit Development Board (MTDB) provides the trolley service.

The Old Town Transit Center also provides access to the Coaster, operated by North County Transit District (NCTD), which provides commuter rail service to seven stations along the San Diego coastline.

**Bay to Bay Link Feasibility Study**

<b>Park System Linkage Concept Alternative</b>	<b>\$ 32,021,758</b>
<b>Non Tidal Channel Concept Alternative</b>	<b>\$ 42,980,379</b>
<b>Navigable Channel San Diego Bay to Mission Bay Concept Alternative</b>	<b>\$ 55,935,913</b>

<b>Park System Linkage Concept Alternative</b>				
<i>Item</i>	<i>Unit</i>	<i>Unit Price</i>	<i>Quantity</i>	<i>Cost</i>
Roadway Cross Section 4 Lane Collector W/O Median	LF	\$887.77	12,200	\$10,830,845
Roadway Cross Section 4 Lane Major W/ Median	LF	\$926.81	400	\$370,724
Roadway Cross Section 6 Lane Major W/ Median	LF	\$1,034.55	2,200	\$2,276,008
Roadway Cross Section 6 Lane Major (One Way)	LF	\$821.03	7,600	\$6,239,829
Traffic Signal W/ Lighting at Intersection Only	Each	\$120,000	25	\$3,000,000
Bridge Structure	SF	\$250	0	\$0
Structural Fill	CY	\$10	0	\$0
Roadway Removal	LF	\$200	14,500	\$2,900,000
Support Cost	%	25%	1	\$6,404,352
<i>Sub-Total</i>				\$32,021,758
Business Relocation		0%	1	\$0
Right-of-Way	SF	\$0	706,500	\$0
<b>Grand Total</b>				<b>\$32,021,758</b>

**Bay to Bay Link Feasibility Study**

<b>Non Tidal Channel Concept Alternative</b>				
<i>Item</i>	<i>Unit</i>	<i>Unit Price</i>	<i>Quantity</i>	<i>Cost</i>
Roadway Cross Section 4 Lane Collector W/O Median	LF	\$887.77	10,000	\$8,877,742
Roadway Cross Section 4 Lane Major W/ Median	LF	\$926.81	400	\$370,724
Roadway Cross Section 6 Lane Major W/ Median	LF	\$1,034.55	2,200	\$2,276,008
Roadway Cross Section 6 Lane Major (One Way)	LF	\$821.03	7,600	\$6,239,829
Traffic Signal W/ Lighting at Intersection Only	Each	\$120,000	20	\$2,400,000
Bridge Structure	SF	\$250	42,000	\$10,500,000
Structural Fill	CY	\$10	56,000	\$560,000
Roadway Removal	LF	\$200	15,800	\$3,160,000
Support Cost	%	25%	1	\$8,596,076
<i>Sub-Total</i>				\$42,980,379
Business Relocation		0%	1	\$0
Right-of-Way	SF	\$0	391,500	\$0
<b>Grand Total</b>				<b>\$42,980,379</b>

**Bay to Bay Link Feasibility Study**

<b>Navigable Channel San Diego Bay to Mission Bay Concept Alternative</b>				
<i>Item</i>	<i>Unit</i>	<i>Unit Price</i>	<i>Quantity</i>	<i>Cost</i>
Roadway Cross Section 4 Lane Collector W/O Median	LF	\$887.77	8,200	\$7,279,748
Roadway Cross Section 4 Lane Major W/ Median	LF	\$926.81	400	\$370,724
Roadway Cross Section 6 Lane Major W/ Median	LF	\$1,034.55	4,400	\$4,552,016
Roadway Cross Section 6 Lane Major (One Way)	LF	\$821.03	8,000	\$6,568,241
Traffic Signal W/ Lighting at Intersection Only	Each	\$120,000	24	\$2,880,000
Bridge Structure	SF	\$250	80,200	\$20,050,000
Structural Fill	CY	\$10	44,800	\$448,000
Roadway Removal	LF	\$200	13,000	\$2,600,000
Support Cost	%	25%	1	\$11,187,183
<i>Sub-Total</i>				\$55,935,913
Business Relocation		0%	0	\$0
Right-of-Way	SF	\$0	657,000	\$0
<b>Grand Total</b>				<b>\$55,935,913</b>

**Bay to Bay Link Feasibility Study**

<b>4 Lane Collector W/O Median Cross Section</b>					
Item	Unit	Unit Price	Section	Cost/LF	Notes
Clearing & Grubbing	SF	\$0.50	84	\$42.00	
Grading	SF	\$1.00	84	\$84.00	
Storm Drain Pipe 36"	LF	\$145.00	1	\$145.00	
Storm Drain MH	Each	\$4,000.00	0.003333333	\$13.33	1.
Curb Inlet	Each	\$3,850.00	0.005	\$19.25	2.
Sewer Main	LF	\$100.00	1	\$100.00	
Sewer MH	Each	\$3,250.00	0.003333333	\$10.83	1.
Water Main	LF	\$1.00	100	\$100.00	
Other Utilities Relocation	LF	\$100.00	1	\$100.00	
Curb & Gutter	LF	\$14.50	2	\$29.00	
PCC Sidewalk 4"	SF	\$4.00	10	\$40.00	
AC Pavement 4"	SF	\$1.75	60	\$105.00	
Agg. Base	SF	\$0.90	65	\$58.50	
Signing & Striping	LF	\$1.00	15	\$15.00	3.
Sub-Total				\$861.92	
Traffic Control	%	3.00%		\$25.86	
Total Per LF	LF		1	<b>\$887.77</b>	

<b>4 Lane Major W/ Median Cross Section</b>					
Item	Unit	Unit Price	Section	Cost/LF	Notes
Clearing & Grubbing	SF	\$0.50	98	\$49.00	
Grading	SF	\$1.00	98	\$98.00	
Storm Drain Pipe 36"	LF	\$145.00	1	\$145.00	
Storm Drain MH	Each	\$4,000.00	0.003333333	\$13.33	1.
Curb Inlet	Each	\$3,850.00	0.005	\$19.25	2.
Sewer Main	LF	\$100.00	1	\$100.00	
Sewer MH	Each	\$3,250.00	0.003333333	\$10.83	1.
Water Main	LF	\$1.00	100	\$100.00	
Other Utilities Relocation	LF	\$100.00	1	\$100.00	
Curb & Gutter	LF	\$14.50	2	\$29.00	
Curb	LF	\$8.00	2	\$16.00	
PCC Sidewalk 4"	SF	\$4.00	10	\$40.00	
AC Pavement 4"	SF	\$1.75	60	\$105.00	
Agg. Base	SF	\$0.90	66	\$59.40	3.
Signing & Striping	LF	\$1.00	15	\$15.00	
Sub-Total				\$899.82	
Traffic Control	%	3.00%		\$26.99	
Total Per LF	LF		1	<b>\$926.81</b>	

1. MH per 300 ft of Roadway
2. Inlet per 200 ft of Roadway
3. \$0.40/LF Strip + \$ for Signage

**Bay to Bay Link Feasibility Study**

<b>6 Lane Major W/ Median Cross Section</b>					
Item	Unit	Unit Price	Section	Cost/LF	Notes
Clearing & Grubbing	SF	\$0.50	122	\$61.00	
Grading	SF	\$1.00	122	\$122.00	
Storm Drain Pipe 36"	LF	\$145.00	1	\$145.00	
Storm Drain MH	Each	\$4,000.00	0.003333333	\$13.33	1.
Curb Inlet	Each	\$3,850.00	0.005	\$19.25	2.
Sewer Main	LF	\$100.00	1	\$100.00	
Sewer MH	Each	\$3,250.00	0.003333333	\$10.83	1.
Water Main	LF	\$1.00	100	\$100.00	
Other Utilities Relocation	LF	\$100.00	1	\$100.00	
Curb & Gutter	LF	\$14.50	2	\$29.00	
Curb	LF	\$8.00	2	\$16.00	
PCC Sidewalk 4"	SF	\$4.00	10	\$40.00	
AC Pavement 4"	SF	\$1.75	84	\$147.00	
Agg. Base	SF	\$0.90	90	\$81.00	3.
Signing & Striping	LF	\$1.00	20	\$20.00	
Sub-Total				\$1,004.42	
Traffic Control	%	3.00%		\$30.13	
<b>Total Per LF</b>	<b>LF</b>		<b>1</b>	<b>\$1,034.55</b>	

<b>6 Lane Major (One Way Only) Cross Section</b>					
Item	Unit	Unit Price	Section	Cost/LF	Notes
Clearing & Grubbing	SF	\$0.50	62	\$31.00	
Grading	SF	\$1.00	62	\$62.00	
Storm Drain Pipe 36"	LF	\$145.00	1	\$145.00	
Storm Drain MH	Each	\$4,000.00	0.003333333	\$13.33	1.
Curb Inlet	Each	\$3,850.00	0.005	\$19.25	2.
Sewer Main	LF	\$100.00	1	\$100.00	
Sewer MH	Each	\$3,250.00	0.003333333	\$10.83	1.
Water Main	LF	\$1.00	100	\$100.00	
Other Utilities Relocation	LF	\$100.00	1	\$100.00	
Curb & Gutter	LF	\$14.50	2	\$29.00	
PCC Sidewalk 4"	SF	\$4.00	10	\$40.00	
AC Pavement 4"	SF	\$1.75	48	\$84.00	
Agg. Base	SF	\$0.90	53	\$47.70	
Signing & Striping	LF	\$1.00	15	\$15.00	3.
Sub-Total				\$797.12	
Traffic Control	%	3.00%		\$23.91	
<b>Total Per LF</b>	<b>LF</b>		<b>1</b>	<b>\$821.03</b>	

1. MH per 300 ft of Roadway
2. Inlet per 200 ft of Roadway
3. \$.40/LF Strip + \$ for Signage

## **XI. LIMITED GEOTECHNICAL EVALUATION**

### **INTRODUCTION**

In accordance with your request, Ninyo & Moore has performed a limited geotechnical evaluation of the subject study area (Figure 1 – not provided). The purpose of this study was to evaluate geologic and geotechnical conditions using available geologic and geotechnical data and to provide a geotechnical reconnaissance report, which we understand will be utilized in the preparation of environmental impact documents. This report presents our preliminary findings and conclusions pertaining to the proposed Bay-to-Bay Link Feasibility Study. Subsurface exploration and laboratory testing of materials were not included in the scope of this limited evaluation. This study is intended to give a broad overview of the geotechnical conditions in the project area. Conclusions and recommendations regarding the design of specific improvements will necessitate further evaluations.

### **SCOPE OF SERVICES**

Ninyo & Moore's scope of services has included review of background materials and a geologic reconnaissance of the study area. Specifically, we have performed the following tasks:

- Review of pertinent, available geotechnical literature including geologic and geotechnical maps, stereoscopic aerial photographs, and geotechnical and geologic reports. Documents pertaining to our evaluation of the study area are listed in the Selected References section of this report.
- Performance of a geologic reconnaissance of the project study area by a California Registered Geologist, which included written and photographic documentation of the observed site conditions. These materials are on file at the offices of Ninyo & Moore and are available for review upon request. A geologic map is provided as Figure 2.
- Compilation and analysis of data obtained, with particular emphasis on potential geologic and geotechnical hazards such as soft ground conditions, shallow groundwater, expansive soils, unstable slopes, landslides, faulting and seismicity, and liquefaction. A geotechnical hazards map is provided as Figure 3.
- Preparation of this report presenting our preliminary findings, conclusions, and pre-design geotechnical recommendations pertinent to the development of the project area. This report specifically addresses the potential seismic and fault hazards, liquefaction potential, landslide potential, slope stability, other potential geotechnical constraints, and potential mitigation measures.

### **PROJECT AREA DESCRIPTION**

The study area is located generally north of San Diego Bay and Lindbergh Field, south of the San Diego River, west of Interstate 5, southeast of Point Loma Boulevard, and northwest of Rosecrans Boulevard in San Diego, California (Figure 1 – not provided). Specifically, this area, a portion of the Midway/Pacific Highway Corridor, includes the communities of Midway, Loma Portal, and Old Town, as well as a portion of the Naval Training Center. The location of the study

area is presented in Figure 1. For the purposes of this study, the area has been divided into four quadrants, A through D. Quadrant A is composed of the San Diego River Floodway between Mission Bay Channel, on the west, and Linda Vista Road, on the east. Quadrant B is located between West Mission Bay Drive, Sports Area Boulevard, the south bank of the San Diego River Floodway, Rosecrans Street, and Taylor Street, in Old Town. Quadrant C is located between Sports Area Boulevard, Rosecrans Street, Groton Street, Shadowlawn Street, and Meadow Grove Drive. Quadrant D encompasses the area between Rosecrans Street, Lytton Street, San Diego Bay, Barnett Avenue, Pacific Highway, and Interstate 5.

The topography of a large portion of the site is generally level with elevations ranging between sea level and 10 to 15 feet over the majority of the site. Elevations range up to approximately 150 feet above sea level in the vicinity of Midway High School and Cabrillo Hospital, where there are mostly northeast-facing, relatively steep slopes. Steep slopes are also present in the Presidio Park area of Old Town.

### **PROJECT DESCRIPTION**

It is our understanding that the project includes the proposed redevelopment of the project area and the construction of a navigable channel from San Diego Bay to Mission Bay. The proposed redevelopment incorporates the commercial revitalization of the area and the development of residential, institutional, industrial, multiple use, and public open space land use. The proposed navigable channel is planned to extend from the northern tip of the existing boat channel in San Diego Bay, on the Naval Training Center property, through the Midway area, and connect to the San Diego River Floodway east of West Mission Bay Drive. The waterway will extend to the west along the San Diego River Floodway, connecting with the Mission Bay Channel and the open sea. The waterway will presumably undercross Barnett Avenue, Rosecrans Street, Midway Drive, Point Loma Boulevard, and Interstate 8 by means of a series of bridges. The waterway will likely be created by dredging through the Midway area and along the San Diego River Floodway.

### **GEOLOGY**

The following sections present our findings relative to regional geology, site geology, groundwater, faulting and seismicity, liquefaction, landslides and slope stability, and other potential geologic hazards and constraints to development.

#### **Regional Geologic Setting**

The project study area is situated in the western portion of the Peninsular Ranges geomorphic province of southern California. This geomorphic province encompasses an area that extends 125 miles from the Transverse Ranges and the Los Angeles Basin, south to the Mexican border, and beyond another 775 miles to the tip of Baja California (Norris and Webb, 1990). The geomorphic province varies in width from 30 to 100 miles, most of which is characterized by northwest trending mountain ranges separated by subparallel fault zones. In general, the Peninsular Ranges are underlain by Jurassic-age metavolcanic and metasedimentary rocks and by Cretaceous-age igneous rocks of the southern California batholith. The westernmost portion of the province in San Diego County generally consists of Upper Cretaceous-, Tertiary-, and Quaternary-age sedimentary rocks.

The Peninsular Ranges are traversed by several major active faults. The Whittier-Elsinore, San Jacinto, and the San Andreas faults are major active fault systems located northeast of

the site and the Agua Blanca-Coronado Bank and San Clemente faults are active faults located to the west-southwest. The Rose Canyon fault zone is also a major active fault system, located in the San Diego area, portions of which have been included in State of California Earthquake Fault Zones. Major tectonic activity associated with these and other faults within this regional tectonic framework is right-lateral strike-slip movement. These faults, as well as other faults in the region, have the potential for generating strong ground motions at the project site. Further discussion of faulting relative to the study area is provided in the Faulting and Seismicity section of this report. The locations of major faults in the area are presented in Figure 4 (not provided).

### **Study Area Geology**

Based on our literature review, including published geologic maps and available geotechnical reports, the study area is underlain generally by artificial fill, alluvium and slope wash, bay deposits, terrace deposits (Bay Point Formation), and materials of the Mount Soledad Formation. A description of these units, as described in the cited literature, and based on our site reconnaissance is presented below. A map depicting the areal extent of the above-named units is presented on Figure 2. The Geologic Map is based on our site reconnaissance, our stereoscopic photograph review, previous geotechnical evaluations and referenced published data.

#### **Artificial Fill (Map Symbol Qaf)**

We anticipate that portions of the study area are underlain by artificial fill placed during the grading of the developments, and hydraulic fill placed during land reclamation construction projects. Fill is especially prevalent along the south bank of the San Diego River channel, the Midway and Sports Arena areas, the Loma Square and Naval Training Center areas, and the low-lying areas of Old Town. Due to widespread nature of the fill material, we have included fill material as a separate unit. The majority of the hydraulic fill material was derived from the dredging of the Mission Bay and San Diego Bay areas.

In general, fill material is expected to be on the order of 5 to 10 feet deep with locally deeper areas. Fill material is generally light brown to grayish brown, loose to medium dense, sand with varying amounts of gravel, silt, and clay. Riprap is also present along the San Diego River Flood Control Channel for erosion control.

Fill materials encountered at specific sites should be evaluated on a case-by-case basis to evaluate the condition of existing fill, if it is planned for support of structural improvements. Fill material may require removal and recompaction to be suitable for the support of structures or compacted fill. Fill material will likely provide relatively easy excavation along the canal alignment. However, granular fill material below the groundwater level may be subject to liquefaction and seismically induced settlement during an earthquake.

Two large previous municipal landfills exist in the study area. One of the landfills is located in the vicinity of the Sports Arena between Midway Drive, Sports Arena Boulevard, and Point Loma Boulevard in Quadrant B. The other, the Mission Bay

Landfill, is located along the north bank of the San Diego River flood control channel along Sea World Drive between West Mission Bay Drive and Interstate 5. These landfills are known to contain trash and burn material. Developments proposed in the landfill areas should be evaluated due to the high potential for future settlement.

**Alluvium and Slope Wash (Map Symbol Qal)**

Holocene alluvial deposits are mapped in several drainage courses at the project site and along the channel of the San Diego River. Localized deposits of alluvium may also be present beneath the fill in some portions of the project. Areas of relatively thick alluvium are located in the drainage courses, generally consisting of uncemented sandy clay, silty sand, and clayey sand with varying amounts of cobbles and gravel. Slope wash is generally present along the flanks and base of slopes. These units have not been differentiated on the geologic map. Alluvial deposits composed of granular material below the groundwater level may be susceptible to liquefaction and seismically induced settlement. Alluvial material at ground surface may need to be removed and recompacted in areas to receive structures or compacted fill.

**Bay Deposits (Not Mapped)**

Holocene-age bay and estuary deposits are locally present at the site. Previous evaluations have indicated that bay deposits underlie the fill in the Midway area, the Naval training Center area, and in the Mission Bay Channel and San Diego Bay. In general, the bay deposits consist of dark gray, soft, silty and sandy clay and loose to medium dense silty and clayey sands with organic material and shell fragments. Bay deposits are generally expected to be up to 15 or more feet thick and extend below the groundwater. Loose, saturated, granular bay deposits may be susceptible to liquefaction and seismically induced settlement and loose or soft sediments may not possess adequate bearing capacity for deep foundations.

**Terrace Deposits (Bay Point Formation, Map Symbol Qt)**

Quaternary-age terrace deposit sediments mapped by Kennedy (1975) as Bay Point Formation are present in the Midway and Loma Portal areas, on portions of the Naval Training Center, and in the higher elevations of Old Town. Terrace deposits generally underlie the fill materials and bay and estuary deposits at depth, but are exposed in several areas around Loma Portal. In general, the terrace deposits are composed of yellowish to reddish and light brown, moist to saturated, medium dense to dense, fine to medium sand with varying amounts of silt and clay. The terrace deposits may also be present as weakly cemented sandstone with local fossiliferous or concretion-bearing sandstone beds.

Terrace deposits are generally not susceptible to liquefaction or seismically induced settlement. They commonly possess sufficient bearing capacity to support deep foundations, and are readily excavatable. Terrace deposits at the site generally do not form steep, instability-prone slopes.

**Mount Soledad Formation (Map Symbol Tm)**

Materials of the Eocene-age Mount Soledad Formation underlie the terrace deposits in several areas around Midway High School and Cabrillo Hospital (Figure 2), and are generally only exposed in cut slopes. Deposits of the Mount Soledad Formation are described as consisting generally of light brown, weakly cemented, fine- to medium-grained sandstone and cobble conglomerate. The conglomerate content of the formation is variable to the southeast where it is locally composed entirely of medium-grained sandstone.

**Agricultural Soils**

From an agricultural perspective, the project site is underlain by Urban Land (USDA, 1973). Urban Land is land that is primarily covered by buildings, streets, sidewalks, etc. Accordingly, the project will not result in the loss of agricultural soils.

**Mineral Resources**

Our evaluation has indicated that no significant economic mineral resources have been discovered within the limits of the project study area. Therefore the potential for loss of mineral deposits due to further development of the study area is considered low.

**Groundwater**

Based on our review of existing subsurface information, the depth to groundwater is expected to occur near mean sea level for much of Quadrants A and B, and for the low-lying portions of Quadrants C and D. Shallow groundwater is expected to be a constraint to construction over the majority of the site and should be evaluated on a case-by-case basis.

**Surface Water**

Surface water is present in San Diego Bay and in the San Diego River channel. The River channel is influenced by tidal fluctuations and may range from nearly dry in the eastern portions of the study area to as much as 20 feet deep in the Mission Bay entrance channel. The San Diego River Channel may be expected to contain large volumes of water from the surrounding watershed during wet years. The northern terminus of the San Diego Bay channel is approximately 23 feet deep at its deepest point.

**GEOTECHNICAL HAZARDS**

Geotechnical hazards potentially impacting the study area include slope instability, expansive soils, faulting and seismicity (including strong ground motion and ground surface rupture), liquefaction and seismically induced settlement. These potentially hazardous geologic conditions are discussed in the following sections. Areas with potential geotechnical hazards are presented on Figure 3.

**Landsliding and Slope Instability**

Based on our review of published geologic maps and stereoscopic aerial photographs, as well as our site reconnaissance, no deep-seated landslides were observed at the site. In

addition, deep-seated landslides are not expected to impact the site based on the published and observed geologic and engineering properties of the mapped formational units at the site. However, an area surficial slope instability was noted in a previous geotechnical evaluation (Ninyo & Moore, 1998) southwest of Midway Avenue, and south of Wing Street located in the southwestern portion of the Quadrant C. This slope is approximately 20 feet high and 100 feet long. The slope has an inclination of approximately 1:1 (horizontal:vertical). An approximately 3-foot high masonry block retaining wall is located at the toe of the slope. Materials of the Mount Soledad Formation comprise the slope and are generally highly weathered. At the time of our reconnaissance, recent surficial sloughing was evidenced by the presence of a near vertical scarp approximately 2 feet in height and 20 feet long, located mid-way up the slope face. The slope is generally vegetated with grasses and ice plant, except in areas of the noted vertical scarp, where no vegetation was present.

### **Expansive Soils**

Soils with a high expansion potential increase in volume with the addition of water. Soil expansion can be detrimental to foundations, concrete slabs, flatwork, and pavement. Expansive soils have been reported to be present in local areas throughout the study area. Evaluation of on-site soils for expansion potential should be performed as a portion of the geotechnical evaluation for proposed developments on a case-by-case basis.

### **Faulting and Seismicity**

The project site is considered to be in a seismically active area, as is most of southern California. Based on our review of the referenced reports, geologic maps, and stereoscopic aerial photographs, as well as on our geologic field mapping, a small portion of the project site is underlain by known active fault splays (i.e., faults that exhibit evidence of ground displacement during the last 11,000 years). The approximate locations of nearby major faults relative to the site are shown on Figure 4.

In general, hazards associated with seismic activity include strong ground motion, ground surface rupture, liquefaction, and seismically induced settlement. These potential hazards are discussed in the following sections.

#### **Active Faults**

Segments of the Rose Canyon fault zone (the Mission Bay fault, and the Old Town fault) are known to cross the northeasterly portion of Quadrants A and B. The fault zone extends in an approximately north-south direction, roughly paralleling Interstate 5 along the eastern boundary of the study area. The locations of the fault traces and the fault buffer zones are shown on the Geotechnical Map (Figure 3).

Portions of the Rose Canyon fault zone are mapped by the State of California as being in an Earthquake Fault Zone. The site itself is not mapped in an Earthquake Fault Zone (CDMG, 1991a and 1991b). The City of San Diego, however, recommends the Rose Canyon Fault zone fault be treated as “active,” and the current standard-of-care within the San Diego area would require, for projects located within the Rose Canyon fault zone, trenching studies to address possible “active” faulting or other investigations to evaluate recency of fault movement. Reports should be prepared in accordance with the

most recent edition of the City of San Diego “Technical Guidelines for Geotechnical Reports” (City of San Diego, 1998). The City of San Diego may not permit development along the mapped trace of the fault, and may require a setback of 50 feet for structures for human occupancy.

**Potentially Active Faults**

The main trace of the Point Loma fault is mapped by Kennedy (1975) crossing the western portion of Quadrant A of the study area in a generally northwest-southeast direction. This portion of the Point Loma fault is not mapped on the current San Diego Seismic Safety Study (City of San Diego, 1995). Other portions of the fault are mapped as being potentially active by the City of San Diego, but are outside of the project area. Based on current knowledge, the fault is considered potentially active.

**Strong Ground Motion**

Based on a Probabilistic Seismic Hazard Assessment for the Western United States, issued by the United States Geological Survey (1999), the project area is located in a zone where the horizontal peak ground acceleration having a 10 percent probability of exceedance in 50 years ranges from 0.32g (32 percent of the acceleration of gravity) to 0.33g. The requirements of the governing jurisdictions and applicable building codes should be considered in the design of the project. The closest known active fault is the Rose Canyon fault zone located in the northeastern portion of the study area. The Rose Canyon fault has an assigned maximum earthquake magnitude of 6.9 (California Division of Mines and Geology, 1998).

**Ground Surface Rupture**

Based on the existence of traces of the Rose Canyon fault zone in the northeastern portion of the site and the proximity of the entire project site to the Rose Canyon fault zone, specifically the active Old Town, and Mission Bay faults, surface rupture at the subject site should be considered a possibility. The locations of mapped traces of the Rose Canyon fault zone and the fault buffer zones are presented on Figure 3. Lurching or cracking of the ground surface as a result of nearby seismic events should also be a consideration.

**Liquefaction and Seismically Induced Settlement**

Liquefaction of cohesionless soils can be caused by strong vibratory motion due to earthquakes. Research and historical data indicate that loose granular soils and non-plastic silts that are saturated by a relatively shallow groundwater table are most susceptible to liquefaction.

Our evaluation has indicated that the majority of the project area is underlain by relatively loose to medium dense granular soils and a near-surface groundwater table. Based on the presence of these conditions and the possible seismic accelerations, the potential for liquefaction or seismically induced settlement in these areas should be considered relatively high. Areas potentially subject to liquefaction are presented on Figure 3. Based on City of San Diego (1995) significance determination guidelines, relatively high liquefaction potential is considered a significant constraint to development.

## CONCLUSIONS

Based on the results of our geologic reconnaissance and limited geotechnical evaluation, it is our opinion that the Bay-to-Bay Link redevelopment and revitalization project is feasible from a geotechnical perspective. However, based on our review of geotechnical reports by others, published geologic maps and aerial photographs, and our site reconnaissance, there are several significant constraints to development. Active traces of the Rose Canyon fault zone have been mapped within the northeastern portion of the study area and the potentially active Point Loma fault is located within the western portion of the study area. The project area may potentially be subject to strong ground shaking and ground surface rupture by an earthquake along the Rose Canyon fault zone. Most of the study area may be subject to liquefaction. Some of the slopes in the project area may be prone to slope instability.

The majority of the site is underlain by hydraulic fill material or municipal landfills (as described in Section 5.2.1) and contains a shallow groundwater table. Fill material may be subject to settlement caused by future development. Excavation in the majority of the site should be readily accomplished, however, dewatering of excavations and the potential for encountering unsuitable fill materials is very high.

We recommend that a comprehensive geotechnical evaluation, including development-specific subsurface exploration and laboratory testing, be conducted prior to design and construction of any developments in the study area. The purpose of subsurface evaluation would be to 1) further evaluate the subsurface conditions in the area of the proposed structures; 2) provide specific data on potential geologic and geotechnical hazards, and 3) provide information pertaining to the engineering characteristics of earth materials at the project site. From these data, recommendations for grading/earthwork, surface and subsurface drainage, temporary and/or permanent dewatering, foundations, pavement structural sections, and other pertinent geotechnical design considerations may be formulated.

Although generally low-lying, the proposed channel of the Bay-to-Bay Link waterway will be extending through areas with as much as 10 to 15 feet of elevation above sea level at the ground surface. The channel will, correspondingly, be surrounded by slopes cut into fill soils and bay deposits that will require evaluations for slope stability and erosion control. Unsuitable and/or contaminated material may also be encountered during excavation of the channel.

### **Geotechnical Constraints and Possible Mitigation Measures**

In our opinion, the following geotechnical factors should be considered in the planning and implementation of the project. The principal constraints and possible mitigation measures are summarized in the following section. Geological and geotechnical constraints include the following:

- The earth materials along the proposed alignment of the boat channel are readily excavatable with conventional excavating and dredging equipment. However, special consideration should be taken to evaluate the proposed excavation slopes for hazards associated with slope instability including saturated, cohesionless, running sands; shallow slope failures; and distress to surrounding improvements. The relocation of numerous utilities would also be a significant constraint.
- The presence of loose granular soils and the shallow depth of groundwater underlying large portions of the study area increases the likelihood of liquefaction and dynamic settlement occurring in the event of strong ground shaking. Based on City guidelines, the

relatively high potential for liquefaction is a significant constraint. Mitigation measures for liquefiable soils include ground modification, such as dynamic compaction, or the use of deep foundations. We expect that structures with the exception of light, single-story structures will be founded on some type of deep foundation system, such as driven piles embedded into underlying competent formational materials, in areas where liquefaction is a concern.

- Based on our review of background geotechnical data, expansive soils underlie portions of the study area. Expansive soils can be detrimental to structures and pavement if not properly mitigated. Mitigation measures include remedial grading including removal and recompaction with nonexpansive soils, as well as moisture conditioning and/or chemical treatment.
- Based on our review of background geotechnical data, fill soils underlie portions of the project area. Areas underlain by fill soils, particularly those areas with a high potential for liquefaction, will likely need to have multi-level structures be supported on deep foundations. We recommend that the settlement potential of these soils be evaluated as part of the geotechnical design phase. Mitigation measures, if needed, may include remedial grading or surcharging and monitoring by means of settlement monuments.
- Potentially corrosive soils may be present at the site. We recommend that the corrosive characteristics of the soils be evaluated as part of the geotechnical design phase. In addition, we recommend that the steel reinforcement of the structures be protected from the corrosive effects of such an environment. Special concrete designs may be required.
- Based on review of background data, a large portion of the Quadrant B and the northern boundary of Quadrant A of the study area are underlain by former municipal landfills. Soil settlement in the landfill areas may be expected and the area should be properly zoned to ensure settlement-sensitive structures are not planned. The generation of methane gas from the landfill should also be considered.
- Based on our review of the referenced background information, active faults underlie a portion of the project site. Based on the current standard-of-care for the San Diego region, we would recommend, in areas within the Rose Canyon fault buffer zones (as presented in Figure 3), some type of fault evaluation for each human-occupancy structure (a structure intended for 2,000 or more human occupancy hours per year) that demonstrates that there are no active faults below the structure. Such an evaluation might include analysis of subsurface data obtained during the design phase of the project relative to faulting.
- Based on the data presented in Section 6.3.3, the potential for strong ground motions to occur at the site is significant. In addition, San Diego has been upgraded to a UBC Seismic Zone 4, the zone represented by the highest potential for strong ground motions. Accordingly, the potential for relatively strong seismic accelerations will need to be considered in the design of proposed improvements.
- Based on the presence of a potentially shallow groundwater table in portions of the project area, temporary dewatering during construction may be needed for subterranean

excavations and structures. Dewatering may have an adverse effect on nearby improvements. Recommendations for dewatering, as well as an evaluation of the effect of dewatering on nearby structures should be provided during the design phase. Further, water generated from dewatering activities may need treatment to meet agency discharge requirements.

- Based on our review of published literature, surficial slope instability could potentially impact small portions of the proposed redevelopment. Areas of surficial instability can be caused by a combination of oversteepened slopes, erosion, and weathering. Mitigative methods would include: completely or partially removing the unstable surface materials, placing proper drainage measures above the affected area, construction of buttress fills and/or the installation of suitable retaining devices.

### **LIMITATIONS**

This document is intended to be used only in its entirety. No portion of the document, by itself, is designed to completely represent any aspect of the project described herein. Ninyo & Moore should be contacted if the reader requires additional information or has questions regarding the content, interpretations presented, or completeness of this document. Please also note that this evaluation was limited to assessment of the geotechnical aspects of the project, and did not include evaluation of structural issues, environmental concerns, or the presence of hazardous materials. However, a hazardous materials assessment is being performed by Ninyo & Moore for the project, the results of which will be provided under separate cover.

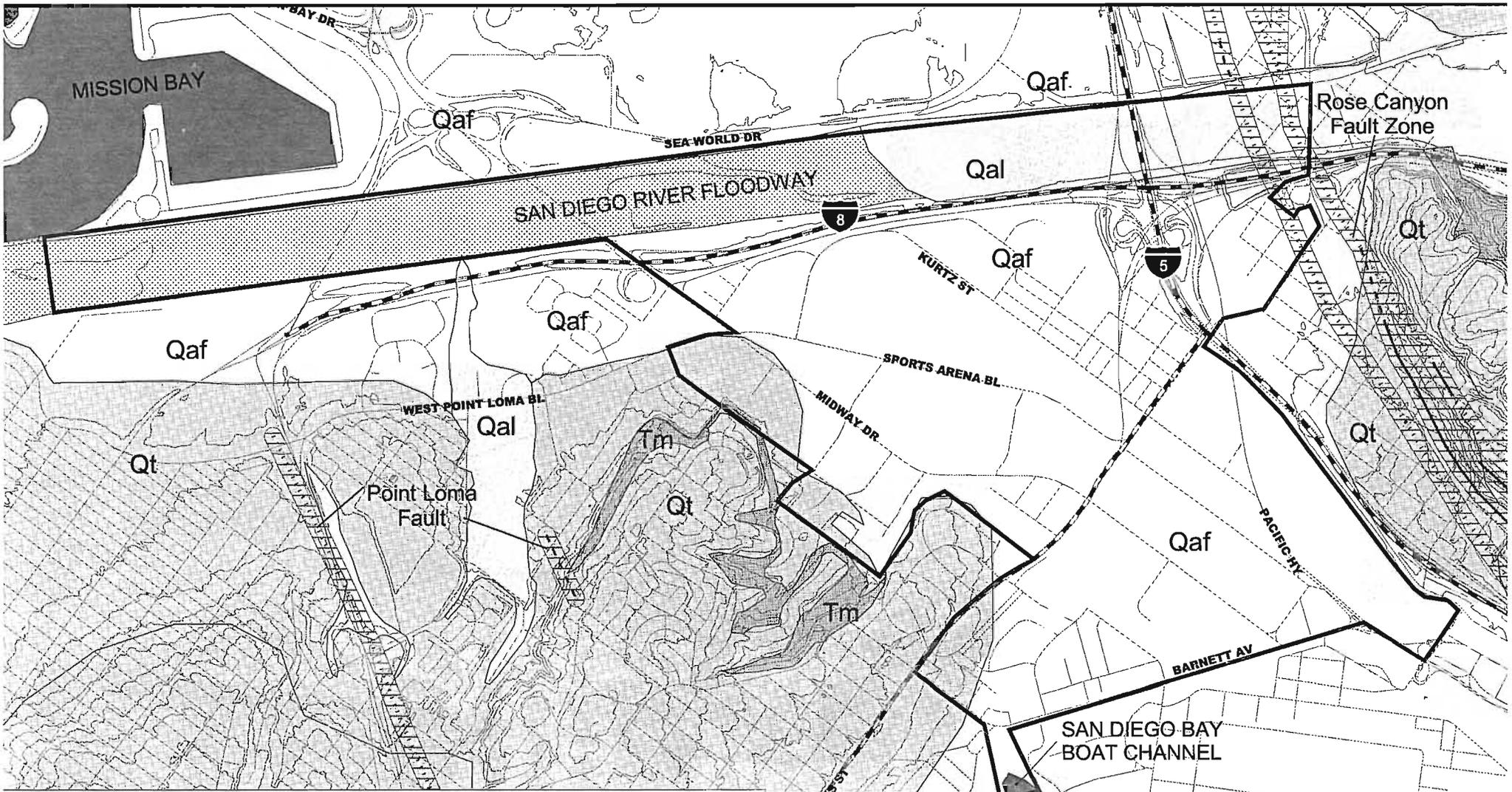
Our conclusions, recommendations, and opinions are based on an analysis of the observed site conditions and review of published literature. It should be understood that the conditions of a site could change with time as a result of natural processes or the activities of man at the subject site or nearby sites. In addition, changes to the applicable laws, regulations, codes, and standards of practice may occur due to government action or the broadening of knowledge. The findings of this report may, therefore, be invalidated over time, in part or in whole, by changes over which Ninyo & Moore has no control.

## SELECTED REFERENCES

- Anderson, J.G., M. ERRI, Rockwell, T.K., and Agnew, D.C., 1989, Past and Possible Future Earthquakes of Significance to the San Diego Region: Earthquake Spectra, Volume 5, No. 2.
- California Division of Mines and Geology (CDMG), 1991a, State of California Special Studies Zones, La Jolla Quadrangle: dated November 1.
- California Division of Mines and Geology (CDMG), 1991b, State of California Special Studies Zones, Point Loma Quadrangle: dated November 1.
- California Division of Mines and Geology (CDMG), 1998, Maps of Known Active Fault Near-Source Zones in California and Adjacent Portions of Nevada: International Conference of Building Officials.
- City of San Diego, 1995, Seismic Safety Study.
- City of San Diego, 1998, Technical Guidelines for Geotechnical Reports, Document No. 00-17773-5: dated October.
- International Conference of Building Officials (ICBO), 1994, Uniform Building Code, Structural Engineering Design Provisions: Volume 2.
- Jennings, C.W., 1994, Fault Activity Map of California and Adjacent Areas: California Division of Mines and Geology, California Geologic Data Map No. 6, scale 1:750,000.
- Kennedy, M.P., 1975, Geology of the San Diego Metropolitan Area: California Division of Mines and Geology, Bulletin 200.
- Kennedy, M.P., and Tan S.S., 1977, Geology of National City, Imperial Beach, and Otay Mesa Quadrangles, Southern San Diego Metropolitan Area, California: California Division of Mines and Geology Map Sheet 29.
- Mualchin, L., and Jones, A.L., 1992, Peak Acceleration from Maximum Credible Earthquakes in California (Rock and Stiff-Soil Sites): California Division of Mines and Geology, DMG Open-File Report 92-1.
- Ninyo & Moore, 1998, Geologic Reconnaissance and Limited Geotechnical Evaluation, North Bay Revitalization and Redevelopment Project, San Diego, California: dated November 10.
- Norris, R.M., and Webb, R.W., 1990, Geology of California: John Wiley & Sons, Inc.
- Rockwell, T.K., Lindvall, S.C. Haraden, C.C., Hirabayashi, C.K., and Baker, E., 1991, Minimum Holocene Slip Rate for the Rose Canyon Fault in San Diego, California *in* Abbott, P.L. and Elliott, W.J., eds. Environment Perils, San Diego Region: San Diego Association of Geologists.
- Tan, S.S., 1995, Landslide Hazards in the Southern Part of the San Diego Metropolitan Area, San Diego County, California: California Division of Mines and Geology Open File Report 95-03, Landslide Hazard Identification Map No. 33.

- Treiman, J.A., 1984, The Rose Canyon Fault Zone: California Division of Mines and Geology.
- Treiman, J.A., 1993, Rose Canyon Fault Zone, Southern California: California Division of Mines and Geology.
- United States Geological Survey (USGS), 1976, La Jolla Quadrangle, 7.5 Minute Series Topographic Map, San Diego County, California: scale 1:24,000.
- United States Geological Survey (USGS), 1967 (Photorevised 1975), Point Loma Quadrangle, 7.5 Minute Series Topographic Map, San Diego County, California: scale 1:24,000.
- United States Department of Agriculture, 1973, Soil Survey, San Diego Area, California
- Weber, F.H., 1963, Geology and Mineral Resources of San Diego County, California: California Division of Mines and Geology, County Report No. 3.

<b>AERIAL PHOTOGRAPHS</b>				
<b>Source</b>	<b>Date</b>	<b>Flight</b>	<b>Numbers</b>	<b>Scale</b>
USDA	3-31-53	AXN-3M	215, 216, and 217	1:20,000
USDA	3-31-53	AXN-4M	91, 92, 93 and 94	1:20,000



**LEGEND**

APPROXIMATE STUDY AREA BOUNDARY  
 APPROXIMATE FAULT LOCATIONS FROM CITY OF SAN DIEGO SEISMIC SAFETY STUDY (1995). THE ROSE CANYON FAULT IS CONSIDERED ACTIVE AND THE POINT LOMA FAULT IS CONSIDERED POTENTIALLY ACTIVE.  
 FAULT  
 INFERRED FAULT  
 CONCEALED FAULT  
 ACTIVE OR POTENTIALLY ACTIVE 100-FOOT BUFFER ZONE. CITY OF SAN DIEGO REQUIRES FAULT HAZARD EVALUATIONS FOR DEVELOPMENT IN THESE AREAS.  
 APPROXIMATE ELEVATION CONTOURS. CONTOUR INTERVAL = 20 FEET.

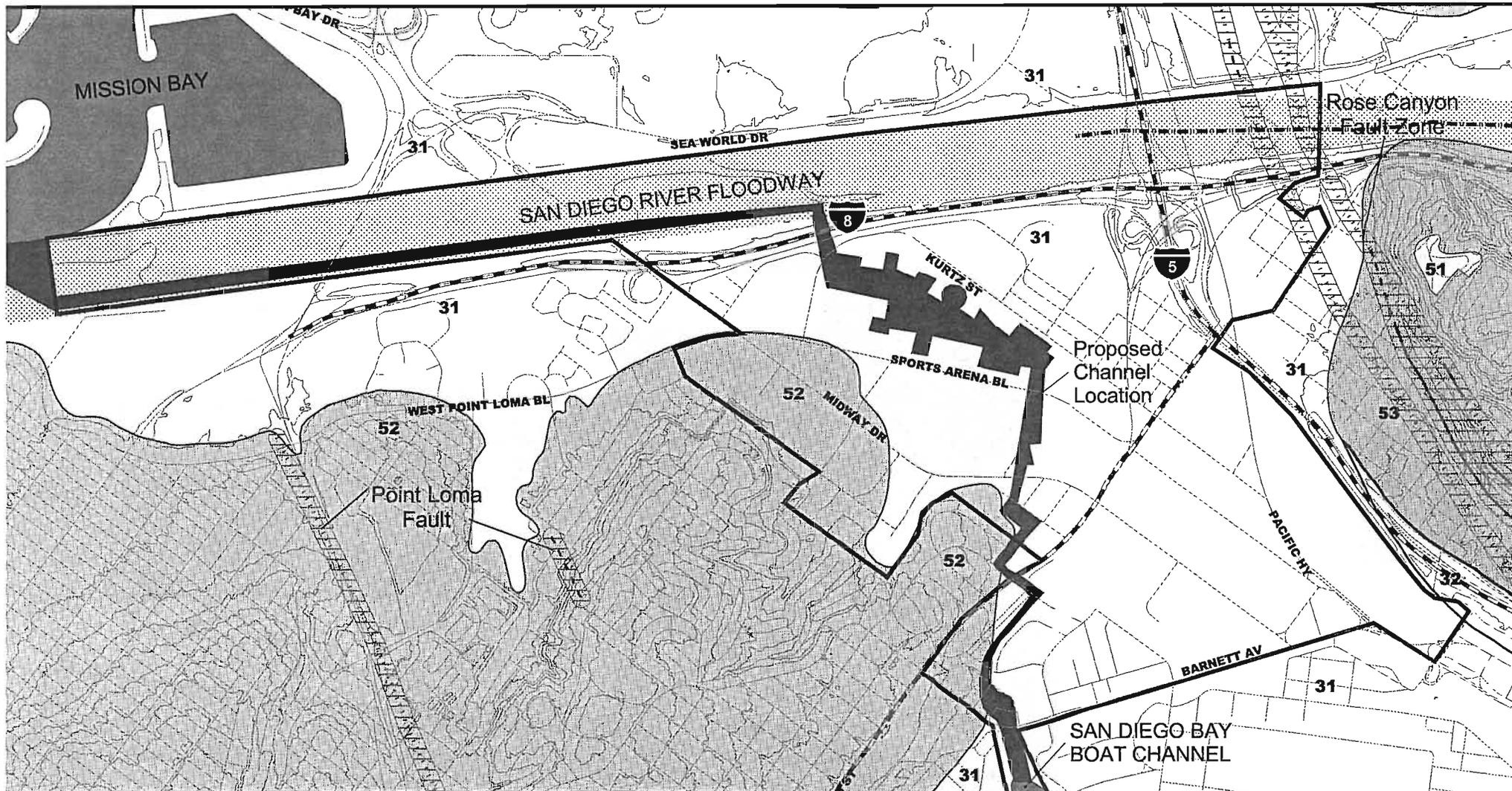
**GEOLOGY**

Qaf: Quaternary Artificial Fill  
 Qal: Quaternary Alluvium & Sand Wash (undifferentiated)  
 Qt: Quaternary Terrace Deposits (Bay Point Formation)  
 Tm: Tertiary Mount Soledad Formation  
 SAN DIEGO RIVER FLOODWAY  
 MISSION BAY & SAN DIEGO BAY

N  
 0 0.2 0.4 Miles



<b>GEOLOGIC MAP</b>		
BAY-TO-BAY LINK SAN DIEGO, CALIFORNIA		
PROJECT NO. 104643002	DATE 12/02	FIGURE 2



**LEGEND**

APPROXIMATE STUDY AREA BOUNDARY  
 Approximate fault locations from City of San Diego Seismic Safety Study (1995). The Rose Canyon Fault is considered active and the Point Loma Fault is considered potentially active.

Fault  
 Inferred Fault  
 Concealed Fault  
 Active or Potentially Active 100-foot fault buffer zone. City of San Diego requires Fault Hazard evaluations for development in these areas.

Approximate elevation contours. Contour Interval = 20 feet.

SAN DIEGO RIVER  
 SAN DIEGO RIVER FLOODWAY  
 MISSION BAY & SAN DIEGO BAY

**LIQUEFACTION:** Areas potentially subject to liquefaction as mapped by the City of San Diego Seismic Safety Study (1995). Detailed geotechnical liquefaction analysis required in these areas.

31 High Potential - shallow groundwater, major drainages, hydraulic fills  
 32 Low Potential - fluctuating groundwater, minor drainages

**OTHER TERRAIN:** Areas not subject to liquefaction. Subdivided into risk categories, after City of San Diego (1995).

51 Level areas - undrain by terrace deposits and bedrock  
 52 Other level areas, gently sloping to steep terrain, favorable geologic structure, low risk  
 53 Level or sloping terrain, unfavorable geologic structure, Low to moderate risk



<b>GEOTECHNICAL HAZARDS MAP</b>		
BAY-TO-BAY LINK SAN DIEGO, CALIFORNIA		
PROJECT NO. 104643002	DATE 12/02	FIGURE 3

## XII. LIMITED HAZARDOUS MATERIALS TECHNICAL STUDY

Prepared by:

Ninyo & Moore Geotechnical and Environmental Sciences Consultants

5710 Ruffin Road

San Diego, California 92123

12/18/02

Project No. 104643001

### INTRODUCTION

#### **Purpose**

The objective of this limited Hazardous Materials Technical Study (HMTS) was to evaluate specific existing, potential, or suspect conditions that may impose an environmental liability with respect to soil and groundwater contamination within the area identified as the proposed Bay-to-Bay Link, located in San Diego, California (hereinafter referred to as the site or subject site) (Figure 1).

#### **Involved Parties**

Ninyo & Moore conducted this limited HMTS for Wallace, Roberts & Todd, Inc. (WRT), in general accordance with our solicitation number S-3269, dated August 24, 2001 (revised January 28, 2002). Ms. Dalin D'Alessandro and Ms. Lisa Hill of Ninyo & Moore conducted the site reconnaissance on November 12 and 13, 2002, and performed historical research. Ms. Leslie Redford of Ninyo & Moore performed project oversight and quality review.

#### **Scope of Work**

Ninyo & Moore's scope of work for this limited HMTS included the activities listed below.

- Review of readily available maps and reports pertaining to the site.
- Performance of a site reconnaissance of the study area to visually identify areas of possibly contaminated surficial soil or surface water, improperly stored hazardous materials, possible sources of polychlorinated biphenyls (PCBs), and possible risks of contamination from activities at the site and nearby properties. The exteriors within subject site boundaries and properties within approximately 200 feet of the site were assessed from public rights-of-way by vehicle or on foot; interiors of structures located within the study area were not assessed.
- Review of readily available aerial photographs (1940 to present) of the subject site.
- Review of available regulatory agency databases for the site and for properties located within a 200-foot radius of the site (i.e., the study area). The purpose of this review was to evaluate the possible environmental impact to the site. These databases identify locations of known hazardous waste sites, landfills, leaking underground storage tanks, permitted facilities that utilize underground storage tanks, and facilities that use, store, or dispose of hazardous materials.

- Review of readily available local agency files for selected facilities of potential environmental concern within the project area.
- Preparation of this limited HMTS report documenting findings and providing opinions and conclusions regarding possible environmental impacts at the site.

### **GENERAL SITE CHARACTERISTICS**

The project study area is approximately 1.69 square miles in area, and is located in the southwestern portion of the city of San Diego (Figure 1). For discussion purposes, Ninyo & Moore divided the study area into four subareas (Subareas A, B, C, and D). The subareas comprising the site are shown on Figure 1 and are described as follows:

- **Subarea A:** The area including the San Diego River Floodway, extending east to the Morena Boulevard overpass. The San Diego National Railroad (SDNR) railroad tracks, the Coaster railroad tracks, and the San Diego Trolley trolley tracks cross the eastern portion of the subarea.
- **Subarea B:** Generally commercial/light industrial areas bounded by the San Diego River Floodway to the north, Morena Boulevard to the east, Taylor and Rosecrans Streets to the southeast, Sports Arena Boulevard to the south, and West Mission Bay Drive to the west. The SDNR railroad tracks, the Coaster railroad tracks, and the San Diego Trolley trolley tracks cross the eastern portion of the subarea.
- **Subarea C:** Generally commercial areas bounded by West Point Loma and Sports Arena Boulevards to the north; Rosecrans Street to the southeast; Meadow Grove Drive, Evergreen Street, and Shadowlawn Street to the south; and from Groton Street to Kemper Street to the southwest.
- **Subarea D:** Generally commercial and residential areas bounded to the northwest by Rosecrans Street; the Interstate 5 freeway to the northeast; Witherby Street, Pacific Highway, and Barnett Avenue to the southeast; and Lytton Street to the southwest. A narrow strip of land extending from the intersection of Lytton Street and Barnett Avenue to San Diego Bay is also included in this subarea. The SDNR railroad tracks, the Coaster railroad tracks, and the San Diego Trolley trolley tracks cross the eastern portion of the subarea.

Properties within the study area are developed with schools; a post office; retail and commercial businesses, including offices, medical facilities, stores, restaurants, dry cleaning facilities, gasoline service stations, and automobile repair facilities; light industrial facilities; and multi- and single-family residences. These facilities are further discussed in Sections 5 and 6.

According to WRT's Scope of Services, the goal of the project is to provide specific information to the City of San Diego to assist in the decision-making process toward the development of an "Urban Village Center" for this study area in San Diego.

### **SITE HISTORY AND LAND USE REVIEW**

Ninyo & Moore reviewed historical aerial photographs to obtain information regarding the history of activities within the study area. Historical aerial photographs were reviewed for the years

1949, 1953, 1966, 1973/74, 1986/87, and 1995/96. Table 1 provides a listing of the photographs reviewed for this limited HMTS, and Table 2 presents a summary of notable observations in each photograph. In accordance with the Scope of Work, other historical sources (e.g., Sanborn fire insurance maps and historical city directories) were not included in the review.

**Table 1 – Aerial Photographs Reviewed**

<b>Date</b>	<b>Photograph Number</b>	<b>Source</b>
1949	AXN-IF-42 and 88	A
1953	AXN-4M-93	A
1966	1-37, 1-80, and 1-81	A
1973/74	29-8, 29-9, and 30-9	A
1986/87	Aerial Foto-Map Book, p. 14E, 14F, 15E, and 15F	B
1995/96	Lenska Aerial Photograph Book, p. 1268	B

Sources: A – County of San Diego, Department of Public Works, San Diego, California.  
B – Ninyo & Moore, San Diego, California.

**Table 2 – Aerial Photograph Summary**

Year	Subarea A	Subarea B	Subarea C	Subarea D
1949	The majority of the present-day roads are visible. The subarea is generally undeveloped, consisting primarily of an open floodplain, with scattered residential structures in the western portion of the subarea.	The majority of the present-day roads are visible. The western portion of the subarea is generally developed with multi-family residential structures. The eastern portion of the subarea is generally developed with commercial structures.	The majority of the present-day roads are visible. The subarea is generally residential, with some areas of undeveloped land.	The majority of the present-day roads are visible. The southernmost portion of the subarea, adjacent to the Boat Channel, is developed with commercial structures. The southwest portion of the subarea is generally developed with multi-family residential structures. Commercial structures are visible along Rosecrans Street, Midway Drive, and Sports Arena Boulevard. The southeast corner of the intersection of Midway Drive and Sports Arena Boulevard is vacant, graded land with approximately 10 areas of what appears to be ponded liquid scattered across the area. The portion of the subarea located east of Pacific Highway is developed with approximately three industrial structures, eight smaller structures, and six Quonset huts similar in configuration to the present-day SPAWAR facility. Four cylindrical structures, possibly aboveground storage tanks (ASTs) associated with the industrial structures, are visible.
1953	An east-to-west trending channel similar in configuration to the present-day San Diego River Floodway is visible. Adjacent to the north of the subarea, approximately one mile west of Interstate 5, is an area occupied by what appears to be rectangular piles of refuse, possibly associated with the Mission Bay Landfill.	Generally unchanged from the 1949 photograph.	Generally unchanged from the 1949 photograph.	The previously described areas of ponded liquid are no longer visible. A cylindrical structure, possibly an AST, is located approximately 900 feet south of the intersection of Sports Arena Boulevard and Rosecrans Street. Otherwise, generally unchanged from the 1949 photograph.
1966	The previously described refuse piles are no longer visible;	The subarea is generally developed with commercial structures. The	The portion of the subarea located northeast of Midway Drive is	Generally unchanged from the 1953 photograph.

**Table 2 – Aerial Photograph Summary**

<b>Year</b>	<b>Subarea A</b>	<b>Subarea B</b>	<b>Subarea C</b>	<b>Subarea D</b>
	however, numerous rectangular depressions are now visible in this area. Otherwise, generally unchanged from the 1953 photograph.	present-day San Diego Sports Arena is visible on the north side of Sports Arena Boulevard. The present-day extension of Interstate 5, south of Interstate 8, is visible.	generally developed with commercial structures. Otherwise, generally unchanged from the 1953 photograph.	
<b>1973/74</b>	The previously described depressions are no longer visible. Otherwise, generally unchanged from the 1966 photograph.	The present-day extension of Interstate 8, west of Interstate 5, is now visible. Otherwise, generally unchanged from the 1966 photograph.	Generally unchanged from the 1966 photograph.	A commercial/industrial structure similar in configuration to the present-day United States Post Office is visible at the corner of Barnett Avenue and Midway Drive. Otherwise, generally unchanged from the 1966 photograph.
<b>1986/87</b>	Generally unchanged from the 1973/74 photograph.	Generally unchanged from the 1973/74 photograph.	Generally unchanged from the 1973/74 photograph.	The previously described Quonset huts and three of the four ASTs are no longer visible. Otherwise, generally unchanged from the 1973/74 photograph.
<b>1995/96</b>	Generally unchanged from the 1986/87 photograph.	Generally unchanged from the 1986/87 photograph.	Generally appears as at present, with commercial structures located along Midway Drive, and residential areas in the southeastern portion of the subarea.	Generally unchanged from the 1986/87 photograph.

Based on the aerial photograph review, the northern portion of the study area consisted of an open floodplain, with scattered residential structures in the northwestern portion of the study area, since at least as early as 1949. Sometime between 1949 and 1953, the open floodplain became a channel similar in configuration to the present-day San Diego River Floodway. The remainder of the study area appears to have been generally developed with roads, commercial and residential structures, similar in appearance to the current configuration, since at least as early as 1949. The present-day SPAWAR facility on the northeastern portion of Subarea D has been present since at least as early as 1949; and the present-day San Diego Sports Arena has been present in the central portion of Subarea B since sometime between 1953 and 1966.

## **ENVIRONMENTAL SETTING**

The following sections include discussions of the topographic, geologic, and hydrogeologic conditions in the study area and vicinity. For more detailed information regarding geotechnical conditions within the study area, please refer to the Limited Geotechnical Evaluation report of the study area, prepared concurrently by Ninyo & Moore and provided under separate cover.

### **Topographic Conditions**

Based on our review of the United States Geological Survey (USGS), La Jolla and Point Loma, California, 7.5-minute quadrangle maps (1967, Photorevised 1975), in general, the roads in the study area are shown to be in their present-day alignment. The surface elevation at the site varies from sea level to approximately 40 feet above mean sea level. The significant features on the site and in the vicinity of the site include a channel similar in alignment to the present-day San Diego River Floodway at the northern portion of the site, extending east-northeast to west-southwest; Mission Bay to the north; Presidio Park and Old Town San Diego State Historical Park to the east; and the United States Marine Corps Recruit Depot to the south of the site. In addition, two sewage disposal ponds are located adjacent to the north of the San Diego River Floodway. A description of each of the subareas, as presented in the respective USGS quadrangle maps, is presented below. No significant changes were noted between the 1967 and 1975 Photorevised versions of the maps.

- **Subarea A:** The San Diego Floodway, crossed by West Mission Bay Drive and Sunset Cliffs Boulevard overpasses, are located in the central and western portions of this subarea. The San Diego River, crossed by the Interstate 5 freeway and the Atchison, Topeka, and Santa Fe (AT&SF) railroad tracks are shown in the eastern portion of the subarea.
- **Subarea B:** The International Arena, similar in configuration to the present-day San Diego Sports Arena, is shown on the southwestern portion of this subarea. The remainder of the subarea is developed with commercial structures similar in configuration to the present-day structures.
- **Subarea C:** A fire station, a post office, a hospital, Midway High School, and commercial structures similar in configuration to present-day structures are shown in this subarea.
- **Subarea D:** Three large, rectangular commercial structures and several smaller structures similar in configuration to the present-day SPAWAR structures are located on the eastern portion of the subarea. Two ASTs are present on the southeastern portion of the subarea, and appear to be associated with the SPAWAR facility. The AT&SF railroad tracks cross

the eastern portion of the subarea. Loma Square Shopping Center and George Dewey School occupy the northwestern portion of the subarea. The remainder of the subarea is generally developed with commercial structures similar in configuration to the present-day structures.

### **Geologic Conditions**

The project study area is situated in the western portion of the Peninsular Ranges geomorphic province of southern California. This geomorphic province encompasses an area that extends 125 miles from the Transverse Ranges and the Los Angeles Basin, south to the Mexican border, and beyond another 775 miles to the tip of Baja California (Norris and Webb, 1990). The geomorphic province varies in width from 30 to 100 miles, most of which is characterized by northwest trending mountain ranges separated by subparallel fault zones. In general, the Peninsular Ranges are underlain by Jurassic-age metavolcanic and metasedimentary rocks and by Cretaceous-age igneous rocks of the southern California batholith. The westernmost portion of the province in San Diego County generally consists of Upper Cretaceous-, Tertiary-, and Quaternary-age sedimentary rocks.

### **Soil Conditions**

Based on our literature review, including published geologic maps and available geotechnical reports, the study area is underlain generally by artificial fill, alluvium and slope wash, bay deposits, terrace deposits (Bay Point Formation), and materials of the Mount Soledad Formation.

### **Hydrogeologic Conditions**

Based on the review of available hydrogeologic data from the California Regional Water Quality Control Board, San Diego Region (RWQCB), Subarea A and a portion of Subarea B of the site are located in the Mission San Diego Subarea, San Diego Lower San Diego Area, within the San Diego Hydrologic Unit. The remainder of the site is located in the Lindbergh Subarea, San Diego Mesa Area, within the Pueblo San Diego Hydrologic Unit. Based on our review of existing subsurface information, the depth to groundwater is expected to occur near mean sea level for much of Subareas A and B, and for the low-lying portions of Subareas C and D. Shallow groundwater is expected to be a constraint to construction over the majority of the site and should be evaluated on a case-by-case basis. Existing beneficial uses for groundwater for the Mission San Diego Subarea include agricultural supply and industrial process and service supplies. Potential beneficial uses for groundwater in this subarea include municipal and domestic supply. The San Diego Mesa Area is excepted from municipal and domestic supply. Groundwater flow is generally to the west, but may vary significantly on a local scale. In general, groundwater depths, flow direction, and gradient may be influenced by seasonal fluctuations, groundwater withdrawal or injection, or other factors.

## **SITE OBSERVATIONS**

On November 12 and 13, 2002, Ms. Dalin D'Alessandro and Ms. Lisa Hill of Ninyo & Moore conducted a limited reconnaissance of the study area. The limited site reconnaissance involved a walking and driving tour of the site, and visual observations of adjoining properties located within

200 feet of the site. It should be noted that access to properties in the study area was limited to observations made from public rights-of-way and to the exteriors of the properties. Photographs taken during this reconnaissance are provided in Appendix A.

Several properties that utilize hazardous materials and store hazardous wastes were identified during the site reconnaissance. These facilities are described in Table 3. Potential environmental issues associated with specific businesses are also described in Table 3. Several issues of potential environmental concern were observed during the site reconnaissance. These issues are described below.

- Pole- and pad-mounted electrical transformers were observed along sidewalks adjacent to the subject roadways, and within office centers and retail centers. These transformers are owned and operated by San Diego Gas & Electric (SDG&E). SDG&E was contacted regarding the status of the electrical transformers serving the site. According to an SDG&E representative, based on routine random testing performed by SDG&E, it is unlikely that the transformers contain PCBs. At the time of the site reconnaissance, leaks or stains were not noted in the vicinity of the transformers observed (please note that the transformers along roadways and within office properties were not individually inspected at the time of the site reconnaissance; therefore, it is possible that leaks have occurred with some transformers not observed during the site reconnaissance). According to an SDG&E representative, SDG&E assumes responsibility for ensuring that its transformers comply with United States Environmental Protection Agency (USEPA) regulations governing PCBs.
- A second issue of potential environmental concern consists of gasoline service stations observed within the site boundaries. During the site reconnaissance, one active Texaco service station, one active Arco service station, and one active Chevron service station were observed. Four groundwater monitoring wells were observed at Texaco (3711 Camino Del Rio West), eight monitoring wells were observed at Arco (2940 Lytton Street), and five monitoring wells were observed at Chevron (2959 Midway Drive). In addition, three reported former gasoline service station properties (3720 Camino Del Rio West, and 3106 and 3229 Sports Arena Boulevard) were observed during the site reconnaissance. Refer to Sections 6 and 7 for more information regarding the investigations associated with these service stations.
- A third issue of potential environmental concern consists of other non-gasoline service station sites appearing on the Leaking Underground Storage Tank (LUST) list that are located within the site boundaries. These sites are listed in Figure 3. Refer to Sections 6 and 7 for more information regarding environmental investigations associated with these facilities.
- A fourth issue of potential environmental concern consists of gasoline service stations observed within 200 feet of the site. One active Unocal gasoline service station (4049 West Point Loma Boulevard) was observed during the site reconnaissance. Refer to Sections 6 and 7 for more information regarding this facility.
- A fifth issue of potential environmental concern is two former landfills located in/adjacent to the site. One of the landfills, the Mission Bay Landfill, is located adjacent to the north of the site. One groundwater monitoring well was observed adjacent to the south of this landfill. The second landfill, the Sports Arena Landfill, was formerly located in the vicinity of the San Diego Sports Arena. Refer to Sections 6 and 7 for more information regarding these facilities.

**Table 3 – Site Observations**

Site Observations	Subarea A	Subarea B	Subarea C	Subarea D
<p><b>Chemical Storage/ Hazardous Waste Storage</b></p>	<p>This subarea is generally occupied by the San Diego River Floodway Channel. Chemical storage/hazardous waste storage was not observed in this subarea during the site reconnaissance.</p>	<p>This subarea is generally occupied by light industrial businesses, several retail shopping centers, and individual commercial buildings. Sites that utilize chemicals include medical and dental facilities<sup>1</sup>, printing facilities<sup>2</sup>, photo developing facilities<sup>3</sup>, automotive repair/oil change facilities<sup>4</sup>, service stations<sup>4</sup>, and dry cleaning facilities<sup>5</sup>. Eberhard Benton Roofing, located at 3691 Hancock Street, was observed in this subarea. Various containers of chemicals were observed on shelving units and on the asphalt-paved area at this facility during a drive-by of the area. See Table 4 and the <i>FirstSearch</i><sup>™</sup> report in Appendix B for more information regarding this facility and other facilities that store chemicals/hazardous waste in this subarea.</p>	<p>This subarea is generally occupied by medical facilities<sup>1</sup>, individual commercial businesses, and retail shopping centers. Sites that utilize chemicals include printing facilities<sup>2</sup>, photo developing facilities<sup>3</sup>, automotive repair/oil change facilities<sup>4</sup>, service stations<sup>4</sup>, dry cleaning facilities<sup>5</sup>, and car washes<sup>6</sup>. In addition, seven 55-gallon steel drums were observed on the eastern portion of the Genie Car Wash/Oil Change facility (3949 West Point Loma Boulevard), possibly associated with the open LUST case described in Table 4. Other chemical storage/hazardous waste storage was not observed in this subarea during the site reconnaissance. See Table 4 and the <i>FirstSearch</i><sup>™</sup> report in Appendix B for more information regarding facilities that reportedly store chemicals/hazardous waste in this subarea.</p>	<p>This subarea is generally occupied by residences, schools, individual commercial buildings, retail shopping centers, and a large industrial facility identified as SPAWAR, at 4297 Pacific Highway. Sites that utilize chemicals include printing facilities<sup>2</sup>, photo developing facilities<sup>3</sup>, automotive repair/oil change facilities<sup>4</sup>, service stations<sup>4</sup>, dry cleaning facilities<sup>5</sup>, and car washes<sup>6</sup>. Two ASTs were observed at the SPAWAR facility, and are discussed in the UST/AST section, below. Other chemical storage/hazardous waste storage was not observed in this subarea during the site reconnaissance. See Table 4 and the <i>FirstSearch</i><sup>™</sup> report in Appendix B for more information regarding facilities that reportedly store chemicals/hazardous waste in this subarea.</p>

**Table 3 – Site Observations**

Site Observations	Subarea A	Subarea B	Subarea C	Subarea D
<b>USTs/ASTs</b>	UST/AST facilities were not observed in this subarea during the reconnaissance.	See Table 4 and Section 7 for information regarding LUST sites in this subarea. No additional obvious UST/AST facilities were observed during the site reconnaissance.	See Table 4 and Section 7 for information regarding LUST sites in this subarea. No additional obvious UST/AST facilities were observed during the site reconnaissance.	See Table 4 and Section 7 for information regarding LUST sites in this subarea. In addition, one approximately 250-gallon AST labeled “Air Liquide” was observed between two buildings at the SPAWAR facility. In addition, one approximately 30,000-gallon AST was observed on the southeast portion of the SPAWAR facility. The contents of these ASTs are unknown. No additional obvious UST/AST facilities were observed during the site reconnaissance.
<b>Polychlorinated Biphenyls (PCBs)</b>	Pole- and pad-mounted transformers were not observed in this subarea during site reconnaissance.	Pole- and pad-mounted transformers were observed throughout the subarea; no stains or leaks noted during site reconnaissance.	Pole- and pad-mounted transformers were observed throughout the subarea; no stains or leaks noted during site reconnaissance.	Pole- and pad-mounted transformers were observed throughout the subarea; no stains or leaks noted during site reconnaissance.
<b>Subsurface Structures</b>	Subsurface structures, such as utility/water meter vaults, were observed in the dirt adjacent to an asphalt-paved road located along the northern boundary of Subarea A. In addition, one groundwater monitoring well was observed adjacent to the south of the aforementioned road. Based on the <i>FirstSearch</i> ™ report and historical research, this well is possibly associated with the former Mission Bay Landfill, located adjacent to the north of the site.	Subsurface structures, such as utility/water meter vaults, were observed in the sidewalks and in the parking areas. In addition, four groundwater monitoring wells were observed at the Texaco Service Station (3711 Camino Del Rio West), possibly associated with the closed LUST case described in Table 4. Two groundwater monitoring wells were also observed at the former Howard Taylor Dodge property (3740 Rosecrans Street), associated with the closed LUST case described in Section 7.	Subsurface structures, such as utility/water meter vaults, were observed in the sidewalks and in the parking areas. In addition, two groundwater monitoring wells were observed at Parsley-Kennedy, Inc.’s shopping center (3146-3148 Midway Drive), possibly associated with the open LUST case described in Table 4.	Subsurface structures, such as utility/water meter vaults, were observed in the sidewalks and in the parking areas. In addition, eight groundwater monitoring wells were observed at the Arco Service Station (2940 Lytton Street) and five monitoring wells were observed at the Chevron Service Station (2959 Midway Drive), possibly associated with the open LUST cases described in Table 4.

**Table 3 – Site Observations**

Site Observations	Subarea A	Subarea B	Subarea C	Subarea D
<b>Surface Staining</b>	No significant surface staining noted in accessible areas.	No significant surface staining noted in accessible areas.	No significant surface staining noted in accessible areas.	No significant surface staining noted in accessible areas.
<b>Storm Drains</b>	No significant surface staining or noxious odors noted in the vicinity of the storm drains in this subarea during site reconnaissance.	No significant surface staining or noxious odors noted in the vicinity of the storm drains in this subarea during site reconnaissance.	No significant surface staining or noxious odors noted in the vicinity of the storm drains in this subarea during site reconnaissance.	No significant surface staining or noxious odors noted in the vicinity of the storm drains in this subarea during site reconnaissance.
<p><b>Notes:</b></p> <p>1 = Medical facilities commonly utilize radioisotopes in x-ray equipment and photochemicals in x-ray development, and generate biomedical, radiological and photochemical waste.</p> <p>2 = Printing facilities commonly use ink and solvents.</p> <p>3 = Photo developing facilities commonly use fixer and developer during the film developing process.</p> <p>4 = In addition to gasoline products, services stations/oil change/auto repair facilities commonly store/use hydraulic oils, waste oil, antifreeze, batteries, solvents.</p> <p>5 = Dry cleaning facilities commonly use perchloroethylene (PCE), trichloroethene (TCE), detergents, spotting chemicals, and rust inhibitor for the water tanks.</p> <p>6 = Car washes commonly utilize detergents and generate wastewater containing oils.</p> <p>AST = Aboveground storage tank</p> <p>LUST = Leaking underground storage tank</p> <p>UST = Underground storage tank</p>				

## ENVIRONMENTAL DATABASE SEARCH

A computerized, environmental information database search of the majority of the study area and surrounding areas was performed by *FirstSearch*<sup>™</sup> on October 18, 2002. A second search was performed by *FirstSearch*<sup>™</sup> on October 29, 2002 of the narrow strip of land extending from Barnett Avenue to San Diego Bay in Subarea D of the study area. These two database searches were combined as one search for discussion purposes in this section. The *FirstSearch*<sup>™</sup> searches included federal, state, and local databases. A search radius of 200 feet was used for the databases. A summary of the environmental databases searched and number of noted sites of environmental concern is presented in Appendix B. In addition, a description of the assumptions and approach to the database search is provided in Appendix B. The review was conducted to evaluate whether the site or properties within the vicinity of the site have been reported as having experienced significant unauthorized releases of hazardous substances or other events with potentially adverse environmental effects. Our review of the environmental database report indicated that several facilities that pose a potential environmental concern to the subject site are located within the MCRD facility. MCRD is listed on two of the databases searched, including the UST/AST and PERMITS lists. Sites appearing on databases located within MCRD are not discussed in detail in the sections below, for the following reasons:

1. MCRD has been identified as the responsible party and has an established ongoing investigation/remediation program for all environmental sites of concern identified on the base; and
2. MCRD is located downgradient and crossgradient from the site in terms of groundwater flow.

Our review of the environmental database report also indicated that several facilities that pose a potential environmental concern to the subject site are located at 4297 Pacific Highway (General Dynamics/SPAWAR). This address is listed on several databases searched, including the State Sites, CERCLIS, RCRA-NLR, RCRA GNRTR, and ERNS lists. Sites appearing on databases located at this address are not discussed in detail in the sections below, for the following reasons:

1. The United States Navy has been identified as the responsible party and has an established ongoing investigation/remediation program for all environmental sites of concern identified at the facility; and
2. This facility is not listed as having open LUST cases and does not appear on the NPL list.

Based on the above information, it is Ninyo & Moore's opinion that there is a low likelihood that the facilities listed in the environmental database that are located within MCRD and at 4297 Pacific Highway present a significant environmental concern to the subject site.

The database search identified several surrounding properties of potential environmental concern. In addition, 32 unmapped properties were identified on the site and in the vicinity of the site. One of these unmapped properties, identified as the Mission Bay Landfill, is listed on the SWL and Permits databases, and is discussed below. Based on the address information provided for the remaining properties, and/or the types of databases on which these properties are listed, there is a low likelihood that the environmental integrity of the site has been adversely affected by these off-site sources.

The following paragraphs describe the databases that contain noted properties of environmental concern, and include a discussion of the regulatory status of the facilities and potential environmental impact to the subject site.

**United States Environmental Protection Agency, Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) List**

The CERCLIS database contains properties which are either proposed or on the National Priorities List (NPL), and properties which are in the screening and assessment phase for possible inclusion on the NPL. Properties identified by the USEPA which may have the potential for releasing hazardous substances into the environment are listed in this database. Four facilities, reportedly located within the site boundaries, appear on the CERCLIS list. See Table 4 for a summary of information provided regarding these facilities.

**USEPA, Resource Conservation and Recovery Act (RCRA) Generator (GNRTR)**

This database identifies USEPA-listed facilities that report generation of reportable quantities (>100 kilograms) of hazardous waste under the RCRA program for the identification and tracking of hazardous waste. The list consists of properties that generate hazardous waste, and is not necessarily indicative of sites where a release of hazardous substances has occurred. Fifty-one facilities, reportedly located within the site boundaries or within 200 feet of the site, appear on the RCRA GNRTR list. Of these 51 facilities, 37 do not appear on a database that reports unauthorized releases of hazardous substances. In addition, three of the remaining facilities are located outside the search radius (greater than 200 feet from the site), and one is a duplicate record. For these reasons, there is a low likelihood that these 41 facilities present an environmental threat to the subject site at the present time. See Table 4 for a summary of information provided regarding the remaining 10 facilities.

**United States Environmental Protection Agency, Resource Conservation and Recovery Information System (RCRIS), No Longer Regulated (NLR)**

This database identifies USEPA-listed facilities that report generation of reportable quantities (>100 kilograms) of hazardous waste per month or do not meet other RCRA requirements. These facilities are no longer regulated. A listing on this database is not necessarily indicative of facilities where a release of hazardous substances has occurred. Six facilities, reportedly located with the site boundaries or within 200 feet of the site, appear on the RCRA NLR list. Of these six facilities, five do not appear on a database that reports unauthorized releases of hazardous substances. See Table 4 for a summary of information provided regarding the remaining facility.

**United States Environmental Protection Agency, Emergency Response Notification System (ERNS)**

The ERNS is a national database used to collect information on reported releases of oil and hazardous substances. The database contains information from spill reports made to federal authorities, including the USEPA, the United States Coast Guard, the National Response Center, and the Department of Transportation. The ERNS list contains records beginning in October 1986. Seven properties, reportedly located with the site boundaries or within 200 feet of the site, appear on the ERNS list. One of these facilities is located outside the search radius (greater than 200 feet from the site). See Table 4 for a summary of information provided regarding the remaining six facilities.

**Department of Toxic Substances Control, States Sites List**

The California EPA Department of Toxic Substances Control (DTSC) maintains a database of information on properties in California where hazardous substances have been released, or where the potential for such release exists. The types of properties in the State Sites database are categorized as Annual Work Plan, Backlogged Properties, Certified/De-listed Sites, No Further Action, Preliminary Endangerment Assessment in Progress, Removal Action Required, Expedited Remedial Action Program, Voluntary Cleanup Program, Deed Restricted Properties, and Referred Properties. Four properties reportedly located within the site boundaries appear on the State Sites list. See Table 4 for a summary of information provided regarding these facilities.

**State Water Resources Control Board/s (SWRCB), SLIC (SPILLS) Lists**

The nine RWQCBs each maintain reports of facilities that have records of spills, leaks, investigation, and cleanups for areas in their jurisdiction. One property, reportedly located within the site boundaries, appears on the SPILLS list. See Table 4 for a summary of information provided regarding this facility.

**Multiple Agency, State of California Solid Waste Landfill (SWL) List**

As legislated under the Solid Waste Management and Resource Recovery Act of 1972, the California Integrated Waste Management Board (CIWMB) maintains the Solid Waste Information System (SWIS) which lists certain facilities (e.g., active solid waste disposal sites, inactive or closed solid waste disposal sites, and transfer facilities). The SWRCB maintains the Waste Management Unit Database System (WMUDS). This database is no longer updated. It tracked management units for several regulatory programs related to waste management and its potential impact on groundwater. Listings on these databases are not necessarily indicative of sites where a release of hazardous substances has occurred. Note: these databases contain poor facility location information for many sites in the *FirstSearch*<sup>™</sup> reports. Two properties, one reportedly located adjacent to the north of Subarea A, and the second reportedly located within the site boundaries, appear on the SWL list. See Table 4 for a summary of information provided regarding these facilities.

**County of San Diego Department of Environmental Health, HE17/58 (PERMITS)**

This list identifies businesses that have been issued permits, and tracks the status of their permits in relation to compliance with federal, state, and local regulations that the DEH oversees. It also tracks facilities that use hazardous materials or generate hazardous wastes in quantities that require regulation by the DEH. These businesses report quantities of hazardous materials used, and hazardous wastes generated and stored for tracking purposes, and are subject to inspection by DEH officials. These properties are not necessarily indicative of facilities where a release of hazardous substances has occurred. Two hundred seventy facilities, reportedly located with the site boundaries or within 200 feet of the site, appear on the PERMITS list. Those facilities appearing on a database(s) that reports unauthorized releases of hazardous substances are described in the appropriate sections within Table 4.

**Underground Storage Tank (UST) and Aboveground Storage Tank (AST) Registration List**

UST and AST databases are provided by the SWRCB. Inclusion on these lists is for permitting purposes and is not necessarily indicative of a release. Sixty-five facilities, reportedly located with the site boundaries or within 200 feet of the site, appear on the UST/AST list. Of these 65 facilities, 3 are located outside the search radius (greater than 200 feet from the site), 1 is a duplicate record, and 21 do not appear on a database(s) that reports unauthorized releases of

hazardous substances. See the Leaking Underground Storage Tank (LUST) section, below, and Table 4 for a summary of information provided regarding the remaining 40 UST/AST facilities at which a release has occurred.

**Multiple Agency, Leaking Underground Storage Tank (LUST) List**

The Leaking Underground Storage Tanks Information System (LUSTIS) is maintained by the SWRCB, pursuant to Section 25295 of the Health and Safety Code. In addition, in San Diego County are sites within 200 feet of the subject property that fall under the jurisdiction of the Local Oversight Program for unauthorized releases by the DEH (“County LUST”). One hundred six facilities, reportedly located with the site boundaries or within 200 feet of the site, appear on the LUST list. Of these 106 facilities, 94 were identified as closed LUST cases, duplicate records, and/or located outside the search radius (greater than 200 feet from the study area). In addition, two facilities were listed as open LUST cases. However, based on information obtained from the DEH, these two cases are closed. The remaining 10 open LUST facilities are located within the site boundaries. See Table 4 for a summary of information provided regarding the remaining 10 facilities and the 2 closed LUST cases that reportedly were open.

**Table 4 – Summary of *FirstSearch*™ Sites of Potential Environmental Concern**

Address	<i>First-Search</i> ™ Map ID	Subarea <sup>1</sup>				Potential Environmental Concern (Y/N) <sup>2</sup>	Comments
		A	B	C	D		
<b>State Sites List</b>							
Sackett & Pendlebury Boat Builders 3630 Hancock Street San Diego, California 92110	6		✓			N	The <i>FirstSearch</i> ™ report indicates that, as of February 8, 1991, there was no evidence of handling of hazardous substances at this facility, and no further action was recommended. As of October 28, 1994, this facility does not require Department of Toxic Substances Control (DTSC) action or oversight activity. The investigation was transferred to another agency. This facility is not listed on any database that reports unauthorized releases of hazardous materials. For this reason, there is a low likelihood that this property has had an adverse environmental affect on the subject site
Don Pollock Excavating, Inc. 3366 Kurtz Street San Diego, California 92110	68		✓			N	The <i>FirstSearch</i> ™ report indicates that, as of October 25, 1994, this facility does not require DTSC action or oversight activity. The investigation was transferred to another agency. This facility is not listed on any database that reports unauthorized releases of hazardous materials. For this reason, there is a low likelihood that this property has had an adverse environmental affect on the subject site.
The Burke Co. 3870 Houston Street San Diego, California 92110	2		✓			N	The <i>FirstSearch</i> ™ report indicates that, as of November 17, 1994, this facility does not require DTSC action or oversight activity. This facility is not listed on any database that reports unauthorized releases of hazardous materials. For this reason, there is a low likelihood that this property has had an adverse environmental affect on the subject site.
Boyce Industries 3344 Kurtz Street San Diego, California 92110	67		✓			N	The <i>FirstSearch</i> ™ report indicates that, as of August 9, 1989, there was no evidence of contamination at this facility, and no further action was required. As of October 28, 1994, this facility does not require DTSC action or oversight activity. This facility is not listed on any database that reports unauthorized releases of hazardous materials. For this reason, there is a low likelihood that this property has had an adverse environmental affect on the subject site.
<b>CERCLIS List</b>							
Burke Co The 08 3870 Houston Street San Diego, California 92110	2		✓			N	The <i>FirstSearch</i> ™ report indicates that a preliminary assessment of this facility was completed in November 1988. This facility was not listed on the NPL, and no further remedial action was planned. In addition, this facility is not listed on any database that reports unauthorized releases of hazardous materials. For this reason, there is a low likelihood that this property has had an adverse environmental affect on the subject site.

**Table 4 – Summary of *FirstSearch*™ Sites of Potential Environmental Concern**

Address	First-Search™ Map ID	Subarea <sup>1</sup>				Potential Environmental Concern (Y/N) <sup>2</sup>	Comments
		A	B	C	D		
Don Pollock Excavating 3370 Kurtz Street San Diego, California 92110	3		✓			N	The <i>FirstSearch</i> ™ report indicates that a preliminary assessment of this facility was completed in November 1988. This facility was not listed on the NPL, and no further remedial action was planned. In addition, this facility is not listed on any database that reports unauthorized releases of hazardous materials. For this reason, there is a low likelihood that this property has had an adverse environmental affect on the subject site.
Fogerty Oil Company 3148 Midway Drive San Diego, California 92110	4			✓		N	The <i>FirstSearch</i> ™ report indicates that a preliminary assessment of this facility was completed in March 2000. This facility was not listed on the NPL, and no further remedial action was planned. In addition, this facility is not listed on any database that reports unauthorized releases of hazardous materials. For this reason, there is a low likelihood that this property has had an adverse environmental affect on the subject site.
Sackett & Pendlebury Boat Builders 3630 Hancock Street San Diego, California 92110	6		✓			N	The <i>FirstSearch</i> ™ report indicates that a preliminary assessment of this facility was completed in May 1990. This facility was not listed on the NPL, and no further remedial action was required. In addition, this facility is not listed on any database that reports unauthorized releases of hazardous materials. For this reason, there is a low likelihood that this property has had an adverse environmental affect on the subject site.
<b>LUST List</b>							
Loma Portal Head Start Preschool 2905 Cadiz Street San Diego, California 92110	265				✓	Y	The <i>FirstSearch</i> ™ report indicates that a tank release for this facility was discovered in January 2001. Reportedly, this case is an open LUST case. Based on this information, there is a moderate to high likelihood that this facility has adversely affected the environmental integrity of the subject site. Refer to Section 7 for further details regarding this facility.
Texaco Refining and Marketing 3711 Camino Del Rio West San Diego, California 92110	231		✓			N	The <i>FirstSearch</i> ™ report indicates that a tank release for this facility was discovered in March 1998. Waste oil was released into the soil. Reportedly, a preliminary site assessment is underway. However, based on information obtained from the DEH, this LUST case is closed. In addition, two other tank releases were reported for this facility. However, these releases are listed as “case closed.” Based on the closed status of the cases, this facility is not considered to be an environmental concern to the site. Refer to Section 7 for further details regarding this facility.

**Table 4 – Summary of *FirstSearch*™ Sites of Potential Environmental Concern**

Address	<i>First-Search</i> ™ Map ID	Subarea <sup>1</sup>				Potential Environmental Concern (Y/N) <sup>2</sup>	Comments
		A	B	C	D		
SDCTY-Fire Station #20 3305 Kemper Street San Diego, California 92110	215			✓		Y	The <i>FirstSearch</i> ™ report indicates that a tank release for this facility was discovered in July 1985 and March 1992. Reportedly, these cases are open LUST cases. Based on this information, there is a moderate to high likelihood that this facility has adversely affected the environmental integrity of the subject site. Refer to Section 7 for further details regarding this facility.
Golden Chariot Trucking 3495 Kurtz Street San Diego, California 92110	147		✓			N	The <i>FirstSearch</i> ™ report indicates that a tank release for this facility was discovered in April 2001. Reportedly, this case is an open LUST case. However, based on information obtained from the DEH, this LUST case is closed. Based on the closed status of this case, this facility is not considered to be an environmental concern to the site. Refer to Section 7 for further details regarding this facility.
Complete Auto Services 2844 Lytton Street San Diego, California 92110	24				✓	Y	The <i>FirstSearch</i> ™ report indicates that a tank release for this facility was discovered in June 1997. Gasoline was released into the soil. Reportedly, a preliminary site assessment is underway. Based on this information, there is a moderate to high likelihood that this facility has adversely affected the environmental integrity of the subject site. Refer to Section 7 for further details regarding this facility.
Arco Service Station 2940 Lytton Street San Diego, California	188				✓	Y	The <i>FirstSearch</i> ™ report indicates that a tank release for this facility was discovered in July 1986. Gasoline was released. Reportedly, remedial action is underway. Based on this information, there is a moderate to high likelihood that this facility has adversely affected the environmental integrity of the subject site. Refer to Section 7 for further details regarding this facility.
Chevron USA Inc. SS #92239 2959 Midway Drive San Diego, California 92110	16				✓	Y	The <i>FirstSearch</i> ™ report indicates that a tank release for this facility was discovered in September 1993. Gasoline was released. Reportedly, a preliminary site assessment is underway. Based on this information, there is a moderate to high likelihood that this facility has adversely affected the environmental integrity of the subject site. In addition, one other tank release was reported for this facility. However, this release is listed as “case closed,” and is, therefore, not considered to be an environmental concern to the site. Refer to Section 7 for further details regarding this facility.
First San Diego Properties 3146 Midway Drive San Diego, California 92110	262			✓		Y	The <i>FirstSearch</i> ™ report indicates that a tank release for this facility was discovered in November 1993. Gasoline was released. Reportedly, a preliminary site assessment is underway. Based on this information, there is a moderate to high likelihood that this facility has adversely affected the environmental integrity of the subject site. Refer to Section 7 for further details regarding this facility.

**Table 4 – Summary of *FirstSearch*™ Sites of Potential Environmental Concern**

Address	<i>First-Search</i> ™ Map ID	Subarea <sup>1</sup>				Potential Environmental Concern (Y/N) <sup>2</sup>	Comments
		A	B	C	D		
Parsley-Kennedy, Inc. 3148 Midway Drive San Diego, California 92110	4			✓		Y	The <i>FirstSearch</i> ™ report indicates that a tank release for this facility was discovered in June 1984. The release occurred to groundwater. Reportedly, this case is an open LUST case. Based on this information, there is a moderate to high likelihood that this facility has adversely affected the environmental integrity of the subject site. In addition, one other tank release was reported for this facility. However, this release is listed as “case closed,” and is, therefore, not considered to be an environmental concern to the site. Refer to Section 7 for further details regarding this facility.
Public Auto Service 4350-4360 Pacific Highway San Diego, California 92110	13				✓	Y	The <i>FirstSearch</i> ™ report indicates that a tank release for this facility was discovered in August 1997. Gasoline was released into the soil. Reportedly, a preliminary site assessment is underway. Based on this information, there is a moderate to high likelihood that this facility has adversely affected the environmental integrity of the subject site. In addition, one other tank release was reported for this facility. However, this release is listed as “case closed,” and is, therefore, not considered to be an environmental concern to the site. Refer to Section 7 for further details regarding this facility.
Genie Car Wash 3949 West Point Loma Blvd. San Diego, California 92110	145			✓		Y	The <i>FirstSearch</i> ™ report indicates that a tank release for this car wash/oil change facility was discovered in December 1994. Gasoline was released into the soil. Reportedly, a preliminary site assessment workplan has been submitted. Based on this information, there is a moderate to high likelihood that this facility has adversely affected the environmental integrity of the subject site. Refer to Section 7 for further details regarding this facility.
Dewey Elementary School 3251 Rosecrans Street San Diego, California 92110	257				✓	Y	The <i>FirstSearch</i> ™ report indicates that a tank release for this facility was discovered in August 1997. Diesel was released into the soil. Reportedly, a preliminary site assessment is underway. Based on this information, there is a moderate to high likelihood that this facility has adversely affected the environmental integrity of the subject site. Refer to Section 7 for further details regarding this facility.
<b>RCRIS-NLR List</b>							
Loma Riviera Unocal 76 4049 West Point Loma Blvd. San Diego, California 92110	58			✓		N	The <i>FirstSearch</i> ™ report indicates that no violations were reported for this facility. This facility is also listed on the LUST database with a “case closed” status. Based on this information, there is a low likelihood that this facility has adversely affected the environmental integrity of the subject site.

**Table 4 – Summary of *FirstSearch*™ Sites of Potential Environmental Concern**

Address	<i>First-Search</i> ™ Map ID	Subarea <sup>1</sup>				Potential Environmental Concern (Y/N) <sup>2</sup>	Comments
		A	B	C	D		
<b>Spills List</b>							
Rosecrans Center Project 3740 Rosecrans Street San Diego, California 92110	69		✓			N	During the site reconnaissance, a small strip shopping center was observed at this address. The <i>FirstSearch</i> ™ report indicates that a spill occurred at this facility. However, details regarding the spill were not available. A review of DEH files revealed that, in November 1987, a flooded 500-gallon waste oil tank overflowed due to rainwater seeping into the tank system. An oil/water mixture was observed ponding throughout the service bay area of the former Sports Arena Dodge facility. Based on the length of time that has passed since the spill occurred, and the fact that the site has since been redeveloped as a shopping center, there is a low likelihood that this facility has adversely affected the environmental integrity of the subject site.
<b>SWLF List</b>							
ABT Tires 3540 Rosecrans Street San Diego, California 92110	70			✓		N	During the site reconnaissance, this facility was observed to be a small retail automobile tire facility. The <i>FirstSearch</i> ™ report indicates that this facility is a waste tire location. A review of DEH files revealed that no violations have been reported for this facility. Based on the nature of the business, the size of the facility, and the fact that no violations have been reported for this facility, there is a low likelihood that this facility has adversely affected the environmental integrity of the subject site.
Mission Bay Landfill Mission Bay - Sea World Drive San Diego, California 92109	Unmapped	✓				Y	The <i>FirstSearch</i> ™ report indicates that this facility is a 115-acre, Category B landfill that handled non-hazardous solid wastes and solid wastes. Refer to Section 5 for additional information regarding this facility.
<b>ERNS List</b>							
Ryder School Bus Division Merger of I-5 and I-8 San Diego, California 91120	60		✓			N	The <i>FirstSearch</i> ™ report indicates that a spill was reported in the I-5 and I-8 area on May 4, 1994 due to equipment failure. The material spilled was 18 quarts of motor oil. The spill was reported to have occurred on the land, and was cleaned up by Caltrans. Based on the time that has elapsed since the spill occurred, the volume of material spilled, and the reported clean-up of the spilled material, there is a low likelihood that this spill has adversely affected the environmental integrity of the subject site.

**Table 4 – Summary of *FirstSearch*™ Sites of Potential Environmental Concern**

Address	<i>First-Search</i> ™ Map ID	Subarea <sup>1</sup>				Potential Environmental Concern (Y/N) <sup>2</sup>	Comments
		A	B	C	D		
San Diego Gas and Electric 3844 Midway Drive San Diego, California 92110	61			✓		N	The <i>FirstSearch</i> ™ report indicates that a spill was reported at this facility on December 31, 1995. The spill occurred due to a truck running into a pad-mounted electrical transformer. The material spilled was 20 gallons of transformer oil. The spill was reported to have occurred on the land, and affected a storm drain. A hazardous materials team was contacted for clean up of the spill. Based on the time that has elapsed since the spill occurred and the volume of material spilled, there is a low likelihood that this spill has adversely affected the environmental integrity of the subject site.
Unknown 3800 Camino Del Rio W. San Diego, California 92110	62		✓			N	The <i>FirstSearch</i> ™ report indicates that a spill occurred at this facility. However, details regarding the spill were not available. In addition, the DEH reports that there are no records on file for this facility. Based on the fact that this facility is not listed on another database that reports unauthorized releases of hazardous materials, and records are not on file at the DEH, there is a low likelihood that this property has had an adverse environmental affect on the subject site.
Unknown 3200 Hancock Street San Diego, California 92110	63		✓			N	The <i>FirstSearch</i> ™ report indicates that a spill occurred at this facility. However, details regarding the spill were not available. In addition, the DEH reports that there are no records on file for this facility. Based on the fact that this facility is not listed on another database that reports unauthorized releases of hazardous materials, and records are not on file at the DEH, there is a low likelihood that this property has had an adverse environmental affect on the subject site.
Unknown 4200 Taylor Street San Diego, California 92110	65		✓			N	The <i>FirstSearch</i> ™ report indicates that a spill occurred at this facility. However, further details regarding the spill were not available. In addition, the DEH reports that there are no records on file for this facility. Based on the fact that this facility is not listed on another database that reports unauthorized releases of hazardous materials, and records are not on file at the DEH, there is a low likelihood that this off-site property has had an adverse environmental affect on the subject site.

**Table 4 – Summary of *FirstSearch*™ Sites of Potential Environmental Concern**

Address	First-Search™ Map ID	Subarea <sup>1</sup>				Potential Environmental Concern (Y/N) <sup>2</sup>	Comments
		A	B	C	D		
Unknown 3992 Rosecrans Street San Diego, California 92110	66			✓		N	The <i>FirstSearch</i> ™ report indicates that a spill occurred at this facility. However, further details regarding the spill were not available. A review of DEH records identified this facility as the City of San Diego General Services Storm Station #D. According to DEH records, a November 1990 inspection revealed that one hazardous waste storage container and one 55-gallon drum of an unknown liquid were leaking, causing soil contamination. In 1992, this facility no longer stored hazardous materials and wastes on site, and no violations were reported. The facility was inactivated. Based on the fact that no violations were reported for this facility following the 1990 DEH inspection, and the facility is listed as inactive, there is a low likelihood that this property has had an adverse environmental affect on the subject site.
<b>RCRA Generators List</b>							
Alan Johnson Porsche Audi 3663 Rosecrans Street San Diego, California 92110	8			✓		N	The <i>FirstSearch</i> ™ report indicates that this facility is a small-quantity generator (SQG). Reportedly, two “generator general requirements” violations are on record for this facility. Based on the nature of the facility (a SQG), and the nature of the violations (i.e., not spill related), there is a low likelihood that this facility has adversely affected the environmental integrity of the subject site.
The Burke Co. 3870 Houston Street San Diego, California 92110	2		✓			N	The <i>FirstSearch</i> ™ report indicates that this facility is a SQG. Reportedly, no violations are on record for this facility. Based on the nature of the facility (a SQG), and the fact that no violations were reported, there is a low likelihood that this facility has adversely affected the environmental integrity of the subject site.
Causway Cleaners & Laundry 3426 Midway Drive San Diego, California 92110	15			✓		N	The <i>FirstSearch</i> ™ report indicates that this facility is a SQG. Reportedly, no violations are on record for this facility. Based on the nature of the facility (a SQG), and the fact that no violations were reported, there is a low likelihood that this facility has adversely affected the environmental integrity of the subject site.
Chevron USA Inc. SS#92239 2959 Midway Drive San Diego, California 92110	16				✓	Y	The <i>FirstSearch</i> ™ report indicates that this facility is a SQG. Other details are not available. This facility is also listed on the LUST list as having one open LUST case. Refer to the LUST section below for further details regarding this facility.
Hawley Auto Body and Frame 2844 Lytton Street San Diego, California 92110	24				✓	Y	The <i>FirstSearch</i> ™ report indicates that this facility is a SQG. Reportedly, no violations are on record for this facility. However, this facility is also listed on the LUST list as having one open LUST case. Refer to the LUST section below for further details regarding this facility.

**Table 4 – Summary of *FirstSearch*™ Sites of Potential Environmental Concern**

Address	<i>First-Search</i> ™ Map ID	Subarea <sup>1</sup>				Potential Environmental Concern (Y/N) <sup>2</sup>	Comments
		A	B	C	D		
Nielsen Dillingham Builders, Inc. 3127 Jefferson Street San Diego, California 92110	35		✓			N	The <i>FirstSearch</i> ™ report indicates that this facility is a SQG. Reportedly, no violations are on record for this facility. Based on the nature of the facility (a SQG), and the fact that no violations were reported, there is a low likelihood that this facility has adversely affected the environmental integrity of the subject site.
Peck Jeep Eagle Inc. dba Midway Jeep Eagle 3005 Midway Drive San Diego, California 92110	40			✓		N	The <i>FirstSearch</i> ™ report indicates that this facility is a SQG. Reportedly, no violations are on record for this facility. In addition, the site reconnaissance revealed that this business is no longer operating at this address. Based on the nature of the facility (a SQG), and the fact that the business is no longer operating, there is a low likelihood that this facility has adversely affected the environmental integrity of the subject site.
Sea Breeze Cleaners 3555 Rosecrans Street Suite 103 San Diego, California 92110	47				✓	N	The <i>FirstSearch</i> ™ report indicates that this facility is a SQG. Reportedly, no violations are on record for this facility. Based on the nature of the facility (a SQG), and the fact that no violations were reported, there is a low likelihood that this facility has adversely affected the environmental integrity of the subject site.
Armored Transportation of CA 3610 W. Barnett Avenue San Diego, California 92110	10		✓			N	The <i>FirstSearch</i> ™ report indicates that this facility is a SQG. Reportedly, two “generator general requirements” violations are on record for this facility. In addition, the site reconnaissance revealed that this business is no longer operating at this address. Based on the nature of the facility (a SQG), the nature of the violations, and the fact that the business is no longer operating, there is a low likelihood that this facility has adversely affected the environmental integrity of the subject site.
USPS Vehicle Maintenance Facility 2535 Midway Drive San Diego, California 92110	52				✓	N	The <i>FirstSearch</i> ™ report indicates that this facility is a small-quantity generator (SQG). Reportedly, three “generator general requirements” violations are on record for this facility. Based on the nature of the facility (a SQG), and the nature of the violation (i.e., not spill related), there is a low likelihood that this facility has adversely affected the environmental integrity of the subject site.

**NOTES:**

<sup>1</sup> Sites appearing in this table are located either within the boundaries of the subarea, or within 200 feet of the subarea.

<sup>2</sup> The Environmental Concern determination is based on a review of information contained in the *FirstSearch*™ report, information obtained from regulatory agencies, and/or information contained in Table 3.

## ENVIRONMENTAL REGULATORY AGENCY INQUIRIES AND DOCUMENT REVIEW

Information regarding properties of potential environmental concern within the site boundaries and within 200 feet of the site was requested from the DEH (Appendix C). In addition, the City of San Diego Solid Waste Local Enforcement Agency (LEA) was contacted regarding two former landfills, identified as the Mission Bay Landfill and the Sports Arena Landfill (Figure 2). The Mission Bay Landfill was located adjacent to the north of the study area, west of Interstate 5. The Sports Arena Landfill was formerly located in Subarea B in the vicinity of the San Diego Sports Arena. According to Ms. Rebecca Lafreniere, Environmental Health Specialist, the approximate location of the Sports Arena Landfill includes the area adjacent to the northeast of Midway Drive from Wing Street to West Point Loma Boulevard, and extends northeast, encompassing the San Diego Sports Arena facility. This landfill reportedly was utilized by the City of San Diego for trash disposal from approximately 1899 to 1908. Ms. Lafreniere stated that additional information regarding this landfill is not available due to the fact that the area where the landfill was formerly located is presently occupied with asphalt-paved areas and structures. Therefore, further investigation of this landfill is not planned until the land use changes and requires exposing the soil in this area.

Regarding the Mission Bay Landfill, formerly located adjacent to the north of the San Diego River Floodway and west of Interstate 5, Ms. Lafreniere stated that this landfill operated from approximately 1952 to 1959. She added that this landfill is classified as a hazardous waste site. She stated that groundwater and sediment sampling have been performed in the vicinity of the landfill. However, she is not aware of soil sampling events having been performed at the landfill. She did report that soil sampling was likely to have been performed when this area was being investigated for development in the early 1980s. According to Ms. Lafreniere, a request for proposal has been released, requesting information from companies in regard to performing a site assessment that includes determining the horizontal and vertical extent of contamination and identifying the average and maximum concentrations of any chemical contaminants at the landfill.

Various documents and reports regarding the former Mission Bay Landfill were reviewed by Ninyo & Moore at the LEA, and are summarized below. Copies of pertinent documents are included in Appendix D. However, Ms. Lafreniere indicated that the records reviewed were only a portion of what they have on file, as not all of their files have been unpacked since their recent move to a new office. She further stated that additional information regarding groundwater contamination at this landfill is on file at the RWQCB. The following information regarding the former Mission Bay Landfill was provided from an article appearing in the July 20, 2000 *San Diego Reader*.

Between July 1952 and December 1959, the City of San Diego operated a landfill in Mission Bay Park. During its operation, the Mission Bay landfill served as receiving grounds for millions of gallons of industrial wastes being produced by San Diego's aerospace industry. In some cases, these toxic substances were buried in steel drums. Other times they were poured into unlined holes 15 to 20 feet deep, below the level of the groundwater.

A report written in February 1957 by the assistant chief plant engineer for Convair asserted that a majority of the aerospace manufacturer's "process solutions" were being hauled and dumped "into the sanitary fill in the Mission Bay area." (The first laws regulating toxic-waste disposal were not enacted until the 1970s.) The plant engineer estimated that for 1957 through 1962 those deposits would amount to some 200,000 gallons annually of such substances as chromic, hydrofluoric, nitric, sulfuric, and hydrochloric acids; alkaline solutions; and paint and oily wastes.

By the summer of 1983, the city was concentrating on development on the Mission Bay site of what was to be one of the biggest hotels in San Diego County. Known as the Ramada Renaissance Resort, the project was to include 638 rooms, tennis courts, swimming pools, racquetball courts, restaurants, and banquet rooms. An adjoining 20-acre, \$1.4 million public park was planned. Revenues to the city were predicted to be more than a million dollars a year. One week before Ramada was due to sign the lease, a news announcement brought development plans to a halt. On July 20, 1983, a local television station reported the revelations of an anonymous source who claimed to have been a truck driver during the 1950s. According to subsequent newspaper reports, the source said he had dumped hundreds of barrels of the carcinogen carbon tetrachloride at the Mission Bay landfill.

Based on this information, Woodward-Clyde Consultants, a geophysical and environmental firm with experience in city-funded projects, was hired to conduct an investigation of the site. Woodward-Clyde had done at least two previous studies for the city at the Ramada project site. Early in 1980 the consulting firm had dug test pits in an effort to define the boundaries and composition of the old dump. (The dump had been covered with material dredged up when Mission Bay was being created between 1960 and 1962.) Woodward-Clyde had concluded in a 1980 letter to the city that the property was "suitable for development" but had cautioned, "Special treatment of near-surface soils and underlying trash fill areas may be necessary...."

Evidently, Woodward-Clyde had not tested for toxic wastes in 1980, but the 1983 study was to make up for that. The study was to ascertain whether any hazardous materials were present at or near the landfill, and, if so, what their concentrations were. Woodward-Clyde proposed to collect groundwater from 20 wells to be drilled on and near the landfill site. Cover soil, landfill material, and underlying alluvium extracted from 21 boring sites would be scrutinized, and gases from 10 wells would be examined. Another consulting firm, Science Applications, Inc., would study surface water and sediment from Mission Bay and the San Diego River flood-control channel, two bodies of water that adjoin the landfill to the north and south. Woodward-Clyde was to assess whether any remedial measures or further field research was necessary.

Sample collection began in late August and early September 1983. Woodward-Clyde also began burrowing into old files. Documents from those files indicated that the toxic waste being dumped into the Mission Bay landfill in the 1950s exceeded Convair's (1957) estimate of 200,000 gallons per year. One report attached to a 1958 letter from the superintendent of the City's sewerage division to the City Manager estimated that four companies (Convair, Ryan, Rohr, and Astronautics) each year were generating 792,000 gallons of chromic, hydrofluoric, nitric, sulfuric, and hydrochloric acids; dichromate; cyanide; and paint and oil wastes. Other projections from this period refer to the need to dispose of at least one million gallons a year of industrial wastes. Contemporaneous documents state that some substances were going into the city sewers and the sea, as well as being dumped at the sites where they were generated or trucked to

disposal facilities in the North County or Los Angeles. However, the Mission Bay landfill received most of the poisonous wastes, according to the reports; several documents describe the facility as San Diego's only Class I landfill. (A Class I landfill is approved to receive toxic wastes.)

Woodward-Clyde released its study results on November 17, 1983. The consultants stated that "the total volume of hazardous waste being generated in San Diego during the late 1950s was less than 400,000 gallons/year." If three-quarters of this amount went into the Mission Bay landfill over its seven and a third years of operation, then the old dump would have received 2.2 million gallons of toxic waste, they concluded. (Stephen Lester, science director for the Center for Health, Environment, and Justice in Falls Church, Virginia, when contacted for this article, stated that "Most of the chemicals that are dumped in these landfills pretty much stay undegraded in the ground for tens and even hundreds of years.")

Magnetic and electromagnetic surveys revealed that the site harbored perhaps 5,000 pounds of metal per acre, most of it at or below the water table. This confirmed old eyewitness accounts that metal barrels of industrial wastes had been buried there. "At those depths (15 to 20 feet below the surface) most metallic drums or barrels should corrode to release their contents in less than ten years," the report said. Woodward-Clyde used the results of the magnetic surveys to decide where to bore for samples. But rather than choosing places where the most metal appeared to be concentrated, the consultants selected areas with "only moderate probabilities of containing barrels or barrel residues," according to the report. This was done "in order to limit the potential for rupturing any intact barrel during the field investigation." Even so, the subsequent chemical analyses found more than 60 Environmental Protection Agency "priority pollutants" on the property, including 12 heavy metals (elements such as mercury and arsenic), 38 organic compounds such as acetone and carbon tetrachloride, and 12 pesticides.

Despite this, Woodward-Clyde reassured the city that the resort development could proceed. The highest concentrations of pollutants found in the study "are low," the report announced, "and do not exceed existing California State or Federal criteria for the identification of hazardous waste." The low concentrations coupled with "the low potential for their migration, and the few pathways for human exposure" meant that "the landfill wastes do not pose a significant health hazard to humans." Semi-annual testing of the bay and flood-control-channel waters adjacent to the landfill should continue "for an indefinite period," they recommended, and they warned that if development proceeded, landfill gases might be released. These would need to be collected and disposed of. However, no significant cleanup was necessary, according to Woodward-Clyde.

The USEPA's awareness of the landfill apparently began around February 1984. At that time, the agency entered the Mission Bay landfill into an inventory of potential hazardous substance sites. An EPA evaluator gave the site a preliminary scoring to determine candidacy for the National Priorities List. This list is made up of waste sites known to have released hazardous materials to the environment and those posing a threat of such releases. Inclusion on it doesn't guarantee that the site will get Superfund monies for a cleanup, but it's a start. (The Superfund legislation, created by Congress in 1980, taxes chemical and petroleum industries to pay for finding, investigating, and cleaning up the nation's most hazardous waste sites.)

In its preliminary evaluation, the Environmental Protection Agency relied on the 1983 Woodward-Clyde report to assess the site. Although the evaluator gave the maximum number of

points for quantity of materials deposited on the site and for toxicity, the score came to 1.40 out of a possible 100. (To get on the National Priorities List, a site must score 28.5.)

In November 1989, another Environmental Protection Agency-funded assessment was conducted, and this one concluded that the landfill might be eligible for the National Priorities List. A report judged the potential for contamination of the surface water to be high, based on three factors: the landfill's proximity to Mission Bay, the quantity of waste, and the lack of containment of landfill materials. A contaminant release to the air was deemed possible.

In June 1990, the landfill underwent scoring according to a revised Environmental Protection Agency system. This time, according to a memorandum dated June 29, 1990, the evaluator discounted the groundwater (since no one would be drinking the brackish groundwater near the landfill). However, the old dump received positive scores for the air, surface-water, and "on-site exposure." The Mission Bay landfill's score came to 61.61, a number that placed it among the 50 most polluted hazardous waste sites in the country. A separate Environmental Protection Agency document appeared to elevate the landfill to "high priority."

In 1991, the San Diego dump site underwent an expanded Environmental Protection Agency-funded evaluation, scrutiny generally reserved (according to an agency publication) for sites "clearly headed for the NPL [National Priorities List]." This time, according to a September 25, 1991, memo, the evaluator gave the site a score of 49.06, lower than the previous score but above the cut-off for the priority listings. An accompanying memo criticized methods used by the City of San Diego and Woodward-Clyde. The memo said that the city and its consultants had used "detection levels" (for pollutants) that were so high they exceeded the Marine Ambient Water Quality Criteria. (Reporting that a substance cannot be detected above a certain level creates a sense of well-being but may mask contamination if the detection limit is too high.)

One more significant Environmental Protection Agency evaluation transpired at the landfill. In 1993, the agency hired Bechtel Environment, Inc., to evaluate the San Diego site. The Bechtel evaluator conducted no new tests, but in a report dated August 2, 1993, he judged only the air contamination potential to be significant. Groundwater, surface water, and soil offered no potential for transmitting the contamination in this evaluator's opinion. Nor did he explain why his opinion differed from previous evaluations. The old landfill's overall score thus amounted to only 14.01—too low to qualify for inclusion on the National Priorities List. The Environmental Protection Agency reacted swiftly. It placed the site in its archive, where no further action was planned.

Miller of the toxic cleanup group says calls to the regional Environmental Protection Agency headquarters have yielded no explanation for the 1993 turnaround, so the citizen group this past March sent a letter to the agency's regional director requesting a reevaluation. The agency since has invited Miller and his associates to submit information. They say they plan to send the Environmental Protection Agency a report about the misstated heavy-metal concentrations (in the 1983 Woodward-Clyde report) and concerns about fish contamination, along with test results about which they think agency officials may be ignorant.

The members of Miller's group say that testing at and near the landfill over the last 15 years has yielded findings of other elevated pollutants. They cite a 1996 report written by a city consultant named EMCON that summarized concentrations of mercury found near the landfill between

1985 and 1995. The sampling reported amounts that were 17 to 600 times greater than the federal fishing-water standard.

The following information was excerpted from an article appearing in the June 10, 2002 *San Diego Union Tribune*.

Mission Bay landfill was constructed in the 1950s by digging 8-to-12-foot trenches. When it was full, 15 to 20 feet of sediment dredged from Mission Bay covered it. The City of San Diego is proposing to conduct a new study of the Mission Bay landfill. A study conducted by Woodward-Clyde in 1983 indicated that some of the estimated 2 million gallons of waste deposited at the Mission Bay landfill could be a source of contamination when barrels that had not corroded at the time of the 1983 study break down. The report stated that “The primary organisms that would be at risk appear to be the aquatic organisms inhabiting Mission Bay and the San Diego River channel.”

Monitoring tests conducted in 2001 and this year by consultants for the RWQCB found high concentrations of arsenic in groundwater obtained from some wells constructed in the landfill. The tests also found cis-1,2-DCE, a chemical related to industrial solvents, vinyl chloride, and acetone.

In addition to the above articles, various documents and reports pertaining to the Mission Bay Landfill were on file at the LEA. The documents, dating back to 1957, indicate that the City of San Diego operated the unregulated landfill from July 1952 to December 1959. The landfill reportedly received approximately 25,000 cubic yards of Class II and Class III wastes on a monthly basis. In addition, part of the site reportedly was used as an unrestricted Class I landfill. Hazardous industrial wastes, such as waste acids, metal wastes, carbon tetrachloride, methyl ethyl ketone, toluene, alkaline solutions, organic solvents, contaminated machine oils, and paint waste are reported to have possibly been disposed at the landfill. It is indicated that up to 13,400 barrels potentially containing up to 737,000 gallons of industrial waste may be present. These wastes were dumped into approximately 15-foot deep trenches then covered with 3 to 4 feet of cover. Three reports that provide groundwater, surface water, and sediment data collected from the landfill and nearby areas are discussed below.

A Site Inspection Prioritization (SIP) was performed by Bechtel Environmental, Inc. (Bechtel) in 1993. The SIP indicates that surface water and sediment monitoring performed between 1985 and 1991 indicate that “concentrations of all constituents in surface water and sediment samples appeared to be fairly consistent.” The analyses of surface water samples from three locations in Mission Bay revealed “maximum concentrations of chromium at 60  $\mu\text{g}/\ell$ , copper at 90  $\mu\text{g}/\ell$ , and total halogenated volatile organic compounds [VOCs] at 31.3  $\mu\text{g}/\ell$ .” Surface water samples collected from five San Diego River sampling areas “revealed maximum concentrations of chromium at 60  $\mu\text{g}/\ell$ , copper at 106  $\mu\text{g}/\ell$ , and total halogenated VOCs at 77.2  $\mu\text{g}/\ell$ . Sediment samples collected from Mission Bay indicated “maximum concentrations of chromium at 69 mg/kg and copper at 150 mg/kg.” Sediment samples collected from the San Diego River “revealed maximum concentrations of chromium at 120 mg/kg and copper at 51 mg/kg.”

Additional analytical data were provided in a 1995 engineering feasibility study performed by EMCON (EMCON, 1995). The report states that metals were detected in the on-site and off-site groundwater monitoring wells. As for surface water samples, more metals were detected during

November 1994 than have been historically detected. Only minor quantities of pesticides and semi-volatile organic compounds (SVOCs) have been detected at the facility. VOCs were detected during this monitoring period, with concentrations ranging from trace to 9.7  $\mu\text{g}/\ell$ . Bromoform was the only VOC reportedly detected in surface water at concentrations up to 1.50  $\mu\text{g}/\ell$ . As the VOC contamination in the groundwater and surface water reportedly were less than the MRLs, treatment of the contamination was not deemed necessary. However, because VOCs have historically been detected at higher concentrations than the MRLs, the continuation of groundwater monitoring was recommended.

A report titled "Groundwater Conditions in the Vicinity of Mission Bay Landfill," prepared by EMCON and dated September 27, 2001, was on file. According to the report, groundwater flow in the vicinity of the landfill generally flows north, toward Mission Bay, and is at an approximate depth of 20 to 25 feet below ground surface (bgs). Groundwater samples collected from Sea World wells (Sea World is located adjacent to the west of the landfill) and landfill wells were analyzed for VOCs, SVOCs, organochlorine pesticides (OCPs), chlorinated pesticides, polychlorinated biphenyls (PCBs), and metals. At Sea World, one well contained a SVOC concentration of 11.2  $\mu\text{g}/\ell$ . Fourteen metals were detected in one or more of the samples. As for the Mission Bay Landfill, none of the wells reportedly contained detectable concentrations of pesticides, herbicides, or PCBs. Trace concentrations of one SVOC (bis(2-ethylhexyl)phthalate) were detected in four wells. This SVOC was also detected in one surface water sample collected from the San Diego River, at a concentration of 38.9  $\mu\text{g}/\ell$ . VOCs were detected in three wells, ranging in concentration from 1.7 to 13.0  $\mu\text{g}/\ell$ , which is reportedly consistent with historical trends. According to EMCON, the VOCs toluene and diethyl ether detected in groundwater samples from two landfill wells are likely from gasoline-powered boats used in Mission Bay rather than the landfill itself. Ten metals were also detected in one or more of the samples collected. Based on the analytical results, EMCON concluded that additional groundwater quality monitoring in the Sea World expansion area is not necessary, and the "landfill's existing monitoring network is considered adequate."

Information obtained from the DEH file review regarding open LUST cases and two closed LUST cases is provided below. Information pertaining to the remaining closed LUST cases is not discussed, as file documents indicate that these facilities are not a potential environmental concern to the study area. Copies of pertinent documents are included in Appendix D.

**Loma Portal Head Start Preschool, 2905 Cadiz Street**

This facility is located to the southwest of Cadiz Street and Rosecrans Place. According to a letter from Latham & Watkins, Attorneys at Law, to the DEH, dated January 12, 2001, strong hydrocarbon odors emanated from shallow soils and staining was observed at the preschool's playground during construction activities. This area of the playground is reportedly approximately 30 feet from Thrifty Transmission, addressed 2904 Lytton Street. The letter further states that the impacted area was tested in approximately 1995, during the construction of the playground. Constituents of concern were not detected at that time. However, two soil samples collected on January 5, 2001 indicate the presence of petroleum long-chain hydrocarbons at concentrations of less than 10 mg/kg and 2,684 mg/kg. Reportedly, these long-chain hydrocarbons are typically associated with waste oil and transmission fluids. The attorney concludes that this contamination has migrated from Thrifty Transmission to the playground, as the school reports that it has

never conducted any operations at the property that could result in this type of contamination.

A complaint was made to the DEH in January 2001, and the school and nearby automobile-related properties were investigated. The investigation states that a transmission facility, a car wash, and an auto body shop are located in the vicinity of the school. Nothing conclusive was found by the inspector during the visual inspection. A complete compliance history (i.e., regulatory agency file reviews) was not performed as part of this investigation.

A February 2001 subsurface site assessment and remediation report, prepared by Environmental Business Solutions, Inc. (EBS) states that concentrations of total petroleum hydrocarbons (TPH) in soil samples collected from the preschool property ranged from below laboratory detection limits to 17,200 mg/kg. In addition, one sample analyzed for VOCs detected traces of gasoline. Polynuclear aromatic hydrocarbons (PNAs) were also detected at concentrations less than 1 mg/kg. Excavation activities were performed in the area of contamination. The contaminated soil reportedly was hauled to an off-site facility. Some residual petroleum-hydrocarbon-bearing soil remains in and around the excavation area. A 10-mil plastic liner was used prior to backfilling the excavation with imported soil. A three- to four-foot deep concrete slurry wall was also installed.

The most current document on file for this facility is a letter from the DEH to Bradbeer Revocable Trust, dated February 13, 2001, states that the DEH reviewed the EBS site assessment report, and expects that additional work will be implemented at the property to complete a proper environmental assessment of the petroleum hydrocarbon release.

**Texaco Service Station, 3711 Camino Del Rio West**

This facility is located on the east side of Camino Del Rio West, between Hancock and Kurtz Streets. According to the DEH website, four LUST cases are reported for this facility. However, based on a file review at the DEH and discussions with Mr. Danny Martinez, a DEH representative, five LUST cases are associated with this facility, all of which are closed. Based on the closed status of the cases, this facility is not considered to be an environmental concern to the site.

**City of San Diego Fire Station #20, 3305 Kemper Street**

This facility is located on the northeast corner of Kemper Street and Midway Drive. Information from several documents on file for this facility is discussed below.

A Notice of Unauthorized Release was issued to this facility on July 11, 1985 when a UST used with an emergency generator was removed. A second Notice of Unauthorized Release was issued on March 3, 1992 when an approximately 550-gallon UST was removed.

A 4<sup>th</sup> Quarter 1994 Monitoring and Sampling Report, prepared by the City of San Diego and dated March 15, 1995, asserts that three groundwater monitoring wells were installed in March 1989. Laboratory analysis of groundwater sampling events in March,

April, June, September, and December 1989 revealed detectable hydrocarbon concentrations in only one of the monitoring wells during March 1989 sampling activities.

A Site Assessment Activities Report, prepared by EBS and dated November 19, 2001, states that approximately 22 cubic yards of hydrocarbon-contaminated soils were removed in the vicinity of the first tank release. Hydrocarbon concentrations of 31,800 mg/kg were reported in the remaining soils under the site building foundation; however, “no additional excavation of contaminated soils occurred due to concern for the structural integrity of the main building.”

A Letter Report of Quarterly Groundwater Monitoring Events, prepared by EBS and dated August 23, 2002, indicated that a fourth groundwater monitoring well was installed in 2001. Laboratory analysis of groundwater sampling events in August and December 2001 and March and July 2002 revealed that hydrocarbon concentrations were not detected in three of the wells in the four sampling events. Trace levels of hydrocarbon, benzene, and ethylbenzene contamination were detected in one of the monitoring wells. EBS recommended that “The DEH consider issuing a No Further Action letter” for the two releases at this site.

A letter, dated September 25, 2002 from the City of San Diego to the DEH, indicates that the City anticipates a forthcoming case closure and plans to decommission the monitoring wells located at the property.

**Golden Chariot Trucking, 3495 Kurtz Street**

The environmental database report indicates that an open LUST case exists for this property. A review of the DEH website indicates that two LUST cases were opened on March 15, 2001 for two businesses (Golden Chariot Trucking and Loyola Trucking, Inc.) at this address. However, both of these cases are now shown as “closed” cases, and the establishments are listed as inactive. A DEH representative confirmed that there are no files pertaining to an open LUST case for this address. Based on this information, this facility is not considered to be an environmental concern to the site.

**Hawley Auto Body & Paint, 2844 Lytton Street**

This facility is located on the northeast side of Lytton Street, northwest of Saint Charles Street. A Hazardous Materials Management Permit Application, dated September 21, 1983, indicates that Hawley Auto Body & Paint has been at this address since 1960.

A Status Verification Request (Request), dated September 3, 1991, asserts that there were two permits for one facility. These facilities were identified as Hawley Auto Body & Frame at 2844 Lytton Street, and Hawley Automotive Service Center at 2902 Lytton Street. The Request further states that the Hawley Auto Body & Frame file was to be inactivated, and that the waste and inventory information was to be transferred to the other file.

Documents reviewed indicate that four USTs located at this property remained unused from 1993 to 1996. In June 1997, five USTs and associated piping were removed under

the observation of the DEH. The USTs removed included one 4,000-gallon diesel UST; one 4,000-gallon gasoline UST; one 5,000-gallon gasoline UST; one 6,000-gallon gasoline UST; and one 500-gallon waste oil UST. The initiation of corrective action measures was required by the DEH following the removal of the tanks and piping. Information regarding corrective action measures at this facility was not on file in the documents reviewed.

**Arco Service Station, 2940 Lytton Street**

This facility is located on the northeast corner of Lytton and Rosecrans Streets. According to a 1986 site investigation, prepared by Groundwater Technology (GT) (GT, 1986), five USTs were located at the property (one 12,000-gallon UST; two 6,000-gallon USTs; and two 4,000-gallon USTs). The initial soil investigation began due to a reported leak in one 4,000-gallon gasoline UST and one 6,000-gallon gasoline UST. Six boreholes were drilled, and a total of 18 soil samples collected from the boreholes were analyzed for TPH. TPH concentrations ranged from less than 1 to 11 mg/kg. GT concluded that, although the TPH concentrations provided are insignificant amounts, photoionization detector (PID) readings and field observations indicate a much higher level of hydrocarbons in the soil.

An additional site assessment report prepared by SECOR, and dated January 15, 1995, states that five USTs were removed from the property in February 1987. In April 1987, eight soil borings were drilled to determine whether contamination exists in the area of the former USTs. Five of these borings were converted to vapor extraction wells, and three were converted to groundwater monitoring wells. The report further states that a groundwater pump and treat system was installed at the property from late 1987 to December 1990. The purpose of this system was to remediate hydrocarbon-impacted soils. According to SECOR, in May 1992, five borings were drilled to check the status of the remediation activities. All of the soil samples analyzed reportedly contained TPH concentrations less than 1,000 mg/kg, the cleanup level established by SAM and the RWQCB. Upon receipt of these results, the vapor extraction system was replaced with a carbon adsorption system, which operated from March 1992 through February 1994. In October 1993, further assessment of the property was performed to determine the concentrations of hydrocarbons in the soil and groundwater. The additional assessment involved four borings and the installation of five groundwater monitoring wells. The samples collected and analyzed during the assessment reportedly contained a TPH concentration of less than 100 mg/kg. The SECOR report indicates that quarterly groundwater monitoring and sampling has been performed at this property since 1987. SECOR asserts that liquid-phase hydrocarbons were detected in one monitoring well in 1992, but have not been detected since that time. However, dissolved phase hydrocarbons were detected in five monitoring wells. In addition, benzene concentrations in three wells located on the property and two wells located in the vicinity of the property were reportedly above the regulatory action level of 21 µg/ℓ established for the property.

The 1995 SECOR report indicates that two borings were converted to groundwater monitoring wells for this assessment, and soil and groundwater samples were analyzed. The report states that TPH-gasoline (TPH-G) was below detection limits in the six soil

samples and two groundwater samples collected from the property. Additionally, benzene was reported at concentrations of 1.4 and 27  $\mu\text{g}/\ell$ . No conclusions were provided in the report.

Quarterly groundwater monitoring reports were on file from 1996 through 2002. According to the most recent report prepared by SECOR, dated May 2, 2002, no liquid-phase hydrocarbons were detected during this monitoring period. Groundwater samples were analyzed for TPH-G, benzene, toluene, ethylbenzene, and xylenes (BTEX), and methyl tertiary butyl ether (MTBE). TPH-G was detected at concentrations ranging from less than 500 to 12,000  $\mu\text{g}/\ell$ . BTEX was detected in concentrations ranging from less than 0.50 to 1,400  $\mu\text{g}/\ell$ , and MTBE was detected in concentrations ranging from less than 1 to 11,000  $\mu\text{g}/\ell$ . In summary, the report concludes that the "analytical results for the first quarter 2002 appear to be consistent with data from previous reports." SECOR recommended the continuation of quarterly groundwater sampling and reporting, in addition to the removal of previously detected liquid-phase hydrocarbons.

Several work plans and work plan approvals were on file at the DEH, dating from 1992 through 1996. In addition, a UST Operating Permit was issued on November 14, 2001, for the operation of three 12,000-gallon gasoline USTs. The permit expires in July 2005. Other pertinent documents on file for this facility include two September 1999 RWQCB letters and correspondence between the DEH and SECOR. The RWQCB letters indicate that diesel fuel contamination may have migrated from an off-site source (possibly from this facility) and onto the adjacent Naval Training Center facility. The correspondence between the DEH and SECOR in July and August 2002 pertains to soil impacted by leaking dispensers. SECOR states that they recommend only one of five groundwater monitoring wells be installed on an adjacent property. SECOR further recommends the installation of on-site Geoprobe borings in the vicinity of the dispensers to assess soil contamination. DEH concurs with these recommendations, and requests a second well be constructed in the vicinity of the dispensers.

#### **Chevron Service Station, 2959 Midway Drive**

This facility is located on the southeast corner of Midway Drive and Rosecrans Street. Our review of DEH files indicated that three unauthorized release cases have been recorded at this property. The first release (H12451-001) was discovered in September 1992 during the removal of a leaking belowground hydraulic hoist, a 70-gallon hydraulic oil UST, and a trench connecting hoist to the tank. After removal of the noted equipment, soil samples were collected from the bottom and sidewalls of the associated excavation. In the hoist portion of the excavation, TPH was detected in the hydraulic oil range at depths up to 7.5 feet bgs. Soil samples collected from one-foot bgs in the trench portion of the excavation also contained detectable concentrations of TPH as hydraulic oil.

Remediation of the hydraulic oil-contaminated soil was accomplished by over excavation of the hydraulic equipment area. Confirmation samples collected from the sidewalls of the excavation revealed non-detect concentrations of TPH as hydraulic oil, and the area was subsequently backfilled. It should be noted that no documentation was

provided with respect to the disposal of contaminated soils. In addition, no documents indicating closure of this case by the DEH were noted in the file.

The second release (H12451-002) was discovered in 1993 during the removal a 1,000-gallon waste oil UST from the southern portion of the property. Phase-separated hydrocarbons (PSH) were observed on groundwater at approximately 8.5 feet bgs in the UST excavation. In addition, total recoverable petroleum hydrocarbons (TRPH) were detected in soil samples collected from the sidewalls of the UST excavation, and in borings beneath the UST's remote fill pipe. This unauthorized release case has not been closed to date.

The third release (H12451-003) was also discovered in 1993, during the removal and replacement of fuel product piping and dispensers at the property. Soil samples collected from beneath the product piping and dispensers revealed petroleum hydrocarbon contamination was present at the maximum depth sampled (8.5 feet bgs). No groundwater samples were reported to have been collected. This unauthorized release case has not been closed to date.

In order to further assess the extent of soil and groundwater contamination associated with the noted releases, four soil borings were drilled and converted to groundwater monitoring wells in late 2001 or early 2002. The most recent groundwater monitoring event for these wells, performed in April 2002, indicates that groundwater was present beneath the site at an approximate depth of nine feet bgs. The groundwater flow direction and gradient were reported to be north/northeast at 0.01 feet/foot. TPH-G was reported in two of the four wells at concentrations of 2,700 and 16,000  $\mu\text{g}/\ell$ . Benzene was reported in two of the four wells at concentrations of 480 and 3,900  $\mu\text{g}/\ell$ . MTBE was reported in three of the four wells at concentrations ranging from 150 to 920  $\mu\text{g}/\ell$ .

#### **First SD Properties, 3146 Midway Drive**

The environmental database report indicates that a UST release was discovered at this facility in November 1993. However, a representative of the DEH and the DEH website indicate that there are no records on file for this address. Based on the site reconnaissance and a DEH file review performed for 3148 Midway Drive, multiple addresses are associated with this property, including 3148 Midway Drive. Therefore, please refer to Section 7.1.9, below, for information regarding LUST cases associated with this facility.

#### **Parsley-Kennedy, Inc., 3148 Midway Drive**

This facility is located on the north side of Midway Drive, east of East Drive. During the site reconnaissance, a shopping center was observed at this location. According to various documents and correspondence in the DEH file, it appears as though the address range of 3146-3152 Midway Drive is associated with this property.

The DEH website identifies two LUST cases for this facility. Both releases are listed as having begun on June 11, 1984. However, one of the cases (H21161-001) was closed. The second case, H21161-002, remains listed as an open case. Based on a memo, dated November 10, 1993, regarding case H21161-001, Environmental Health Services "did

not have a site assessment section so this site was never actually opened as a case but was put into SAM data for record keeping purposes.” Additional information extracted from this memo is provided below. In addition, various documents and reports pertaining to this facility are discussed below.

A DEH permit application (undated) to abandon four USTs was on file. A second application, dated June 8, 1984, indicated that three USTs (two 5,000-gallon gasoline USTs and one 5,000-gallon diesel UST) were to be installed at the property.

Legal documents pertaining to a court case involving the property report that three new USTs were installed to make the property suitable for a convenience store/gas station facility. These tanks were removed. However, more than 1,000,000 gallons of groundwater and an undetermined amount of soil reportedly were contaminated by the leaking USTs formerly located at the property.

A memo, dated November 10, 1993, reports that nine groundwater monitoring wells and one boring have been installed. Free product in two of the wells was detected at a thickness of 0.13 and 1.96 feet. Soil samples were analyzed for TPH and BTEX. TPH concentrations ranged from 13 to 6,700 mg/kg amongst four samples, and BTEX concentrations ranged from 17 to 220 ug/kg in one sample. Groundwater sample results reportedly were provided for only four of the wells. Of the four wells, one well had levels above the detection limit. TPH was detected at a concentration of 39,000 µg/ℓ, and BTEX was detected at concentrations ranging from 170 to 39,000 µg/ℓ. Based on these results, it was determined that the case needs to be reopened.

A Department of Health Services memo, dated November 17, 1993, indicates that an unknown quantity of contamination was detected by borings and groundwater monitoring wells used for a preliminary site investigation. Based on these findings, the case was reopened. (This release was reported/detected by the Hazardous Materials Management Division on November 10, 1993, which is the date the environmental database report reported a LUST case for the property at 3146 Midway Drive, as discussed in Section 7.1.8 above.) The memo further states that four tanks were reportedly removed in March 1987.

A Notice of Corrective Action and Reimbursement Responsibility, dated November 22, 1993, regarding release H21161-002, indicates that an unauthorized release of hazardous substances from a UST(s) had occurred at the property.

A UST release/contamination report, dated December 8, 1993, states that a release was discovered on January 10, 1991, contaminating soil and groundwater. To stop the illegal discharge, the tank was reportedly closed and removed. Remedial action had not yet been determined.

An Official Notice from the DEH to First San Diego Company, Inc., dated June 19, 2000, states that approximately 54 gallons of free product was collected from the groundwater during a one-year period. The Official Notice further requires a more effective method of free product recovery be used at the property. An Official Past Due

Notice from the DEH, dated October 11, 2002, specifies that a response to the previously discussed notice had not been received.

The most recent documentation on file is a quarterly groundwater monitoring report, prepared by URS and dated May 13, 2002 (URS, 2002). This report indicates that, during this monitoring event, petroleum-impacted groundwater and free product are still present at the property. Free product was measured in two wells, MW-3 and MW-5, at a thickness of 0.41 and 1.16 feet, respectively. Based on historical analytical data, well MW-3 shows a long-term increase in free product thickness, and well MW-5 shows a long-term decreasing trend. The report also indicates that MTBE was detected at concentrations ranging from 15 to 250  $\mu\text{g}/\ell$ , and BTEX was detected at concentrations ranging from 0.63 to 8,000  $\mu\text{g}/\ell$ . In addition, TPH-D and TPH-G were detected at concentrations ranging from 2,100 to 16,000  $\mu\text{g}/\ell$  and 1,100 to 18,000  $\mu\text{g}/\ell$ , respectively.

#### **Public Auto Service, 4350-4360 Pacific Highway**

This facility is located on the west side of Pacific Highway, south of Kurtz Street and north of Sports Arena Boulevard. Two LUST cases were reported for this facility. However, one of the cases is listed as “case closed,” and is, therefore, not considered to be an environmental concern to the site. The open LUST case is discussed below.

The DEH website indicates that a release at this facility began on August 13, 1997. On August 20, 1997, TEG sent results of 14 soil samples analyzed for TPH-G and BTEX to EBS. TPH-G was reported at concentrations ranging from 26 to 3,567 mg/kg. BTEX concentrations reportedly ranged from 0.176 to 1.771 mg/kg.

A DEH Notice of Responsibility, addressed to Pacifica Groves Limited and dated January 12, 1998, indicates that an unauthorized release from a UST occurred at this property. A letter from Pacifica Enterprises to the DEH, dated January 20, 1998, states that a UST was removed from the property in 1989, and a DEH closure letter was obtained for the removal. The letter further states that Pacifica Enterprises does not know of any hazardous material source at the facility associated with a spill. Pacifica Enterprises reportedly contacted the tenant, Park and Ride, inquiring about any spill that may have occurred.

#### **Genie Car Wash/Oil Change, 3949 West Point Loma Boulevard**

This facility is located on the southeast corner of West Point Loma Boulevard and Groton Street. Based on documents reviewed, this facility operated an oil change business since at least as early as 1985, and a car wash since at least 1987.

Records on file indicate that two 10,000-gallon gasoline USTs installed in the mid-1970s were removed from the property in December 1994. An unauthorized release of a hazardous substance was observed during the removal of the USTs. Therefore, initiation of corrective action measures was required.

According to a 1999 report prepared by H.E.M.C. Environmental Management Corp. (HEMC) (HEMC, 1999), soil samples were collected from underneath the USTs

removed in 1994 and analyzed. TPH-G concentrations ranging from 2,564 mg/kg to 4,688 mg/kg, and benzene concentrations ranging from 5.19 to 7.05 mg/kg, were detected. In August 1999, one groundwater monitoring well was installed at the property. Groundwater samples obtained from this well indicate BTEX concentrations ranging from 1.126  $\mu\text{g}/\ell$  to 7,684  $\mu\text{g}/\ell$ . HEMC recommended that additional groundwater monitoring wells be installed.

A second report prepared by HEMC, dated May 15, 2002 (HEMC, 2002), indicates that two borings were drilled and converted to groundwater monitoring wells in April 2002. Soil samples from the two borings and groundwater samples from the two new wells and the one existing well were analyzed. TPH-G was detected in one soil sample at a concentration of 12 mg/kg. Two of the three wells had concentrations of TPH-G, MTBE, BTEX, and VOCs exceeding the maximum contaminant levels. TPH-G was detected at concentrations of 1,190 and 32,000  $\mu\text{g}/\ell$ . MTBE was detected at concentrations of non-detect to less than 40 and 55.2  $\mu\text{g}/\ell$ . BTEX was detected at concentrations ranging from 1.2 to 2,040  $\mu\text{g}/\ell$ , and VOCs were detected at concentrations ranging from 2.1 to 332  $\mu\text{g}/\ell$ . HEMC's recommendations included installing five additional groundwater monitoring wells.

The most current document on file is a work plan prepared by HEMC, dated July 19, 2002. The scope of this work plan includes drilling three borings, converting the borings to groundwater monitoring wells, and analyzing soil and groundwater samples from the borings and wells. The DEH approved the work plan in August 2002.

#### **Dewey Elementary School, 3251 Rosecrans Street**

This facility is located on the southeast side of Rosecrans Street, northeast of Sellers Drive. On August 18, 1997, the DEH issued a Notice of Responsibility for the unauthorized release associated with the UST removal at this site. On August 8, 1998, EBS installed five soil borings in the vicinity of the former UST cavity to a depth of 20 feet bgs and collected soil samples at five-foot intervals for laboratory analysis. Detectable levels of hydrocarbons were noted at to a depth of 14 feet in the center of the former cavity and to a depth of 10 feet in the area surrounding the former cavity. EBS concluded that the vertical extent of petroleum hydrocarbon-impacted soil had been defined, but the lateral extent had not been delineated.

On March 26, 2002, Ninyo & Moore installed five soil borings at the site to collect soil and groundwater samples for analysis. Soil samples collected from NM-B6, located approximately 20 feet to the south of the former UST, and NM-B8, located approximately 40 feet to the east of the former UST, did not have detectable levels of hydrocarbons. Boring NM-B9, located approximately 30 feet southwest of the former UST, contained a hydrocarbon concentration of 650 mg/kg at a depth of 12 feet bgs. Boring B-10, located approximately 25 feet north of the former UST, contained a hydrocarbon of 200 mg/kg at a depth of 12 feet bgs. The soil sample collected at a depth of 10 feet bgs from boring NM-B7, located immediately south of the former UST, contained a hydrocarbon concentration of 3,300 mg/kg. Ninyo & Moore concluded "the lateral extent of petroleum hydrocarbon impacted soil has been defined to the south and east, and has not been defined to the north, west, or southwest. It appears that residual

petroleum hydrocarbons present at the site have spread laterally along the groundwater surface and the capillary fringe.”

In addition to requests submitted to regulatory agencies, Ninyo & Moore reviewed a report titled “Initial Assessment Study, Naval Training Center, Marine Corps Recruit Depot, and Fleet Anti-Submarine Warfare Training Center, San Diego, California,” dated February 1986 (SCS Engineers, Inc., 1986). An area at MCRD identified as “Site 4, Old Motor Pool Area and Building 13 Underground Storage Tank, MCRD San Diego” is discussed in this study. This area, located approximately 380 feet to the south of the site along China Street, between Montezuma Avenue and Belleau Wood, is identified as unlined soil pits. According to the study, unconfirmed reports indicate that hazardous wastes, including motor oils, contaminated gasoline, Stoddard solvent, and ethylene glycol coolant may have been disposed into these unlined pits sometime during the mid-1950s to the early 1970s. A recommendation was made to obtain 20 soil samples and 5 groundwater samples in the area to analyze for various constituents. Select pages from the study are included as Appendix E.

## **FINDINGS AND OPINIONS**

Based upon the results of this limited HMTS, the following findings and opinions are provided:

- The project study area is approximately 1.69 square miles in area, and is located in the southwestern portion of the city of San Diego. Properties within the study area are developed with schools; a post office; retail and commercial businesses, including offices, medical facilities, stores, restaurants, dry cleaning facilities, gasoline service stations, and automobile repair facilities; light industrial facilities; and multi- and single-family residences.
- Based on the aerial photograph review, the northern portion of the study area consisted of an open floodplain, with scattered residential structures situated in the northwestern portion of the study area, since at least as early as 1949. Sometime between 1949 and 1953, the open floodplain became a channel similar in configuration to the present-day San Diego River Floodway. The remainder of the study area appears to have been generally developed with roads and commercial and residential structures similar in appearance to its current configuration since at least as early as 1949.
- Facilities that typically store hazardous substances and wastes (i.e., medical and dental facilities, photo developing facilities, automotive repair/oil change facilities, gasoline service stations, dry cleaning facilities, car washes) were observed in Subareas B, C, and D of the study area during the site reconnaissance. However, with the exception of the LUST facilities (discussed below), these facilities do not appear on regulatory agency databases that report significant unauthorized releases of hazardous materials. For that reason, there is a low likelihood that these facilities present an environmental threat to the subject site at the present time.
- One approximately 250-gallon AST labeled “Air Liquide” was observed at the SPAWAR facility in Subarea D, addressed 4297 Pacific Highway. In addition, one approximately 30,000-gallon AST was observed at this facility, adjacent to Pacific Highway. At the time of the site reconnaissance, the contents of this AST were not identified. Based on the fact that the United

States Navy has been identified as the responsible party and has an established ongoing investigation/remediation program for all environmental sites of concern identified on the database, there is a low likelihood that these ASTs present an environmental threat to the subject site at the present time. Other ASTs were not observed within the study area boundaries during the site reconnaissance.

- Evidence of USTs (e.g., fill pipes, vent pipes, groundwater monitoring wells) was observed in subareas B, C, and D during the site reconnaissance. A discussion of LUST cases present in the subareas is provided below.
- Pole- and pad-mounted electrical transformers were observed in Subareas B, C, and D. At the time of the site reconnaissance, leaks or stains were not noted in the vicinity of the transformers observed (please note that the transformers along roadways and within office properties were not individually inspected at the time of the site reconnaissance; therefore, it is possible that some transformers within the subareas may have experienced leaks). According to an SDG&E representative, SDG&E assumes responsibility for ensuring that its transformers comply with USEPA regulations governing PCBs.
- Visual evidence of significant surficial soil staining was not observed within the site boundaries during our limited site reconnaissance.
- Groundwater monitoring wells were observed in several locations within Subareas B and D during the site reconnaissance. These wells are associated with former and ongoing subsurface investigations being performed at LUST facilities located in these areas. A discussion of LUST cases present in the subareas is provided below. In addition, a groundwater monitoring well was observed adjacent to the north of Subarea A. This well is possibly associated with previous subsurface investigations performed for the former Mission Bay Landfill.
- Our site reconnaissance activities and environmental database search indicated that there are 107 properties of potential environmental concern within the study area boundaries and within 200 feet of the study area boundaries, including active LUST facilities and a former landfill. Of these 107 facilities, 94 were identified as closed LUST cases, duplicate records, and/or located outside the search radius (greater than 200 feet from the study area). In addition, two facilities were listed as open LUST cases. However, based on information obtained from the DEH, these two cases are closed. For these reasons, there is a low likelihood that these facilities present an environmental threat to the subject site at the present time. Ten of the remaining facilities are open LUST facilities located within the site boundaries, and are considered an environmental concern to the study area. The remaining facility is the former Sports Arena Landfill, located in Subarea B. As subsurface investigations reportedly have not been performed for this landfill, this former facility is considered a potential environmental concern to the study area.
- Our site reconnaissance activities and environmental database search indicated that there are three properties of potential environmental concern to the study area that are located within 200 feet of the study area. Two of the facilities were identified as closed LUST cases. For this reason, there is a low likelihood that these facilities present an environmental threat to the subject site at the present time. The remaining facility is the former Mission Bay Landfill, a hazardous waste site, located adjacent to the north of the study area. Although subsurface

investigations have been performed for this area, the extent of contamination has yet to be fully delineated. Based on the nature of the materials reportedly disposed at this facility and historical information, this former hazardous waste landfill facility is considered a potential environmental concern to the study area.

## CONCLUSIONS

Based upon the results of this Limited Phase I ESA, the following recommendations are provided:

- There is a moderate to high potential that soil and/or groundwater beneath portions of the subject site have been impacted by on- and off-site sources. In addition, the lateral and vertical extent of soil contamination from activities on several properties within the subareas has not been definitively determined at the present time. Because there is a moderate to high potential of encountering contaminated soil and/or groundwater within the proposed areas of development, the following precautions are presented:
  - Dredging operations should not be performed in the San Diego River Floodway, as there is a high likelihood to encounter documented and undocumented hazardous wastes due to the operations at the former Mission Bay Landfill.
  - Grading/excavating activities should not be performed at or in the vicinity of the former Sports Arena Landfill until subsurface investigation(s) have been completed, as it is unknown what types of wastes and extent of contamination, if any, exist in this area.
  - Caution should be taken during excavation activities near gasoline stations because of the potential to encounter documented and undocumented releases of contaminants and hazardous material that may have occurred in or adjacent to these sites.
  - Contract specifications should include a line item for loading, transportation, and disposal of contaminated soil generated during the project.
  - A Site Safety Plan should be prepared and implemented prior to initiation of construction activities to reduce potential health and safety hazards to workers and the public.
- Caution should be taken during excavation activities near existing groundwater monitoring wells so that they are not damaged. Existing groundwater monitoring wells may have to be abandoned and reinstalled if they are located within the proposed area of the sewage conveyance system.
- If contaminated soil and/or groundwater is encountered during the Bay-to-Bay Link project, the responsible party (e.g., property owner or operator) is liable for the contaminated soil or groundwater. If the contaminated soil or groundwater is transported from the site, the parties involved in removing the contaminated soil/groundwater will incur liability for the proper handling, storage, and disposal of the material. These parties then have the potential to recover costs associated with the handling, storage, and disposal of the contaminated soil or groundwater from the parties responsible for the contamination.

**LIMITATIONS**

The environmental services described in this report have been conducted in general accordance with current regulatory guidelines and the standard-of-care exercised by environmental consultants performing similar work in the project area. No warranty, expressed or implied, is made regarding the professional opinions presented in this report. Please note that this study did not include an evaluation of geotechnical conditions or potential geologic hazards.

This document is intended to be used only in its entirety. No portion of the document, by itself, is designed to completely represent any aspect of the project described herein. Ninyo & Moore should be contacted if the reader requires any additional information or has questions regarding the content, interpretations presented, or completeness of this document.

Our conclusions, recommendations, and opinions are based on an analysis of the observed site conditions and the referenced literature. It should be understood that the conditions of a site could change with time as a result of natural processes or the activities of man at the subject site or nearby sites. In addition, changes to the applicable laws, regulations, codes, and standards of practice may occur due to government action or the broadening of knowledge. The findings of this report may, therefore, be invalidated over time, in part or in whole, by changes over which Ninyo & Moore has no control.

This report is intended exclusively for use by the client. Any use or reuse of the findings, conclusions, and/or recommendations of this report by parties other than the client is undertaken at said parties' sole risk.

**SELECTED REFERENCES**

- BBC Environmental, Inc., 2002, Semi-Annual Groundwater Monitoring Report Summary Sheet, Second Quarter 2002, Chevron Service Station #9-2239, 2959 Midway Drive, San Diego, California: dated October 7.
- Bechtel Environmental, Inc., 1993, Site Inspection Prioritization, Mission Bay Landfill, Between San Diego River and Mission Bay, San Diego, CA 92100: dated August 2.
- California Regional Water Quality Control Board, San Diego Region, 1994, Water Quality Control Plan for the San Diego Basin (9): dated September 8, amended October 13.
- City of San Diego, Refuse Disposal Division, 1995, Fourth Quarter 1994, Monitoring and Sampling Report, Fire Station No. 20, 3305 Kemper Street, HMMD Case #H21149-001 & 002: dated March 15.
- County of San Diego, Department of Environmental Health website, 2002, <<http://www.sdcounty.ca.gov/deh/permits>>: accessed November and December.
- County of San Diego, Department of Public Works, 1940 (selected years), Historical Aerial Photographs of San Diego County.
- EMCON, 1995, Engineering Feasibility Study, Mission Bay Landfill: dated July 11.
- EMCON/OWT Solid Waste Services, 2001, Groundwater Conditions in the Vicinity of Mission Bay Landfill, Mission Bay Landfill, San Diego, California: dated September 27.
- Environmental Business Solutions, 2002, Letter Report of Quarterly Groundwater Monitoring Events Conducted in March 2002 and June 2002, 3305 Kemper Street, San Diego, California: dated August 23.
- Environmental Business Solutions, Inc., 2001, Site Assessment Activities, Soil Vapor Survey, and Limited Human Health Risk Assessment, 3305 Kemper Street, San Diego, California: dated November 19.
- Environmental Business Solutions, Inc., 2001, Report of the Subsurface Site Assessment and Remediation for the Property Located at 2905 Cadiz Street, San Diego, California (Site), Voluntary Assistance, Case No. H39420-001: dated February 2.
- H.E.M.C.* Environmental Management Corp., 2002, Report on the Sampling of Soil and of Groundwater from Two (2) Boreholes Drilled Down to 30 Feet bgs; and of the Conversion of these Two (2) Boreholes into Two (2) Groundwater Monitoring Well (4 Inch Diameter) Down to 30 Feet bgs and of the Sampling and Analyses of One Existing Groundwater Monitoring Well at Genie Car Wash, 3949 W. Point Loma Blvd., County of San Diego, California: dated May 15.
- H.E.M.C.* Environmental Management Corp., 1999, Report on the Installation of One (1) Groundwater Monitoring Well to a Depth of 15 Feet bgs at Genie Car Wash, 3949 W. Point Loma Blvd., County of San Diego, California: dated September 6.
- H.E.M.C.* Environmental Management Corp., 1998, Report on a Limited Site Environmental Site Assessment Performed at Genie Car Wash, 3949 W. Point Loma Blvd., County of San Diego, California: dated November 9.

- FirstSearch*<sup>™</sup>, 2002, Job Number 104643001: dated October 18.
- FirstSearch*<sup>™</sup>, 2002, Job Number 104643001: dated October 29.
- Groundwater Technology, 1992, Results of Soil Sampling and Excavation, Chevron Service Station No. 9-2239, 2959 Midway Drive, San Diego, CA: dated November 16.
- Groundwater Technology, 1986, Arco Service Station #5007, 2940 Lytton Street, San Diego, California, Site Investigation: dated September 12.
- Kennedy, M.P., 1975, Geology of the San Diego Metropolitan Area, California: California Division of Mines and Geology, Bulletin 200.
- Ninyo & Moore, 2002, Limited Geotechnical Evaluation, Bay-to-Bay Link Feasibility Study, San Diego, California: dated December 13.
- SCS Engineers, Inc., 1986, Initial Assessment Study, Naval Training Center, Marine Corps Recruit Depot, and Fleet Anti-Submarine Warfare Training Center, San Diego, California: dated February.
- SECOR International Incorporated, 2002, Arco Quarterly Groundwater Monitoring Report, 2940 Lytton St., San Diego, CA 92110: dated May 2.
- SECOR International Incorporated, 1995, Additional Site Assessment Report, Arco Facility #5007, 2940 Lytton Street, San Diego, California: dated January 15.
- State of California, Department of Water Resources, 1967, Ground Water Occurrence and Quality, San Diego Region: dated June.
- United States Department of Agriculture, 1973, Soil Survey, San Diego Area, California.
- United States Geological Survey, 1967, La Jolla Quadrangle, California: 7.5-minute series (topographic), Scale 1:24,000: Photorevised 1975.
- United States Geological Survey, 1967, Point Loma Quadrangle, California: 7.5-minute series (topographic), Scale 1:24,000: Photorevised 1975.
- URS, Third Quarter 2002, Groundwater Monitoring Report, Former Parsley Kennedy Site, 3148 Midway Drive, San Diego, California: dated May 13.

# Draft

September 13, 2002  
Project No. 104219005

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Subject: Hazardous Materials Technical Document  
Downtown Community Plan Update and MEIR  
San Diego, California

## INTRODUCTION

The intent of this document is to assist the Centre City Development Corporation (CCDC) in performing a hazardous materials constraints analysis as part of the Downtown Community Plan Update and Master Environmental Impact Report (MEIR). This document presents a summary of current downtown San Diego redevelopment trends in hazardous materials management from a regulatory and practical perspective, suggests methods that have proven effective in the identification, assessment, and mitigation of environmental issues, and provides general conclusions regarding the potential impact of hazardous materials releases on redevelopment in the downtown area.

The redevelopment of properties in the downtown area of the city of San Diego is required to be approved by CCDC, may involve public funding, and often carries the stigma of environmental impairment (i.e., brownfields). The public nature of these projects elicits a heightened sense of awareness and participation by the public, politicians, regulators, multiple proponents/opponents, potentially responsible parties, environmental groups, and regulators with varying agendas, perceptions, and "mandates" regarding how each project should be planned, funded, and developed. California Community Redevelopment Law empowers CCDC to provide the leadership necessary to proactively meet these challenges and to mitigate hazardous materials issues in a manner that provides the most benefit to the people of San Diego.

Intelligent risk management decisions regarding implementation of appropriate mitigation measures for properties selected for redevelopment should be made after considering site-specific environmental conditions, past and future site use, project economics, and regulatory requirements. Because these considerations are in a constant state of flux, yet should be considered as a whole, hazardous materials studies should be initiated once the project, its location(s), and stakeholders have been tentatively identified.

**Draft**

## **BACKGROUND**

In January 1992, CCDC issued a report prepared by ERC Environmental and Energy Services Company (ERCE) titled *Final Centre City Redevelopment Project Community Plan and Related Documents, Hazardous Materials Assessment*. This report presents information regarding hazardous materials release sites located within the downtown community plan area, focusing on sites within the planning area that were known hazardous release sites, underground storage tank (UST) locations, permitted hazardous waste generator facilities, and facilities with permits for the storage, use, and disposal of regulated materials. General impacts and mitigation measures regarding hazardous materials (permitted) sites, hazardous waste release sites, USTs, and asbestos also are presented. Information contained in the report was obtained through reviews of aerial photographs, topographic maps, Sanborn fire insurance rate maps, federal and state lists of known hazardous waste sites, and site-specific hazardous waste studies; performance of a historical land use study; and communication with regulatory agencies. However, as stated in the report, "Limitations to a study of this magnitude relate to the physical extent of the Planning Area and the complexity of determining specific use of hundreds of individual parcels of land over a period of approximately 100 years. The overall goal of this study is to provide a generic view of historic land use within the planning area as a whole."

The report included maps showing the approximate locations of hazardous waste release sites within the planning area. From the mapped data, ERCE concluded that release sites were located throughout the planning area. However, the report presented additional data on two specific areas with somewhat larger scale issues: 1) the "groundwater plume" in the Marina District, and 2)

contaminated soil in the southern portion of the East Village Redevelopment Area and adjacent Marina District.

The “groundwater plume” in the Marina District had attracted a lot of attention in the mid-1980s to early-1990s, so much so that, at least locally, it was referred to as the “Blob.” Assessment data indicate that the plume is bounded by G Street to the north, I Street to the south, and to the east and west by Fourth Avenue and Front Street, respectively. This plume, which is likely a group of neighboring or coalescing plumes of diesel/gasoline free product on the groundwater, was initially estimated to contain as much as 450,000 gallons of free product, but was later recalculated to contain approximately 64,000 gallons (Huntley, et al, 1991). Huntley, et al, also concluded that the free product was stable, but the dissolved phase may be influenced by Convention Center dewatering. The San Diego Regional Water Quality Control Board (RWQCB) issued a Cleanup and Abatement Order (CAO) to the responsible party. A significant portion of the remediation was performed concurrently with redevelopment in the area. The CAO is still in effect, although portions have been rescinded. Subsequent redevelopment in this area, consisting of residential, commercial, retail, and restaurant uses (e.g., 101 Market, Renaissance) and planned development (e.g., KUSI mixed use) indicate that the plume (dissolved and free product) does not pose a significant roadblock to redevelopment. However, one should keep in mind that any redevelopment in this area should be prepared to address potential issues relating to the presence of petroleum hydrocarbon contamination.

The other problem area discussed in the 1992 ERCE report involved portions of the East Village Redevelopment Area and adjacent Marina District. This area has experienced heavily industrialized uses such as rail transportation, manufactured gas plant, foundries, shipbuilding, petroleum storage and distribution pipelines, landfills, and burn dumps. Many of the environmental concerns in this area either have been or will be mitigated by redevelopment activities related to the San Diego Padres Ballpark and ancillary development, hotel construction, and expansion of Metropolitan Transit Development Board, Port of San Diego, and Convention Center facilities. Therefore, the majority of potential environmental contamination issues for this area alluded to in the 1992 ERCE report are being addressed.

The ERCE report also presents an approach (e.g., Phase I and II Environmental Site Assessments (ESAs), risk assessment, establishing cleanup goals, remediation) to address general types of environmental conditions that may pose a risk to human health, the environment, and redevelopment. The activities and sequencing presented in the ERCE report are still applicable, but the available regulatory, technical, funding, and legal considerations and options have changed considerably. For example, the Polanco Act, the California Environmental Protection Agency (Cal/EPA) Site Designation Program, the San Diego County Department of Environmental Health (DEH) Voluntary Assistance Program (VAP), American Society for Testing and Materials (ASTM) Standard Practices, lender requirements, insurance options, risk-based closure, and DEH Site Assessment and Mitigation (SAM) Manual have significantly altered the way that hazardous materials issues are handled in San Diego and have established a "standard of care" that did not exist when the ERCE report was prepared in 1992. However, the ERCE report represents one source of historical information that should be reviewed prior to redevelopment in the planning area.

### **HAZARDOUS MATERIALS APPROACH FOR REDEVELOPMENT PROJECTS**

A variety of methods can be utilized to identify potential environmental issues regarding a property to assess the extent and severity of existing contamination, to remediate the contamination in a cost-effective manner, to meet regulatory compliance requirements, and to manage low-level, post-remediation contamination that may be an issue during construction. A generalized project management approach is summarized below. Note that this is a suggested approach and is not intended to be a cookbook method that must be followed for every project. As with any effective project management approach, experience and professional judgement are essential in the gathering and evaluation of data, and the formulation of conclusions and recommendations necessary to reach informed risk management decisions.

In general, the recommended project approach for redevelopment of properties in downtown San Diego would be as follows:

- *Understand your site.* Once a redevelopment site has been tentatively identified, perform a Phase I ESA in general accordance with the appropriate version of the ASTM standard. Note that sites with conditions that require oversight by the Department of Toxic Substances Con-

trol (DTSC) (e.g., potential school sites, Resource Conservation and Recovery Act facilities) may require additional regulatory compliance and more extensive evaluations.

- *Develop and define the project description.* The project may be constrained by conditions identified in the Phase I ESA, scheduling, funding, and other issues and obligations. The Phase I ESA, being a historical review, can indicate many factors that might require further assessment as a result of the physical characteristics of the project, its proposed end use, and regulatory compliance requirements.
- *Develop a partnering relationship with the project stakeholders.* As site conditions and the project description become focused, it is possible to identify stakeholders essential to the success of the proposed project. These stakeholders will become members of the project team, and it is to the benefit of the project proponent to encourage their participation. Team members can include CCDC, the developer, potential contractors, regulators, environmental consultants, attorneys, local members of non-governmental organizations, lenders, and others. It is important to instill a partnering relationship among the team members from the beginning and to maintain this relationship throughout the duration of the project.
- *Develop a strategy for assessing and remediating potential environmental conditions.* Each project will require site-specific levels of assessment, investigation, characterization, risk assessment, data management, quality assurance/quality control, and public outreach programs in order to address and mitigate the regulatory issues, construction requirements, and end use. Consider the implementation of an environmental strategy, if one is suggested by the Phase I ESA, that takes maximum advantage of redevelopment activities and takes into account remediation requirements, including the potential need for space on site to segregate and characterize soils or construction dewatering effluent that may require special handling. The data quality objectives and data quality assessment criteria should be established at this stage.
- *Address Hazardous Building Materials.* If the project involves demolition of existing structures, a hazardous building materials survey (HBMS) would likely be recommended by the Phase I ESA. HBMSs are typically performed on buildings that are scheduled for renovation or demolition. The objective of the HBMS is to identify and quantify building materials containing asbestos and lead-based paint, and to quantify potential mercury-containing thermostats/switches, polychlorinated biphenyl-containing items (e.g., light ballasts, switches, and transformers), fluorescent light tubes, and Freon™-containing refrigeration systems.

After completion of the survey, prepare a HBMS report, presenting data and summarizing the assessed materials. The report typically includes a site location map, site description, laboratory testing information, conclusions and recommendations, tables summarizing the building materials assessed, and quantities of identified materials. Depending on the results of the HBMS, it may be necessary to prepare and implement a mitigation plan to address the materials of concern and regulatory compliance requirements (e.g., permitting, notifications, record keeping).

- *Perform a Phase II ESA.* If a Phase II ESA is recommended as a result of the Phase I ESA, a decision needs to be made regarding the participation of a regulatory agency, or agencies, so that proper guidance, scheduling, documentation, permitting, notifications, and approvals are considered in planning the scope of the Phase II ESA. (Examples of the regulatory programs available to redevelopment projects are discussed in a later section of this document.)

If it is decided that a Phase II ESA is required, consider whether it should be incorporated into a Property Mitigation Plan (PMP). Such plans can often efficiently combine remedial activities with specific construction plans and approaches. PMPs have been approved and used to this end in CCDC's redevelopment area. A PMP can incorporate site excavation plans and future end uses so that risk-based solutions can be explored. Where appropriate, prepare a preliminary site conceptual model (SCM) that would be referenced in the preparation of a focused Phase II ESA work plan or PMP to address potential contaminants, pathways, and receptors. As the field data are collected, review the SCM to determine if the data require modifications to the SCM, data quality objectives, and Phase II ESA/PMP scope of work. This process requires that experienced, senior people perform the field work so that appropriate and timely decisions regarding the data quality objectives can be made in the field as data become available. This minimizes costly and time consuming field mobilizations. When the data no longer require modification of the scope of work, data quality objectives or SCM, the fieldwork can be considered complete. Appropriate Phase II ESA and property mitigation reports should be prepared and submitted according to the requirements of the regulating agency.

Worker and community health and safety plans regarding contaminants of potential concern should be prepared at this stage. To maximize their effectiveness and efficiency, health and safety plans should be prepared and maintained to address the evolving requirements of the various stages of the project (e.g., construction, remediation) and unknowns (e.g., emergency response).

- *Prepare a Project-Specific Soils Protocol.* The project-specific soils protocol should present emergency response and soil excavation monitoring procedures, stockpile management plans, on-site reuse and off-site disposal/reuse options, reporting/tracking documentation requirements, and identify the team members, their roles and responsibilities, and contact information.
- *Prepare Contractor Bid Specifications.* The contractor bid specifications should document known and potential environmental concerns (e.g., residual contamination), present worker and community health and safety issues, and identify specific protocols and responsibilities in handling hazardous materials (known and unknown) that may be encountered during construction.
- *Perform Health and Ecological Risk Assessment.* Site-specific health and ecological risk assessments coupled with fate and transport studies may be required to recommend cleanup levels that are protective of human health (e.g., construction workers and for site occupants, workers, and visitors) and the environment (e.g., groundwater).

- *Know the Regulatory Requirements.* When an appropriate regulatory agency acknowledges that the work described in the PMP or other work plan has been implemented effectively, regulatory closures will be issued (e.g., Comfort letter, No Further Action letter, Polanco Act immunity, or a Certificate of Completion) that, in some cases, have legal consequences that can end further liability for regulatory work, and trigger milestones for financing or insurance considerations, as well as other site-specific goals.
- *Develop Generic Protocols.* When a project is large enough, as when an entire block or a multi-block area comprised of several parcels is being redeveloped, consider methods of developing generic protocols that can standardize decision making for a particular site, potentially saving time and money. This is a process that CCDC utilized in its acquisition and preparation of the properties within the Ballpark District Redevelopment Project. In that project, CCDC utilized a Master Work Plan that was supplemented by a community health and safety plan, PMPs, and soils reuse and export protocols for the different phases of the redevelopment project.

## **HAZARDOUS RELEASE REGULATIONS/PROGRAMS/GUIDELINES/MECHANISMS**

The following paragraphs discuss various regulations, programs, guidelines, and mechanisms to support the investigation and remediation of hazardous release sites on properties within CCDC's jurisdiction. These are typically used together in various combinations and should be considered in selecting a course of action prior to redeveloping properties that are suspected or known to be contaminated.

### **Polanco Redevelopment Act**

Polanco Redevelopment Act, California Health and Safety Code section 33459 et seq. (Polanco Act), provides buyers and developers, working with local redevelopment agencies, an opportunity to redevelop properties located in urban areas despite the potential, actual or perceived presence of environmental contamination. Specifically, the Polanco Act allows developers to obtain critical liability protections against future claims arising from existing contamination.

In broad terms, the Polanco Act provides local redevelopment agencies the authority to take "any action necessary" to remedy or remove a release of hazardous substances on, under, or from any property within an identified redevelopment area. Such action may include acquiring reports on environmental conditions at the property, issuing demands for cleanup and abatement, acquiring the property through use of its eminent domain power, and performing necessary remediation at the property (including the recovery of costs and fees associated with such remediation). The Polanco Act also permits a redevelopment agency to contract with third parties to acquire and/or undertake cleanup of property.

One of the primary benefits of the Polanco Act is that, upon completion of remediation under an approved remediation plan, the statute provides eligible parties with immunity from environmental liability for issues addressed in the cleanup plan. Parties eligible to receive such immunity include the local redevelopment agency, and any party that (a) enters into an agreement with a redevelopment agency for redevelopment of the property, (b) purchases the property after a party has entered a redevelopment agreement with a redevelopment agency, or (c) provides financing to either of the above developers/purchasers of the property. Thus, the benefits and protections of the Polanco Act may be enjoyed not only by redevelopment agencies, but also by other eligible parties working with redevelopment agencies.

*Draft*

The Polanco Act also provides the redevelopment agency with the authority to facilitate and/or oversee the review and approval of environmental planning and remediation documents. The Polanco Act has a unique "fee shifting" provision that allows the redevelopment agency to recover its attorneys fees as part of its reimbursable response costs. Finally, the protection available to developers, future purchasers, and lenders under the Polanco Act can provide added security (and hence value) in the sale and leasing of the property. From a practical perspective, local support for a redevelopment project, in the form of redevelopment agency concurrence with project planning, timing, and goals, can be critical in obtaining discretionary agency approvals throughout the development process.

### **Site Designation Program**

The purpose of the Site Designation program (California Health and Safety Code §25062 et. seq.) is to allow a responsible party who agrees to carry out a site investigation and remedial action to request the Site Designation Committee (Committee) within the Cal/EPA to designate a single state or local agency (Administering Agency) to oversee the site investigation and remedial action. The Committee consists of six members representing the Cal/EPA, the Air Resources Board, the Department of Toxic Substances Control (DTSC), the Office of Environmental Health Hazard Assessment, the State Water Resources Control Board (SWRCB), and the Department of Fish and Game. Use of this process is required if the project proponent wants to use a local agency to oversee a "Polanco" cleanup in certain circumstances. This process requires approximately 90 days of lead time to implement.

### **DEH Voluntary Assistance Program (VAP)**

The VAP is a voluntary option for project oversight on various types of properties that are environmentally impacted. Through the VAP, members of the SAM team at the DEH provide consultation, overview, and report concurrence on projects involving properties suspected or known to be contaminated with hazardous substances. The SAM utilizes current guidelines and policies of the DEH and California Regional Water Quality Control Board (RWQCB) to reach site assessment and cleanup goals at sites under the VAP. Assistance is customized to meet the needs of the applicant. The objective of the VAP is to allow rapid and cost-effective resolution of contamination problems. Examples of projects that have been processed through the VAP program include conversion of a property from agri-

cultural to residential land use, conversion of a gas station property to a retail facility, a release of solvent from a dry cleaners, review of work plans prior to initiating work, and review of assessment and mitigation reports for lenders.

Under the VAP program, the following conditions currently apply:

- The California Department of Toxic Substances Control and the RWQCB are notified of DEH oversight.
- All reports submitted to the VAP program are available for public review.
- DEH is allowed 30 days to review the initial documents.
- Fees are established by the County of San Diego and billing is performed quarterly.
- Upon satisfactory completion of all activities, a “no further action “ letter or concurrence letter will be issued.

**Draft**

An applicant may withdraw from the program through submittal of a written notification and payment of accrued fees. To apply to the program, the applicant must fill out a one-page application form that describes what the applicant wants from the DEH, and return the application form to the DEH with a check, which covers set up fees and initial DEH review. The most commonly submitted documents are work plans, Phase I ESA reports, Phase II ESA reports, and health risk evaluations.

### **United States Environmental Protection Agency Sites Program**

The United States Environmental Protection Agency (USEPA) Region 9 has developed the Targeted Site Assessment program, a brownfields program initiative to help municipalities, redevelopment agencies, and community development corporations redevelop properties known or suspected to be contaminated. Brownfields sites are defined as vacant or under-used commercial or industrial facilities where redevelopment is complicated by actual or perceived contamination. Under this initiative, USEPA will conduct targeted site assessments at selected sites in California, Arizona, Hawaii, Nevada, and on tribal lands. The assessments will determine the nature and extent of contamination and provide preliminary cost estimates for cleanup. Several sites in Region 9 have already been selected for this program.

The Targeted Site Assessment program is being offered to public or nonprofit entities (e.g., municipalities, redevelopment agencies, and community development corporations) that currently have redevelopment plans for property that is known or suspected to be contaminated. The property should either be currently owned by the agency/municipality/development corporation, or should be property that these agencies can obtain ownership of through other means (e.g., tax foreclosure). In addition, abandoned properties (properties which the current owner has shown no interest in, has not paid taxes on, and does not have the resources to

conduct the required site assessment work) are eligible for the program. Sites contaminated only with petroleum products are not eligible for this program.

A Targeted Site Assessment would encompass one or more of the following activities:

- a screening assessment, including a background and historical investigation and site inspection;
- a full site assessment, including sampling activities, to identify the types and concentrations of contaminants and the areas of contamination that should be cleaned up prior to reuse; and
- establishment of cleanup options and cost estimates based on future uses and redevelopment plans.

Environmental consultants currently under contract with USEPA will conduct targeted Site Assessments. Currently, the program does not provide funds to conduct cleanup or building demolition activities. The USEPA will select sites for the program for which firm redevelopment plans have been prepared. The redevelopment can involve the creation of commercial, industrial, residential, recreational or conservation uses. Projects that have financing available for the cleanup, or that offer other unique incentives for development (e.g., tax increment financing) will be given higher priority.

### **CALReUSE Program**

CCDC is a “strategic partner” with the California Pollution Control Financing Authority, which created the CalReUSE program to spur development of brownfields properties. CalReUSE provides funding to projects in CCDC’s redevelopment area to be used for site assessment and remediation of land with contamination or perceived contamination. CalReUSE provides forgivable loans to fund site assessment and characterization, technical assistance, and remedial action plans. As a strategic partner, CCDC will work with CalReUSE to prioritize and select projects, approve loans, and administer the program.

Sites that will be considered for the program include those with potential economic beneficial reuse, but that are not currently redeveloped due to lack of information regarding potential contamination, and sites that are likely to be redeveloped if proven economically feasible. Economically feasible projects are those that are supported by quality development entities with proven track records, and projects that, absent CalReUSE resources, would most likely not move forward. The loan criteria for the program are provided below:

- the maximum loan for an individual project amount is \$125,000,
- the maximum term of the loan is 36 months,
- a 25% match is required,
- a portion of the loan may be forgiven under certain circumstances, and
- the current interest rate is approximately 6%.

### **CLEAN Loan Program**

In 2000, Governor Gray Davis signed into law the “Cleanup Loans and Environmental Assistance to Neighborhoods (CLEAN) Program” (Senate Bill 667, Sher) establishing new financial incentives to encourage property owners, developers, community groups and local governments to redevelop abandoned and underutilized urban properties in California. The CLEAN program was established to provide low interest loans up to \$2.5 million for the cleanup or removal of hazardous materials where redevelopment is likely to have a beneficial impact on the property values, economic viability, and quality of life for a community.

Unfortunately, due to the recent state budget reductions, funds are currently unavailable for new CLEAN Loans. However, potential applicants are encouraged to complete an online application, which will enable the CLEAN Program to determine the need of constituents when funding does become available.

### **California Land Environmental Restoration and Reuse Act**

The City of San Diego is currently preparing an ordinance to implement this program. Either DTSC or RWQCBs can oversee cleanup activities that are conducted under this program (except in certain circumstances where local agencies may oversee the cleanup activities). Cal/EPA has developed guidelines to describe the process that is used to select the oversight agency.

Cal/EPA is responsible for developing advisory “screening values” for hazardous substances that are typically found at brownfields sites. These values will serve as reference numbers to help developers and local governments estimate the costs and extent of cleanup of contaminated sites, providing valuable information in their development decisions. Cal/EPA’s Scientific Peer Review Program will review the screening values that will be developed. The first step in this process will be to peer review the San Francisco RWQCB’s risk-based screening levels (RBSLs). The request for peer review is expected to be sent to the President of the University of California shortly.

The RBSLs are intended to help expedite the preparation of environmental risk assessments at sites where impacted soil and groundwater has been identified. As an alternative to preparing a formal risk assessment, soil and groundwater data collected at a site can be directly compared to the RBSLs and the need for additional work evaluated. It is anticipated that RBSLs will be especially beneficial for use at small- to medium-size sites, where the preparation of a more formal risk assessment may not be warranted or feasible due to time and cost constraints.

DTSC will conduct a pilot program in Southern California to evaluate how screening values are used in cleanup decision-making at brownfields, and with that information guide the development of its own screening values. Cal/EPA has developed a brochure describing this pilot project. To better understand the processes that govern cleanup decisions, Cal/EPA is preparing information that details the cleanup processes of both DTSC and RWQCBs.

## SWRCB Tank Fund

Federal and state laws require every owner and operator of a petroleum UST to maintain financial responsibility to pay for any damages arising from their tank operations. The Barry Keene Underground Storage Tank Cleanup Fund Act of 1989 was created by the California Legislature, and is administered by the State Water Resources Control Board (SWRCB), to provide a means for petroleum UST owners and operators to meet the federal and state requirements. The Fund also assists a large number of small businesses and individuals by providing reimbursement for unexpected and catastrophic expenses associated with the cleanup of leaking petroleum USTs. In addition, the Fund also provides money to the RWQCBs and local regulatory agencies to abate emergency situations or to cleanup abandoned sites that pose a threat to human health, safety, and the environment, as a result of a petroleum release from a UST.

Established by SB 299 in 1989, modified by SB 2004 in 1990, and other subsequent legislation, the Fund requires every owner of a petroleum UST that is subject to regulation under the California Health and Safety Code to pay a per-gallon fee to the Fund. This fee, which began on January 1, 1991, has increased over time and currently generates in excess of \$180 million annually.

To be eligible to file a claim with the Fund, the claimant must be a current or past owner or operator of the UST from which an unauthorized release of petroleum has occurred, and be required to undertake corrective action as directed by the regulatory agency. Other eligibility conditions include compliance with applicable state UST permitting requirements and regulatory agency cleanup orders.

The Act sets forth a claim priority system based on claimant characteristics. The highest priority, Class A, is reserved for residential tank owners; the second priority, Class B, is reserved for small California businesses, nonprofit organizations, and governmental agencies with gross receipts below a specified maximum; the third priority, Class C, is for certain California businesses, nonprofit organizations, and governmental agencies not meeting the criteria for Class B; and the fourth priority, Class D, is given to all other eligible claimants.

Under statute, the SWRCB must update the Priority List at least once a year to include new claims. Since the fall of 1993, the SWRCB has been updating the list monthly. Claims from previous updates retain their relative ranking within their priority class with new claims ranked in their appropriate class below those carried over from the previous list. New claims in a higher priority class must be processed before older claims in a lower priority class.

There are two exceptions to the priority system. In 1993, the Legislature amended the Act to require the Fund to award approximately 15 percent of its funds annually to any lower priority classes that would not otherwise be funded (i.e., Class C and D claimants each receive at least 15 percent of the annual funding). In addition, legislation signed by the Governor on July 19, 2000 provides immediate funding for Fire Safety Agencies who submitted applications to the Fund by January 1, 2000.

Pre-approval is a method by which the claimant can come to an understanding with the Fund regarding eligible reimbursable costs prior to starting the cleanup. If the proposed project activities are completed as presented to and approved by the Fund for those costs that were pre-approved, reimbursement is virtually assured.

## CONCLUSIONS

When appropriate planning is used, hazardous materials contamination issues in downtown San Diego have not been and are unlikely to be considered a fatal flaw to redevelopment. This is largely due to the increasing trend toward risk-based remediation and closure, innovative soil reuse options, the non-beneficial use designation for groundwater beneath the downtown area, and the evolution of regulations, programs, guidelines, and funding options available to redevelopment projects. Intelligent and efficient data gathering and management, improved risk assessment and fate and transport models, advances in engineering controls and remediation and construction techniques, innovation, flexibility, and effective planning can minimize land use restrictions in downtown San Diego that are based strictly on potential impacts to human health or the environment related to the presence of hazardous materials concerns.

It cannot be overemphasized how important team selection and definitions, and candid, comprehensive communication are to the process of redevelopment. The responsibility and authority of each team member must be clearly defined, understood, and agreed to from the beginning, and mechanisms put in place to modify each team member's role to address project unknowns. Early understanding of site conditions and project goals will foster intelligent, innovative, and economic approaches to the assessment and mitigation of environmental site conditions. These processes are most profitably employed early, before project goals are formed that may later prove to be infeasible. CCDC's staff and consultants are available to support this activity as appropriate.

We appreciate the opportunity to be of service to you on this project. Should you have any questions, please contact the undersigned at your convenience.

Respectfully submitted,  
**NINYO & MOORE**

**Draft**

Stephan A. Beck, C.E.G., HG, R.E.A. II  
Manager, Environmental Sciences Division

SB/SKG/LRM/rlm

Distribution: (1) Addressee

**XIV. PUBLIC MEETING # 1 AGENDA AND SUMMARY**

**Public Meeting #1**

Thursday May 2, 2002

7:00- 8:30 P.M.

Peninsula Community Service Center

AGENDA

- 7:00 Welcome & Introduction - City of San Diego  
Jamal Batta, Study Manager
  
- 7:05 Study Goals and Objectives – Wallace Roberts & Todd  
Kathleen Garcia, Principal in Charge  
Laura Burnett, Study Director
  - Study Area, North Bay Redevelopment Area
  - Study background
  - Strategy of testing alternatives
  
- 7:10 Study Schedule of Public Input and Presentations
  
- 7:20 Information Collected to Date
  - Documents
  - Interviews with Permittees
  - Precedents found in other cities
  - What additional documents should we be reviewing?
  
- 7:30 Discussion of the Issues, Obstacles and Opportunities for the Area
  
- 8:25 Summary of the evening's discussion

Name: \_\_\_\_\_

Phone Number \_\_\_\_\_

Mailing Address \_\_\_\_\_

E-Mail Address \_\_\_\_\_

***Please check the boxes that apply to you.***

- Resident of the Study Area       Business owner in Study Area
  - Property owner in Study Area       Employed in the Study Area
  - Property owner in Redevelopment Area
  - Representative of \_\_\_\_\_
- .....

Name: \_\_\_\_\_

Phone Number \_\_\_\_\_

Mailing Address \_\_\_\_\_

E-Mail Address \_\_\_\_\_

***Please check the boxes that apply to you.***

- Resident of the Study Area       Business owner in Study Area
  - Property owner in Study Area       Employed in the Study Area
  - Property owner in Redevelopment Area
  - Representative of \_\_\_\_\_
- .....

Name: \_\_\_\_\_

Phone Number \_\_\_\_\_

Mailing Address \_\_\_\_\_

E-Mail Address \_\_\_\_\_

***Please check the boxes that apply to you.***

- Resident of the Study Area       Business owner in Study Area
- Property owner in Study Area       Employed in the Study Area
- Property owner in Redevelopment Area
- Representative of \_\_\_\_\_



Public Meeting #1 Summary

Urban Design

- This central location is a quality of life black hole.
- Plan to improve the quality of life. – Make it a place where we want to go.
- Do not want an entertainment theme.
- Walkability is very poor.

Environment

- Consider Mission Bay, Multiple Species Conservation Program (MSCP) and the impact to wetlands, endangered species and sediment deposits.
- The water is polluted, fix the sewers. We should stop building until we can supply proper services.
- The water in the bays and ocean is toxic.
- Contact Michael Pallimary, a civil engineer who has the history of attempts to connect the bays. His research of historical records show that it can not be done hydrographically.
- Need to see the technical information on the underground utilities, etc.
- Consider salt-water wetlands to provide habitat and improve aesthetics, i.e. Lake Merritt in Oakland.
- Plan for bioremediation to help urban runoff. Plan for on-site water reclamation like at Santee Lakes.
- Protection of wetlands and shallow sub-tidal habitat and endangered species;
- Don't contribute to sedimentation
- Avoid conflicts with infrastructure
- Plan to improve water quality by cleaning the urban runoff.
- Look at additional documents: Sea World Master Plan and EIR, (toxic dump at Sea World); Mission Bay Natural Resources Management and Plan for Flood Control Channel; MSCP Subarea Plan

Transportation

- Traffic in Midway on the weekends is impossible. Don't create more traffic.
- Need public transit – how can we afford a canal when we can't afford public transit?
- Coastal access is important – consider the impact of construction.
- A canal will impact traffic.
- Plan circulation routes and work aesthetics around them.
- Waterway could help in a commuter system.
- Solve the traffic problems

#### Land Use

- Provide more parks and open space. Meet the City's standards for parks. The Study be looking at the best use, i.e. open space, parks, etc. Consider a string of parks. Consider a model boat pond. Provide outdoor exercise facilities.
- No more commercial uses because traffic is already impossible.
- Plan for affordable housing. Low wage people need to live somewhere too. Don't displace the military housing. Should be able to live and work in the area.
- Don't need anymore hotels and tourist type facilities. Eleven hotels are planned for Mission Bay. We don't need anymore hotels.
- Small business areas should not get evicted. Provide for incubator businesses. Improve the quality of life; provide for families and business.
- The 30' height limit should be examined with the possibility of areas of +/- 40' heights.
- Adult entertainment is a problem.

#### Economics

- The Redevelopment Agency defines the area as economic blight. There is no blight.
- Where will we get the money to do anything?
- The development at the Naval Training Center is being driven by greed. NTC was supposed to be like Balboa Park
- Who really will benefit? Developers or residents? Provide benefits for San Diegians. Tidelands are owned by the people, for the people, not for big business or political power.
- Determine the feasibility of a park instead of a commercial zone.
- This is a major shopping hub. Is that who is behind this study? It doesn't make sense for the City to develop non-revenue producing uses.

#### Study Process

- The consultant should meet with the Midway Community Planning Group. Approach each individual planning board. The project is in the Midway planning area and should consider the needs of the adjacent areas. The school board should be consulted.
- Provide a forum for citizen's input. The process needs to meet in a larger room, with no table to encourage participation.
- The process must not be another 'bait & switch'. City Council does not listen to the citizens. Council member Wear should be here. Inform all people who care about the community. The public must vote before agreeing to implement a channel.
- We must not be negative, keep an open mind. This is the right approach to plan public property. Vision is needed for the public lands. The concept should be explored with vision. Mission Bay and Balboa Park were visionary. Keep the door open to ideas. Have vision and courage – don't give away the benefits
- Law suits will be brought on to fight eminent domain.

**XV. PUBLIC MEETING # 2 AGENDA AND SUMMARY**

**Public Meeting #2**

Thursday September 19, 2002

Wednesday October 10, 2002 - Repeat

7:00- 8:30 P.M.

Peninsula Community Service Center

AGENDA

7:00 Welcome & Introduction, City of San Diego  
Jamal Batta, Study Manager

7:05 Review of Progress, Wallace Roberts & Todd  
Kathleen Garcia, Principal in Charge  
Laura Burnett, Study Director

- Background of the Study
- Goals and Methodology
- Schedule for the Study
- Existing Conditions and Issues
- Draft Feasibility Criteria
- Concept Alternatives

7:45 Discussion of the Draft Feasibility Criteria and Concept Alternatives

8:25 Summary of the evening's discussion

Name: \_\_\_\_\_

Phone Number \_\_\_\_\_

Mailing Address \_\_\_\_\_

E-Mail Address \_\_\_\_\_

***Please check the boxes that apply to you.***

- |   |   |
|---|---|
| <input type="checkbox"/> Resident of the Study Area   | <input type="checkbox"/> Business owner in Study Area |
| <input type="checkbox"/> Property owner in Study Area | <input type="checkbox"/> Employed in the Study Area   |
| <input type="checkbox"/> Representative of _____      |   |

.....

Name: \_\_\_\_\_

Phone Number \_\_\_\_\_

Mailing Address \_\_\_\_\_

E-Mail Address \_\_\_\_\_

***Please check the boxes that apply to you.***

- |   |   |
|---|---|
| <input type="checkbox"/> Resident of the Study Area   | <input type="checkbox"/> Business owner in Study Area |
| <input type="checkbox"/> Property owner in Study Area | <input type="checkbox"/> Employed in the Study Area   |
| <input type="checkbox"/> Representative of _____      |   |

.....

Name: \_\_\_\_\_

Phone Number \_\_\_\_\_

Mailing Address \_\_\_\_\_

E-Mail Address \_\_\_\_\_

***Please check the boxes that apply to you.***

- |   |   |
|---|---|
| <input type="checkbox"/> Resident of the Study Area   | <input type="checkbox"/> Business owner in Study Area |
| <input type="checkbox"/> Property owner in Study Area | <input type="checkbox"/> Employed in the Study Area   |
| <input type="checkbox"/> Representative of _____      |   |

**Community Comment**

1. Are there additional opportunities and constraints that should be considered in the alternatives?

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2. Are there additional criteria to evaluate the feasibility of each alternative?

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3. Other comments?

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Name: \_\_\_\_\_

**Thank you, please return your comments to :**  
Jamal Batta, Project Manager, City of San Diego  
Engineering Department, Transportation and Drainage Division  
1010 Second Avenue, 12th Floor, San Diego, CA 92101  
Fax 619-533-3071

**Public Meeting #2 Summary**

Public Meeting #2  
Peninsula Community Service Center  
Thursday September 19, 2002  
7:00- 8:30 P.M.

**REPEAT Public Meeting #2**

Peninsula Community Service Center  
Wednesday October 2, 2002  
7:00- 8:30 P.M.

**Summary** Notes organized in categories.

**STUDY PROCESS**

- These are wonderful ideas. We need a better way for community input.
- Residents of Orchard Tree Apartments were not notified of this meeting.
- Like these ideas and the big vision, but concerned about community input.
- Welcome the opportunity to improve this community. We can stand improvements. The problems include too many, poorly located curb cuts, incompatible land uses, traffic congestion. Midway, now, is not a neighborhood. Midway has been dumped on for many years. The planning groups need input, they are the elected representatives of the communities.
- Applaud the efforts for a comprehensive detailed work. It is very exciting. The three alternatives open a vista of possibilities. If we need anything it is vision. We have been too long working on short-term patchwork solutions. A good vision must help improve the quality of life for San Diegans. Like our forefathers did form Balboa Park, Mission Bay; to benefit the community, not a project for the rich or tourists.
- The City and its consultant are not being honest. The community planning groups must be involved. The public must be notified. We need a larger meeting space.
- Guarantee it will go on the ballot.
- The RFP shows the city's intentions. For example, the public / private partnership at NTC is without amenities and vision.
- How much is the consultant being paid?
- Make sure the Beacon and Union Tribune are notified, invite the whole city, check your mailing list.
- The RFQ is confusing this Study.
- Is there a conflict of interest from the Planning Commission?
- A previous study done for Mayor O'Connor concluded that a navigable channel was not feasible.
- Use common sense, look to the future.

- Good examples of visionary work in San Diego include the County Administration Center, built in a blighted waterfront.
- San Diego seems to have a hard time negotiating, don't give away the public amenities.

### **LAND USE & URBAN DESIGN**

- Explore the alignment of the channel north of Kurtz.
- Criteria should be included, if it is not already, to address existing senior housing.
- Criteria should include no net loss of public land.
- Criteria should address the current thirty foot height limit in its functions and impact.
- Criteria for affordable housing, not just the rich.
- Appreciate the work. The parks alternative is not visionary enough. Like the alternatives that maximize the waterfront opportunities.
- Need specific assurance that the Orchard Tree Apartments will not change.
- Criteria should heavily value public access. Private docks are a bad example.
- Please show a map of the public owned land.
- Criteria should include safety, i.e. Coast Guard and long term maintenance.
- This study will be valuable if it includes the comprehensive history of events.
- Vision must be driven by modern issues, in touch with the natural and cultural resources. Don't use the usual standards.
- West of 5 is built out. No more.
- Prioritize phasing of the overall vision.
- Love the greenbelt and open space and the idea of non-motorized use for a serene experience.
- MCRD and the Navy will not allow any use of their land.
- Enhance the streets with planting. Consider Madrid's multi-lane streets.
- Current park land shortage on the Peninsula.
- Provide link to Famosa Slough.

### **ENGINEERING**

- Address the high-power transmission lines, fuel lines.
- It is great to have an overall plan but we need to fix the current problems.
- The daily tidal fluctuation is 7'-2". Sedimentation accumulation will be a problem.

### **ECOLOGY**

- Happy with the non-navigable channel alternatives, and maybe feasible with the southern access to San Diego Bay. The San Diego River channel is one of the most productive habitats in the region.
- In the non-tidal alternative, consider the use of reclaimed or salt water. Potable water in a coastal desert is too valuable to waste.
- Toxins must be considered in the Study.
- Hazardous materials are a serious issue.
- Water quality on the beaches is very bad.
- Parks must be functional and safe. Make certain they are not endangered by traffic, noise, fumes, etc.

- Water quality is important, when the wind blows from the beach it stinks in Midway.

### TRANSPORTATION

- Rosecrans traffic congestion during construction will be a big problem.
- Criteria should address construction disturbance and traffic congestion
- We need a cumulative report of traffic impacts addressing Sea World, NTC, the Airport. Nothing should be funded until it is done.
- Transportation must be considered in concert with development at Sea World, NTC, the Airport.
- Emergency access to/from Point Loma is critical.
- Don't increase traffic congestion, fix the transit problems first.
- The idea of a parkway along Rosecrans is good. It could give us something to be proud of.
- Water taxis in other cities, i.e. Vancouver, are a very pleasant way to travel. It would be a wonderful way to diversify and accentuate the San Diego Waterfront. They must be linked to transit.
- The Peninsula Planning Board is working toward a transit corridor down Rosecrans (not just the one lane extension)
- Rosecrans should have dedicated lanes for transit.
- Prefer non-motorized boats.
- This must be an essential link to the San Diego River.
- Transit designed along/within the 'La Playa' parkway would be good.

### ECONOMICS

- This project is a boondoggle for the rich people, instead of spending public money on schools, police, etc.
- The community's experience with the conversion of the Naval Training Center has been problematic, i.e. the developer/City pushing the limits of 30' height, the idea of the 'Village'. It is not fare for Point Loma residents to have to pay. Not fare for tenants such a Dixie Line Lumber to have their leases taken away. Against another public land give-away.
- Criteria should include balance of financing with affordable housing.
- The Study should address how the alternatives will be paid for.
- The City's RFQ requirements include provisions for affordable housing, hazardous materials, etc. Developers are not lining up because of the difficulties.
- Buildings taller than 3 stories are not affordable housing.
- This is disingenuous, rents will go up.
- The interruption of business should be considered.
- There should be no net loss of public land
- Criteria should value modest development, incrementally developed by the City to avoid the current problems at NTC.
- The Peninsula Community depends on the commercial and industrial activity of Midway.
- Taking of private land through eminent domain would be very bad.
- Criteria for financing improvements is very important.
- There should be no net gain west of Interstate 5.

- An increase of population requires increase of needs. Our parks are a joke. Proposed give-away of high rise towers is a bad idea.
- Condemnation for redevelopment is bad. They use an illusion of 'fare market value'.
- Eminent domain will bring on legal battles.
- The State's redevelopment budget is in great deficit. Who will own San Diego? The 95 acres of public land entrusted to the City must be maintained for the good of all.

XVI. PERMITEES AND SUMMARY OF COMMENTS

**1. ARMY CORPS OF ENGINEERS**

Rob Lawrence  
Regulatory Branch  
16885 West Bernardo Drive  
Suite 300A  
San Diego, CA 92127  
858-674-5384  
Fax 858-6745388

Terry Dean  
Regulatory Branch  
16885 West Bernardo Drive  
Suite 300A  
San Diego, CA 92127  
858-674-5386  
Fax 858-6745388

Mr. Lawrence suggests consideration of the audience, i.e. will the Coast Guard, Navy or Port use the navigable channel. He and Terry Dean (responsible for City projects) would like to review alternatives and offer comments.

**2. CALIFORNIA COASTAL COMMISSION**

Sherilyn Sar  
District Manager  
7575 Metropolitan Drive  
Suite 103  
San Diego 92108-4421  
619-767-2370

Ms. Sar would like to review the alternatives at key points in the study process and offer comments.

**3. CITY OF SAN DIEGO**

Coleen Frost Clementson  
Program Manager  
San Diego City Planning Department  
202 C Street, MS5A  
San Diego, CA 92101

4/18/02 Meeting with City Planning staff. Real Estate Assets has put forth an RFQ for the Sports Arena site to developers. Scripps Hospital is to be redeveloped for residential. Numerous projects are ongoing through the neighborhood groups i.e. street trees, banners etc. Problems in the area include traffic congestion, adult entertainment, housing, quality of life. The area is

identified to be an “Urban Village Center.” The 30’ height limit should be explored for strategic locations based on solid criteria. Additional contacts were provided.

*LB contacted Kurt Hunker, consultant to one of the groups and provided information about the scope of the Bay to Bay Study, to date have not heard back from him.*

#### **4. HOUSING AUTHORITY**

Betsy Morris  
231-9400 X 7531

Susan Baldwin  
San Diego Association of Governments  
401 B Street, Suite 800  
San Diego, CA 92101  
(619) 595-5343

Susan agreed that housing will be an important component to the community. Other contacts provided include George Frank 298-2541.

#### **5. Marine Corps Training Depot (MCRD)**

Public Works Branch  
Sharon Smith, Architect  
Supervisory General Engineer  
Bldg. 224  
619.524.4363

Clifford O. Myers, III  
Assistant Chief of Staff  
Community Liaison/Manpower, G-1  
Marine Corps Recruit Depot/Western Recruiting Region  
1600 Henderson Avenue  
Bldg. 31, Suite 222  
San Diego, CA 92140  
619-524-8731  
Fax 619-524-8210

4/25/02 Meeting with Ms. Smith and Mr. Myers. The Marines are not interested in giving up their property for a channel. A plan was provided by Mr. Meyers for the Barnett Technical Center. The Marines would like better linkage to mass transit. The recruits and their families would be better served if they did not have to rely on private automobiles. MCRD has approximately 900 civilian employees. Recruit classes of approximately 500 each 12 weeks, approximately 12,000 visitors attend graduation events for typically 4 days. Adult entertainment is a problem. The configuration of roads is confusing to visitors. Housing in the are for the civilian employees would be a benefit.

## **6. METROPOLITAN TRANSPORTATION DEVELOPMENT BOARD**

Toni Bates  
231 1466  
Kathy Donnelly  
557-4545  
[Kathy.Donnelly@mtdb.sdmts.com](mailto:Kathy.Donnelly@mtdb.sdmts.com)

4/19/02 Meeting with Ms. Donnelly provided previously prepared relevant documents and preliminary plant alternatives for a parking structure under I-5 associated with Old Town, the Trolley and SPAWAR. MTDB will consider adjusting proposed routes based on findings of the Study.

## **7. Navy/SPAWAR**

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Dave Osborn  
524-7997  
Lt. Vogelsang, LCDR Kevin G.  
[vogelsak@spawar.navy.mil](mailto:vogelsak@spawar.navy.mil)  
858-537-0268

4/17/02 Meeting with Lt. Vogelsang.

- SPAWAR conducts \$3-4 billion business per year in San Diego with its various contractors. Contractors are expected to be located within a 10 minute service area to SPAWAR. The current facility provides for some contractor offices. 2,100 parking spaces.
- They are in discussions with MTDB to develop a parking structure under I-5 associated with Old Town, the Trolley and SPAWAR.
- The City is planning to install a traffic signal at Pacific Highway and Enterprise in June 2002.
- SPAWAR is willing to provide irrigation water to improvements in the public right-of-way.
- The pump station southwest of the facility, in the Pacific Highway underpass is to be removed. The pedestrian overpass is to be demolished.
- SPAWAR would support a height limit above 30'. Kevin thinks that their building is 45'.
- They are participating in redevelopment studies for the small corner of property between Enterprise, Pacific Highway and Barnett.

## **8. PUBLIC UTILITIES**

Requests for underground and overhead facilities were requested in writing from:

- SDG&E
- Level 3 Communications
- Pacific Bell
- AT&T
- MCI WorldCom
- Cox Communications

## **9. SAN DIEGO PORT DISTRICT**

Bill Chopyk,  
Planning Manager  
686-6283

- The ‘Navy estuary’ under the glide path is leased from the Navy (maybe City now?) can not build above the surface in this area.
- It is a sensitive habitat.
- The Port considered providing water access to the airport for boat transit, but found the bridges to be too low. He could find the bridge drawings if necessary indicating clearance in low and high tide.
- The Port Master Plan will be sent. Draft Airport Master Plan EIR will be out “soon.”

## **10. SAN DIEGO REGIONAL WATER QUALITY CONTROL BOARD**

Stacey Baczkowski  
Environmental Scientist  
State of California  
California Regional Water Quality Control Board  
San Diego Region  
9174 Sky Park Court, Suite 100  
San Diego, CA 92123-4340  
858-637-5594  
[baczs@rb9.swrcb.ca.gov](mailto:baczs@rb9.swrcb.ca.gov)

- Municipal Stormwater Permit
- Water Quality Certification, with the Corps of Engineers’ permits
- General concerns include:
  - Water Quailty
  - Invasion of exotic plants and animals
  - Water circulation re: tidal cycle
  - Urban runoff – permeable pavement, bioswales
  - Underground utilities
  - Shape of the channel re: adjacent land uses
- Contact Karen Henry at the City of San Diego 525-8647
- See the Standard Urban Stormwater Mitigation Plan (SUSMP) webpage  
[http://www.co.san-diego.ca.us/cnty/cntydepts/landuse/env\\_health/pcw/pcw\\_modelprograms.html](http://www.co.san-diego.ca.us/cnty/cntydepts/landuse/env_health/pcw/pcw_modelprograms.html)

### **11. U.S. POST OFFICE**

Art Pardo  
Manager of Facilities, Environment, Campus and Purchasing Programs  
U. S. Post Office  
11251 Rancho Carmel Drive  
San Diego 92119-9361  
858-674-0583  
[Apardo@email.usps.gov](mailto:Apardo@email.usps.gov)

- The 30 acre Midway Post Office is currently expanding services on site. It has no plans for moving.
- The U. S. Post Office is open to options in the redevelopment of the Midway Community if space were available at an suitable location and relocation costs were covered by the City.
- If the airport relocates the facility would follow. Airport access is critical.
- They are in the process of renewing their existing lease at Lindbergh Field. They would like to have more space at the airport but understand it is unlikely.

### **12. City of San Diego Fire Department**

Bob Medan  
Deputy Fire Marshal  
City of San Diego  
1222 First Ave., 4<sup>th</sup> Floor  
San Diego, CA 92101  
446-5444

- 4/26/02 Mr. Medan provided the City's access standards and policy documents.
- The existing fire station #20 could be relocated if recommended by the Study and redevelopment plan as long as it meets their criteria.
- The City is responsible for fire service for SPAWAR, MCRD.
- He would like to remain involved in the planning study and review alternatives.
- Criteria for bridges would be from Caltrans.

### **13. SANDAG**

Stephan Vance  
Senior Transportation Planner  
San Diego Association of Governments  
(619) 595-5324  
Fax: (619) 595-5305

- Ideal bikeway is 10' for bikes separated from a 6' pedestrian path.
- Commuter bicyclists favor use of the road in a class II bikeway.
- Current configuration of roads is hazardous. Consider downgrading Pacific Highway, redesign the Barnett intersection.
- The new Streetscape Design Manual should be helpful.

- Consult with Mike Hicks re: the I-5 Corridor Study.

#### **14. SANDAG**

Michael Hix

Senior Project Manager, Transportation

San Diego Association of Governments

(619) 595-5377

Fax: (619) 595-5305

[Mhi@sandag.org](mailto:Mhi@sandag.org)

SANDAG provided a Draft of diagrams from the Central Interstate 5 Corridor Study.

Planning concepts for the future 20-30 years include:

- Complete the quadrant ramps on I-5 and I-8 in along with Seaworld Drive/Pacific Highway reconfigurations
- Slip ramp to Rosecrans (and the Old Town Transit Center) from west bound I-8 to south bound I-5
- High Occupancy Vehicle (HOV) lanes along Pacific Highway connecting Old Town Transit Center to future I-5 HOV lanes
- Dedicated bus lanes along Pacific Highway from the Transit Center to the Airport
- I-5 access ramp to Barnett Avenue
- Widen east bound ramp from I-5 to I-8

SANDAG's Airport Study will be complete by January 2003. It is expected the decisions will take 1-2 years to complete by the voters.

#### **15. City of San Diego Transportation Planning**

Gary Halbert

Nasser Abboud, Phd.

Associate Engineer – Traffic

[Nabboud@sandiego.gov](mailto:Nabboud@sandiego.gov)

5/02/02 Meeting, introduced the Study's goals, scope and schedule.

- Rosecrans Corridor Working Group is active. The street is planed to have 3 lanes north and 2 lanes south to Nimitz.
- Another group has hired Kurt Hunker to conduct design studies for elements such as gateway signs and banners.
- City is considering a traffic circle at Rosecrans and Sports Arena Boulevard.
- Additional studies for Airport access and the missing link at I-5 and I-8.

**16. City of San Diego, NTC**

P. J. Fitzgerald  
Development Project Manager  
446-5240  
[pfitzgerald@sandiego.gov](mailto:pfitzgerald@sandiego.gov)

Maureen Ostrye  
Project Manager, NTC  
Redevelopment Agency  
600 B Street, suite 400  
San Diego, CA 92101  
[Mostrye@sandiego.gov](mailto:Mostrye@sandiego.gov)

7/17/02 Meeting, introduced the Study's goals, scope and schedule.

- NTC's program of office could work well with additional office space in the Midway Community.
- Transit into NTC will be developed as needed.
- NTC's planned pedestrian/bicycle access is near the property boundary with MCRD off Barnet. Community linkage to the access point will be valuable.

**17. U.S. FISH AND WILDLIFE SERVICE**

Martin Kenney  
760-431-9440 X252  
Extensive concerns regarding habitat mitigation. Will review plans when submitted.

**18. COUNTY OF SAN DIEGO DEPARTMENT OF ENVIRONMENTAL HEALTH**

David Felix  
619-338-2222  
DEH could provide 3<sup>rd</sup> party review of specific projects. They have authority over underground storage tanks but nothing else. Costs and benefits associated with redevelopment depend on the complexity of each site.

Gary Erveck  
Director of Environmental Health  
P.O. Box 129261  
San Diego, CA 92112-9261

**California Department of Transportation**

Caltrans was not contacted because SR 209 has been transferred to the City of San Diego

**Federal Highways Administration**

FHA was not contacted because SR 209 has been transferred to the City of San Diego

**Federal Aviation Administration**

FAA was not contacted. The Port Authority provided the Lindbergh Field Master Plan.

XVII. BIBLIOGRAPHY

- *City of Villages Action Plan, City of San Diego General Plan Strategic Framework Element, 2<sup>nd</sup> Revised Draft, 4/02*
- *City of Villages, City of San Diego General Plan Strategic Framework Element, 2<sup>nd</sup> Revised Draft, 302*
- *Final Environmental Impact Report, Volume I, North Bay Revitalization Area (Including the North Bay Redevelopment Project), Cotton Beland Assoc., 3/98*
- *Final Environmental Impact Report, Volume II - Appendices, North Bay Revitalization Area (Including the North Bay Redevelopment Project), Cotton Beland Assoc., 3/98*
- *Marine Corps Recruit Depot, Shareholders Report, 1/02*
- *Midway/Pacific Highway Corridor Community Plan and Local Coastal Land Use Plan, City of San Diego, 1/19/99*
- *Mission Bay Park Natural Resource Management Plan, Development and Environmental Planning, Planning Department, City of San Diego, 1990 (?)*
- *MTDB – North Bay & Beach Area Showcase Project, Section 2, Wilbur Smith Associates, date?*
- *North Bay & Beach Area Guideway Study, Technical Memorandum of the Evaluation of alignment Alternatives, MTDB, Wilbur Smith Associates, 7/10/00*
- *North Bay Redevelopment Plan, Technical Amendment, San Diego City Redevelopment Program, 9/1/98*
- *Port Master Plan, Port of San Diego, 9/01*
- *Strategic Framework element City of Villages map with MTDB Transit First Network, 4<sup>th</sup> Draft*
- *TransitWorks, MTDB 1/2002*

