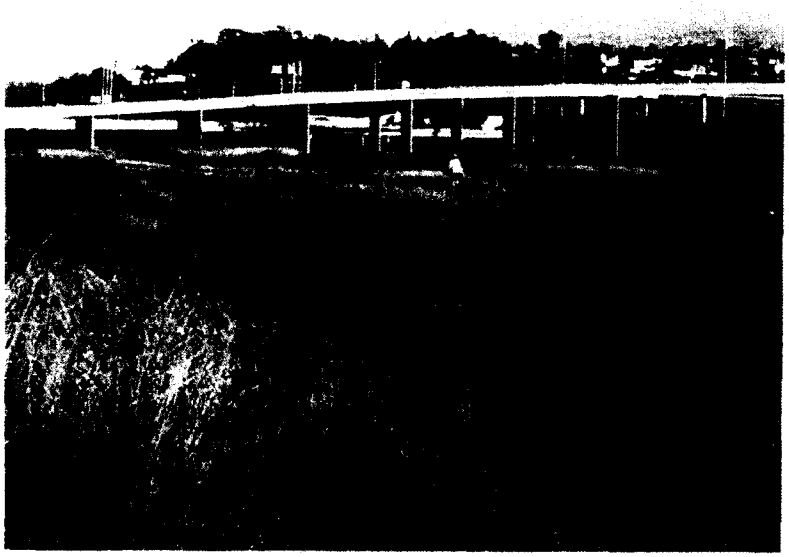
VI. ENVIRONMENT



Mission Bay Park is virtually a human-crafted aquatic structure satisfying a wide range of recreation demands. In shaping the Park to satisfy these demands, mostly through dredging, much of its biological and ecological health has been lost. The Northern Wildlife Preserve, a 31-acre wetland, constitutes the only natural remnant of what once was a 4,000-acre habitat serving the Pacific Flyway. Along with other areas of the Park devoted to wildlife, this marsh remains an important biological resource deserving protection and enhancement.

Natural habitats serve more than the interests of wildlife, however. As a water-oriented Park, hundreds of thousands of people go to the Bay to swim, sail, row, water-ski, or just enjoy the aquatic setting. As San Diego's urban area has expanded, the Bay waters have become increasingly polluted, at times causing the closure of some of its waters. Not surprisingly, county residents rate water quality as a key issue facing the future of Mission Bay Park. Clearly, an aggressive plan is necessary to redress the course of contamination. More broadly...

...Mission Bay Park should be planned, designed, and managed for long-term environmental health. The highest water quality; sustained bio-diversity; ongoing education and research; and the reduction of traffic noise, and air pollution should all be priorities. The Park's natural resources should be conserved and enhanced not only to reflect environmental values, but also for aesthetic and recreational benefits.

The environmental attitudes that existed when the Park was first developed are no longer valid. Today's values demand a higher awareness of the potential impacts of development upon natural resources – and adequate action to protect and enhance them. The environmental element of the Master Plan Update is, in effect, a reflection of these new values.

THE NATURAL RESOURCE MANAGEMENT PLAN

In anticipation of the need for a Bay-wide natural resource protection plan and the identification of mitigation opportunities and constraints to secure permit approvals for Park improvements requiring environmental mitigation, the City undertook, in 1988, a comprehensive review of the Park's biological resources. This led to the preparation of the Mission Bay Natural Resources Management Plan (NRMP), which was adopted and its EIR certified by City Council as meeting CEQA requirements in May of 1990.

Among key features of the NRMP was the dedication of the sludge beds in Fiesta Island as a 110-acre habitat area comprised of salt marsh, salt pan, and upland vegetation. An eelgrass embayment to function as a mitigation bank against future improvements was also included within the 110-acre site. These proposals were viewed as a "proactive" means to improve the Park's ecology and secure mitigation for the Park's planned and future improvements.

The NRMP is included under Appendix E. The proposals contained in this Master Plan Update differ from the NRMP in two significant ways:

- No mitigation/habitat areas are proposed in the southern peninsula of Fiesta Island, with the exception of eelgrass beds associated with new embayments for swimming. Rather, this Plan proposes a substantial expansion of wetland areas immediately adjacent to the Northern Wildlife Preserve along with a smaller wetland at the outfall of Tecolote Creek.

- Expansion of upland preserves are proposed along the levee of the San Diego River Channel and, potentially, in De Anza Point and other upland areas associated with the wetland expansion adjacent to the Northern Wildlife Preserve.

These changes respond to the overall objective of maximizing the benefit of all habitat areas by placing such areas in as large and contiguous sites as possible. These and other Plan recommendations will supersede the NRMP once the EIR associated with this Master Plan Update is certified.

PUBLIC INTEREST AND CONCERN

The adopted Natural Resource Management Plan constitutes the first comprehensive document to address the Park's ecology. As such, it can be considered a statement of public support for the environmentally sound management of the Park's land and water resources.

This support is reinforced by the results of a professionally-conducted telephone survey, commissioned at the outset of the Master Plan Update to gauge public opinion on key issues and desires (Appendix D).

The following questions concerning the Park's environment were asked.

Q: "How do you rate the importance of preserving and enhancing natural resources in Mission Bay Park?"

Over 70 percent of the respondents answered, "Very Important"; another 25 percent answered, "Somewhat Important." The remaining responses were tabulated as "Not at All Important". In other words, over 95 percent of the population has an interest in the vitality of the Park's natural resources. How significant is this interest when pitted against other resources?

Q: "Would you favor taking areas of the Park out of active public use and dedicating these areas for natural preservation or enhancement?"

A majority of the respondents (52.2 percent) answered "Yes"; 47.8 percent answered "No."

Of critical concern to the future development and management of the Park is the quality of the Bay waters and biological habitat in general. Water quality was rated by 86.5 percent of the survey respondents as "Very Important"; 65.7 percent rate Biological habitat as "Very Important." These two issues top the list of concerns, which included traffic, overcrowding, crime, and odor from the sludge beds.

The growing and substantial public perception that the Park's environment needs attention served throughout the planning process as a catalyst towards the pursuit of environmentally sound – and environmentally based – land and water use concepts.

IMPROVING THE PARK'S WATER QUALITY

Mission Bay Park's success or failure hinges on clean water. If the public is prevented from enjoying water sports and the water setting because of water pollution, the Park's reason for being is fundamentally compromised. Improving the Bay's water quality requires a sustained multi-faceted approach at both the Park and watershed scale.

Recommendations

A body of water can be degraded by permitting contaminants to flow into it and by having inadequate means to treat contaminants once they have entered the system. Accordingly, the Plan recommends that the problem be tackled at the source, in the conduits from the source, and at the Bay itself through public education, Park management, and mechanical, hydrological and biological improvements. Because of the complexity of the problem, any and all measures that can improve the vitality and health of the Bay waters should be explored and implemented as a priority.

WATER QUALITY

a. Watershed Planning

The City will support and participate in watershed based planning efforts with the Regional Water Quality Control Board. Watershed planning efforts shall be facilitated by helping to:

- Pursue funding to support the development of watershed plans;
- Identify priority watersheds where there are known water quality problems or where development pressures are greatest;
- Assess land uses in the priority areas that degrade coastal water quality;
- Ensure full public participation in the plan's development.

b. Development

New development or redevelopment shall be sited and designed to protect water quality and minimize impacts to coastal waters by incorporating measures designed to ensure the following:

- Protect areas that provide important water quality benefits, areas necessary to maintain riparian and aquatic biota and/or that are susceptible to erosion and sediment loss.
- Limit increases of impervious surfaces.
- Limit land disturbance activities such as clearing and grading, and cut-and-fill to reduce erosion and sediment loss.
- Limit disturbance of natural drainage features and vegetation.

New development or redevelopment shall not result in the degradation of the water quality of groundwater basins or coastal surface waters including the ocean, coastal streams, or wetlands. Urban runoff pollutants shall not be discharged or deposited such that they adversely impact groundwater, the ocean, coastal streams, or wetlands, to the maximum extent feasible.

Development or redevelopment must be designed to minimize, to the extent practicable, the introduction of pollutants that may result in significant impacts from site runoff from impervious areas. To meet the requirement to minimize pollutants, new development or redevelopment shall incorporate a Best Management Practice (BMP) or a combination of BMPs best suited to reduce pollutant loading to the Maximum Extent Practicable.

Post-development peak stormwater runoff discharge rates shall not exceed the estimated pre-development rate for developments.

New development or redevelopment shall be sited and designed to minimize impacts to water quality from increased runoff volumes and nonpoint source pollution. All new development and redevelopment shall meet the requirements of the RWQCB, San Diego Region, in its Order No. 2001-01, dated February 21, 2001, or subsequent versions of this plan.

The BMPs utilized shall be designed to treat, infiltrate, or filter stormwater to meet the standards of the 85th percentile, 24-hour runoff event for volume-based BMPs and/or the flow of runoff produced from a rain event equal to at least two times the 85th percentile, 1-hour event for flow-based BMPs .

New roads, bridges, culverts, and outfalls shall not cause or contribute to shoreline erosion or creek or wetland siltation and shall include BMPs to minimize impacts to water quality including construction phase erosion control and polluted runoff control plans, and soil stabilization practices. Where space is available, dispersal of sheet flow from roads into vegetated areas or other on-site infiltration practices shall be incorporated into road and bridge design.

Commercial development or redevelopment shall use BMPs to control the runoff of pollutants from structures, parking and loading areas.

Restaurants shall incorporate BMPs designed to minimize runoff of oil and grease, solvents, phosphates, and suspended solids to the storm drain system.

Fueling stations shall incorporate BMPs designed to minimize runoff of oil and grease, solvents, battery acid, coolant and gasoline to stormwater system.

New development or redevelopment shall include construction phase erosion control and polluted runoff control plans. The following BMPs should be included as part of the construction phase erosion control plan:

- Ensure vehicles on site are parked on areas free from mud; monitor site entrance for mud tracked off-site;
- Prevent blowing dust from exposed soils;
- Control the storage, application and disposal of pesticides, petroleum and other construction and chemical materials;
- Provide sanitary facilities for construction workers;
- Site washout areas more than fifty feet from a storm drain, open ditch or surface water and ensure that runoff flows from such activities do not enter receiving water bodies;

- Provide adequate disposal facilities for solid waste produced during construction and recycle where possible;
- Include monitoring requirements.

New development or redevelopment shall include post-development phase drainage and polluted runoff control plans. The following BMPs should be included as part of the post-development drainage and polluted runoff plan:

- Abate any erosion resulting from pre-existing grading or inadequate drainage.
- Control potential project runoff and sediment using appropriate control and conveyance devices; runoff shall be conveyed and discharged from the site in a non-erosive manner, using natural drainage and vegetation to the maximum extent practicable.
- Include elements designed to reduce peak runoff such as:
    - Minimize impermeable surfaces.
    - Incorporate on-site retention and infiltration measures.
    - Direct rooftop runoff to permeable areas rather than driveways or impervious surfaces to reduce the amount of storm water leaving the site.

Storm drain stenciling and signage shall be provided for new storm drain construction in order to discourage dumping into drains. Signs shall be provided at shoreline public access points and crossings to similarly discourage dumping.

Outdoor material storage areas shall be designed using BMPs to prevent stormwater contamination from stored materials.

Trash storage areas shall be designed using BMPs to prevent stormwater contamination by loose trash and debris.

Permits for new development or redevelopment shall be conditioned to require ongoing maintenance where maintenance is necessary for effective operation of required BMPS. Verification of maintenance shall include the permittee's signed statement accepting responsibility for all structural and treatment control BMP maintenance until such time as the property is transferred and another party takes responsibility.

The City or lessees, as applicable, shall be required to maintain any drainage device to insure it functions as designed and intended.

All structural BMPs shall be inspected, cleaned, and repaired when necessary prior to September 30th of each year. Owners and/or lessees of these devices will be responsible for insuring that they continue to function properly and additional inspections should occur after storms as needed throughout the rainy season.

Repairs, modifications, or installation of additional BMPs, as needed, should be carried out prior to the next rainy season.

Public streets and parking lots shall be swept frequently to remove debris and contaminant residue. For streets and parking lots within leaseholds, the lessee shall be responsible for frequent sweeping to remove debris and contaminant residue.

New development or redevelopment that requires a grading/erosion control plan shall include landscaping and re-vegetation of graded or disturbed areas. An integrated vegetation management plan shall be required and implemented. Use of native or drought-tolerant non-invasive plants shall be required to minimize the need for fertilizer, pesticides, herbicides, and excessive irrigation. Where irrigation is necessary, efficient irrigation practices shall be required.

New development or redevelopment shall protect the absorption, purifying, and retentive functions of natural systems that exist on the site. Where feasible, drainage plans shall be designed to complement and utilize existing drainage patterns and systems, conveying drainage from the developed area of the site in a non-erosive manner. Disturbed or degraded natural drainage systems shall be restored, where feasible, except where there are geologic or public safety concerns.

c. Hydromodification

Any channelization proposals shall be evaluated as part of a watershed planning process, evaluating potential benefits and/or negative impacts. Potential negative impacts of such projects would include effects on wildlife migration, downstream erosion, dam maintenance (to remove silt and trash) and interruption of sand supplies to beaches.

59. Public Awareness Campaign: Mission Bay is fed by creeks which collectively drain a watershed of over 57 square miles. Every undisposed pollutant within this area potentially endangers the Bay's water quality. These include lawn and plant fertilizers, insecticides, herbicides, automotive lubricants, paints, household chemicals, and pet wastes. Reducing the pollutant loading – at the source – would have an immediate impact on the Bay's water quality. As part of the National Pollution Discharge Elimination System (NPDES), the City has already initiated a public awareness campaign to curb the contamination of public waters. Such efforts should continue and be specifically targeted to the residents and businesses within Mission Bay's watershed.

60. Park Use: Visitors should be informed and educated about "friendly" environmental practices while using the Park. The aim is to minimize boat-related pollution; curb the use of chemicals (lighter-fluids in picnic areas, for example); and control the generation of waste and pollution from parking areas. Every water access site in the Park should include information encouraging the safe use and control of fuel, oil, cleaning products, paints and solvent, bilge water, boat exhaust, etc. RV clean-up and pumping stations and waste collection areas should be increased around the Park.

61. Park Development Maintenance and Operations: Within the Park, a program to reduce and control the use of contaminants should be continued and improved. The use of landscape chemicals, fertilizers, herbicides and insecticides should be minimized. The use of water-soluble, bio-degradable chemicals should be used in building maintenance. These measures should apply to public and private facilities alike.

62. Interceptor System: In response to the mandates of the NPDES, which is administered by the Environmental Protection Agency (EPA), the City is currently implementing a "dry weather" interceptor system to prevent sewage spills from entering the Bay through the storm sewers. This program should measurably reduce the Bay's contamination.

63. Upstream Controls: Although as yet unquantified, a substantial amount of pollutants may be entering the Park through Rose Creek and Tecolote Creek. An investigation to determine the type and amount of pollutants should be initiated. In addition, measures that could curb the flow of pollutants into the Bay should be pursued, where proven feasible:

- Sediment traps or basins adjacent to the creek outfalls, or at suitable upstream locations, that can be adequately maintained.

- Removal of concrete lining on Rose and Tecolote Creeks to slow down flood flows and allow contaminants to be absorbed by fresh water marsh and riparian vegetation. This would require approval from the Army Corps of Engineers.

- Flow equalization reservoirs (above or below grade) to reduce the incoming volume of flood waters.

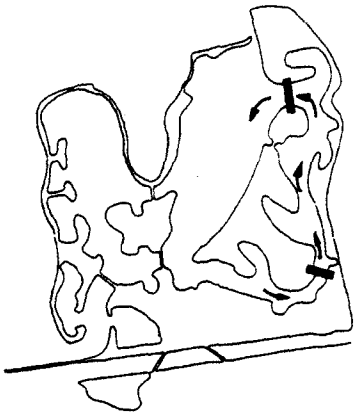
- Control of storm sewer discharges, as addressed by the NPDES.

64. Tidal Gates: Poor flushing of the Bay waters exacerbates the problem of deteriorating water quality by holding contaminants in concentrated areas. In an effort to mechanically assist tidal flushing in Pacific Passage, Clive Dorman, Ph.D., of San Diego State University, has proposed a system of tide-activated gates. Containing a series of "flapper valves," the gates would force the tides in a counter-clockwise motion around Fiesta Island, diluting pollutants in the process. The gates would be placed at the south and north ends of Pacific Passage (under a bridge to Fiesta Island on the south, and between Fiesta Island and De Anza Cove on the north).

Model of Tidal Gates
(Source: Clive E. Dorman, SDSU)

However, the tidal gate under the Fiesta Island Bridge is incompatible with the potential establishment of a marsh at the outfall of nearby Tecolote Creek, and would restrict passage by rowers from one body of water to the other. The gates are also an expensive, unproven technology. For these reasons, tidal gates are viewed as a potential, long-term measure should more feasible measures fail to produce results.

65. New Tidal Channels: As part of Dr. Dorman's study, opening channels through Fiesta Island and De Anza Cove was also evaluated. Tidal simulations conducted on a scaled model of the Park revealed that the Fiesta Island channel only marginally improved water circulation; the De Anza channel was more effective. The De Anza channel should therefore be pursued as part of the De Anza SSA redevelopment. The Fiesta Island channel should be pursued only if the need to create eelgrass beds outweigh its capital cost and if proven technically feasible. Geotechnical studies should be conducted for all proposed channels to assess their feasibility.



Tidal Gates & Flow

66. Wetland Filtration: In this country and abroad there is wide use of fresh-water marshes as natural sewage filters. Marshes absorb contaminants in two ways: by trapping heavy metals in its sediments, and by absorbing coliform and other organic material in its leaf matter.

While relatively few salt-water or tidal marshes have been targeted and monitored as natural filtration systems, there is evidence that they perform as effectively as fresh-water marshes in the treatment of bacteria, nitrogen, phosphorus, and other sewage-related pollutants. Accordingly, the creation of wet-lands in the Park should be pursued as part of a comprehensive program to improve the quality of the Bay waters.

WETLAND HABITAT

Kendall Frost Wildlife Preserve

Of all of the proposed environmental recommendations for the Park, the establishment of new wetland areas has received the most scrutiny and attention. The issues centered on what value wetland areas have as a biological, water treatment and recreational resource, and on where and how much wetland should exist in the Park. Numerous articles and publications were reviewed and several special consultants retained in an effort to shed as much light as possible on these issues. Informal discussions were also held with a number of prominent experts in the field.

Recommendations

Tidal marshes should be considered an integral part of the Bay's landscape. As discussed below, marshes provide multiple benefits to the Park, both from an ecological and recreational standpoint.

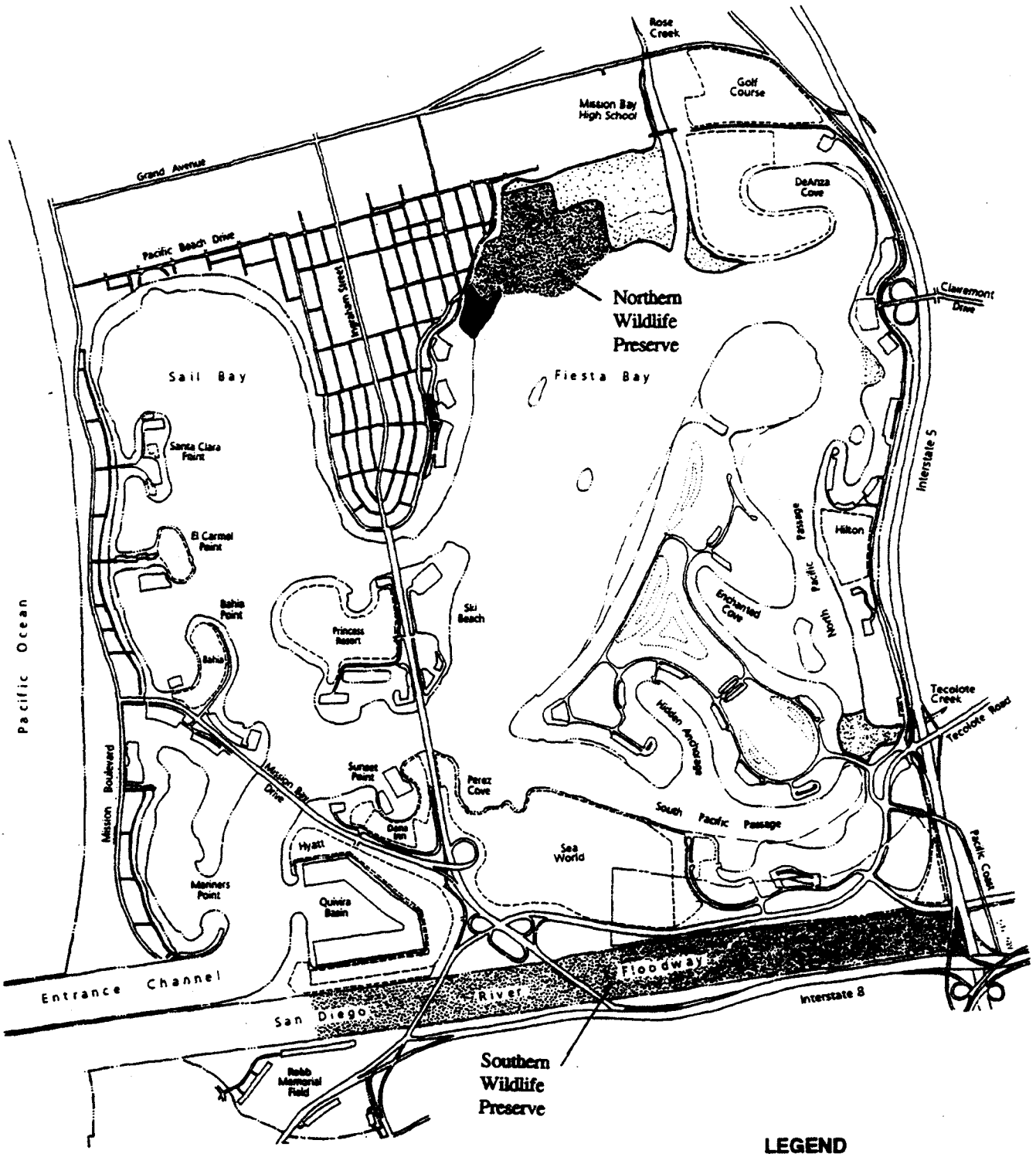
67. Water-Treatment Value: Richard M. Gersberg, Ph.D., of San Diego State University was retained to provide an evaluation of the potential use of wetlands for stormwater treatment in Mission Bay. Appendix B-2 contains his report and appropriate references.

Given a 20-hour hydrologic retention time, Dr. Gersberg estimates that coliform removal efficiency in a tidal marsh would approach 90 percent. Several variables would affect this performance, such as the size and configuration of the marsh, tidal levels, magnitude of flood events, "first-flush" pollutant loading, and the efficiency of the retention system. Nevertheless, the ability of a tidal marsh to capture and filter pollutants can be substantial.

68. Wetland Location: Given their potential treatment value, new wetland areas should be placed where they can optimally perform a pollution filtration function: the outfalls of Rose and Tecolote Creeks, and other significant storm sewer outfalls, which is where the "first-flush" of pollutants would most likely enter the Bay.

Because Rose Creek drains the largest portion of the Park's watershed, most of the new wetland should be placed in the vicinity of its outfall. This location offers several additional major benefits:

- Places new wetlands in contiguity with the Northern Wildlife Preserve, which magnifies the combined waterfowl habitat value.
- Integrates proposed and existing upland and wetland habitats, enhancing their respective ecologies.
- Establishes integrated and distinctive "natural" recreation areas in the Park serving hikers, walkers, bird watchers, rowers and canoeists.



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LEGEND

- Existing Preserves
- Proposed Wetland Area
- Proposed Preserve Expansion Area

Wetland Habitat

figure 22

- By removing the NRMP-planned wetland areas from Fiesta Island, about 70 acres of prime parkland become available for recreation once the sludge beds are abandoned. Such acreage is unavailable elsewhere in the Park.

Accordingly, the following wetland areas are proposed:

- Rose Creek outfall: 80+/- acres. This site requires the removal of Campland. Additionally, some wetlands creation may be required as part of the De Anza Special Study Area.

- Tecolote Creek outfall: 12+/- acres.

- Pacific Passage, south of the Visitor Center/(Cudahy Creek): 5+/- acres.

The configuration and ultimate area of these wetland areas should be derived from balancing mitigation, water quality, floor control, aquatic recreation, and safety values and needs. The wetland mitigation value should not be compromised by their design as water quality improvement facilities, but be balanced to optimize both objectives.

68a. Mitigation Banking for Publicly Used Wetland: A mitigation bank will be established in Mission Bay for habitat in excess of immediate project needs. To aid in maximizing habitat mitigation banking credit for the proposed wetland development projects, the design will limit areas designated for public use (i.e., wildlife observation decks, boardwalks, and/or canoeing) to a small percentage of the total area. Buffer zones around specific public uses will be designated and a sliding scale for mitigation credit implemented for these zones. Prior to the allocation of any mitigation credits, criteria and an estimated time frame for successful wetland habitat restoration/creation will be established. The final mitigation banking program shall be incorporated into the certified Master Plan as an amendment to the City of San Diego Local Coastal Program.

For wildlife observation decks and boardwalk use, no credit would be given for habitat within 25 feet of such use; half credit would be given for habitat within 25 to 50 feet of such use; full credit would be given for habitat 50 to 100 feet of such use, providing that bird nesting takes place within that zone; and full credit with no stipulations would be given for habitat 100 feet or farther away from such use.

Canoeing/kayaking areas will be included in the design, but will be implemented provisionally. Restrictions on this type of use and monitoring of possible impacts to wildlife and habitat will be instituted. Should adverse impacts occur, this type of use will either be further restricted or eliminated from the area. For the nature center and for the canoeing/kayaking use areas, no credit would be given for habitat within 50 feet of such use; half credit would be given for habitat within 50 to 100 feet of such use; and full credit would be given for habitat 100 feet or more from such use.

68b. Wetland Management Plan for Proposed Wetland Areas: Upon acceptance of a final wetland design by resource agencies, a wetland management plan will be developed for inclusion into this Master Plan. The final Wetlands Management Plan shall be incorporated into the certified Master Plan as an amendment to the City of San Diego Local Coastal Program. This management plan will include: provisions for appropriate agency consultation; criteria for maintenance activities, if needed; description of maintenance activities which may be required, including possible locations, equipment, personnel, methods, and means to minimize impacts to surrounding areas; and a monitoring and reporting program, including but not limited to, water quality testing (petroleum products and other toxins) at point of water entrance to wetland, within treatment marsh, and in Mission Bay; wildlife usage; presence of invertebrates; composition of vegetation; health of vegetation, particularly Spartina; general weather conditions; and statistics of usage in public use areas. A regular monitoring and reporting schedule will also be included in the Plan for the estimated establishment period and subsequent annual "bank accounting" statements to agencies (California Coastal Commission, California Department of Fish and Game, Regional Water Quality Control Board, U.S. Fish and Wildlife Service and U.S. Army Corps of Engineers).

69. Hydrologic Improvements: Marshes naturally occur at the mouth of creeks, streams, and rivers where they periodically absorb flood events. Marshes are by nature capable of withstanding and recovering from such events. However, the creation of a marsh having storm sewer treatment functions will require safeguards from flood events.

Philip Williams & Associates, Ltd., hydrologic specialists, have provided a preliminary evaluation of the feasibility of creating a marsh at the Rose Creek outfall. Their report is included in Appendix B-1. Key recommendations include:

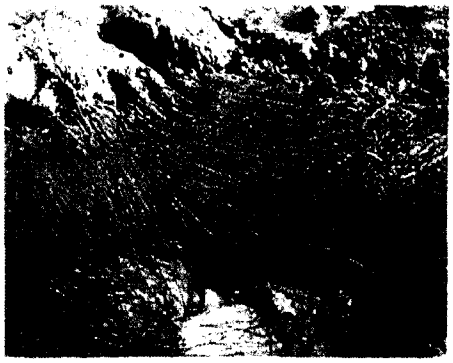
- Maintaining and extending the flood control channel through the marsh.

- Diverting a portion or all of the "first-flush" into the marsh by secondary channels or pipes, from a point upstream from the creek's outfall.

- Building levees around the marsh, with operable gates, to achieve the required retention treatment time (20 hours, ideally). The gates could be inflatable "bladder dams" that are activated only during flood events; the remainder of the time the dams could be deflated, permitting rowers and canoeists into the marsh channels. The levees could be designed as upland habitat areas, adding value to the ecology of the marsh.

Similar considerations apply to the proposed Tecolote Creek marsh.

70. Testing: In consideration of the scope of the proposed marsh areas, and in the interest of monitoring their effectiveness as pollution filtration devices, test plots should be considered as a pre-implementation measure. Suitable test plots are the 2-acre Frost property, which the City is expected to acquire for wetland expansion, and portions or all of the targeted Tecolote Creek wetland area.



Eelgrass
(Source: The Audubon Society Natural Guides, Pacific Coast)

SUBMERGED (BENTHIC) HABITAT

In the context of Mission Bay, submerged, or (benthic) habitat refers to plant, invertebrate and fish life associated with eelgrass beds. As living plants, eelgrass functions as habitat for bacteria and other microorganisms, which feed a host of invertebrates. The latter, in turn, support the Bay's fish communities such as the halibut. Fishing in the Park, therefore, is greatly dependent on the quantity and quality of eelgrass beds. As eelgrass dies and washes onto the beaches, it becomes a food source for other invertebrates, which in turn feed a population of shore birds.

Recommendations

Large areas of Mission Bay Park already exhibit healthy areas of eelgrass, while others, such as the planned South Shores embayment, are targeted for potential eelgrass mitigation.

71. Eelgrass Enhancement: Additional eelgrass beds should be created wherever possible in Mission Bay. As eelgrass is very sensitive to water quality, new eelgrass beds should be located in well flushed areas of the Park. Potential sites are:

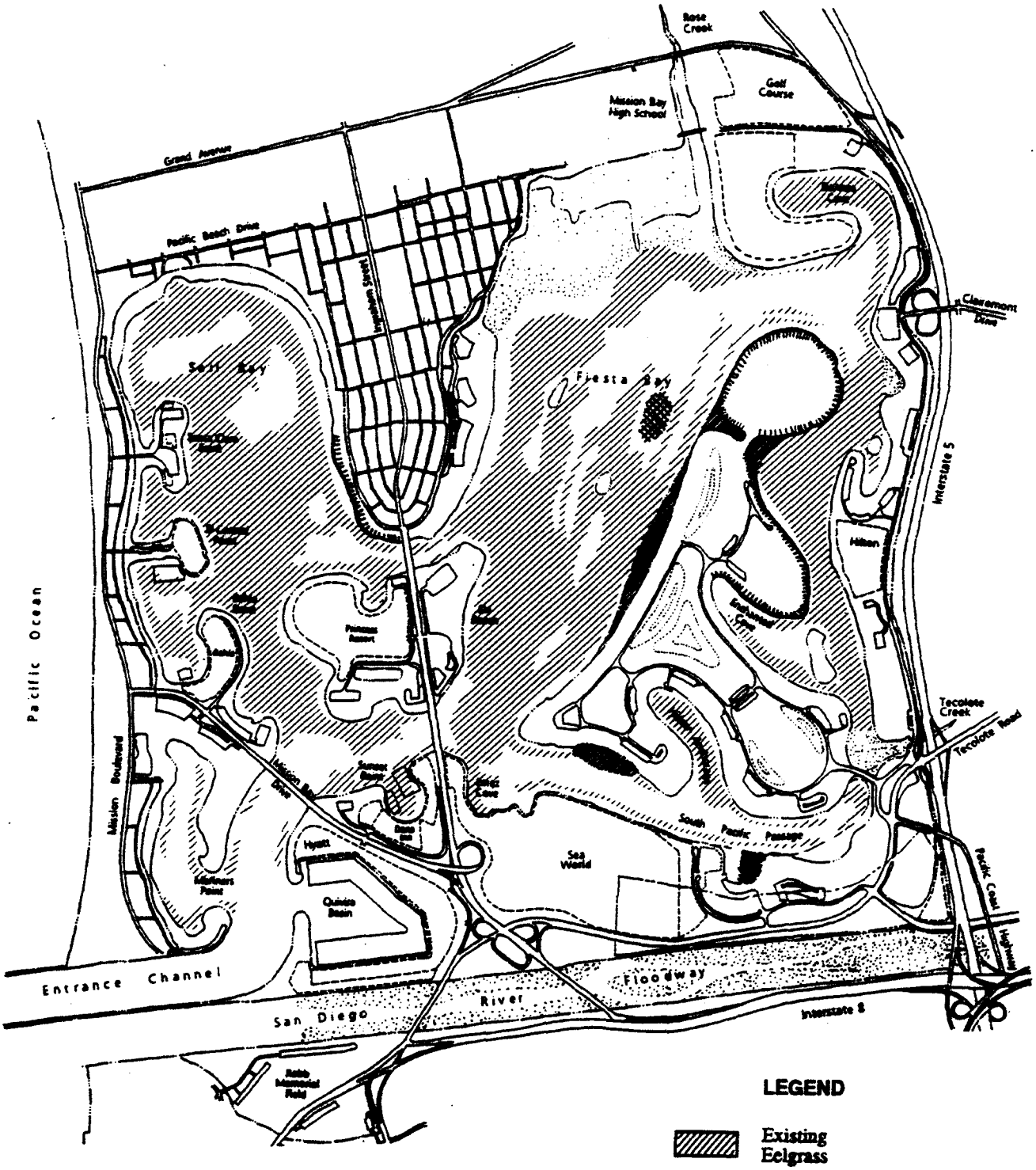
- West shore of Fiesta Island: 18+/-acres. The western shore of the Island is proposed to be "shaved back" to form a long crescent. The bathymetry of the resulting dredged area can be contoured to expand existing eelgrass beds.

- South Fiesta Island Embayment: 4+/-acres. This embayment, requiring a wake attenuation device, is envisioned as a prime wading area connected to the Island's main recreation area.

- Should it prove necessary from a mitigation stand-point, this embayment could be enlarged to about 9 acres.

- Fiesta Island Channel: 12+/-acres. The channel is proposed as a possible eelgrass mitigation area – if proven essential and cost-effective.

In addition, some beach areas of the Park should remain unswept, allowing dead eelgrass to be recycled by wildlife. Less frequented beaches should be targeted for "on-shore" eelgrass. Potential sites should include the northern part of Fiesta Island, south tip of Crown Point Shores, and the isthmuses to El Carmel and Santa Clara Points.



Benthic Habitat

figure 23

UPLAND HABITATS

Upland habitats include both preserve areas for the California Least Tern and native vegetation areas available for public use. Several sites are identified in the NRMP as Least Tern preserves. These sites, with the exceptions noted below, are to remain. Non-preserve upland areas are viewed as recreational landscapes benefitting those who desire open space for strolling, hiking, bicycling, jogging or simply to enjoy wide views of the Bay.

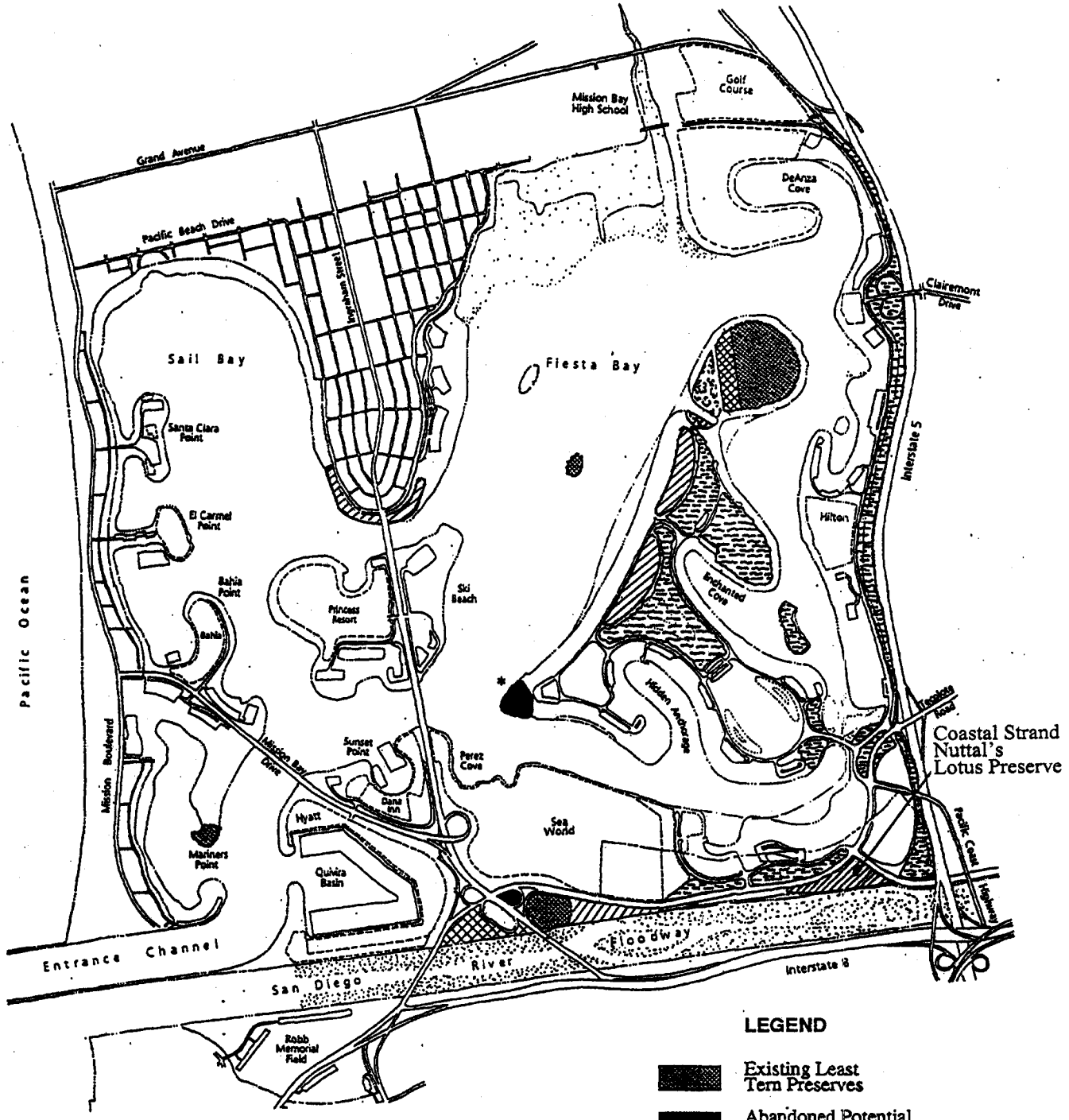
Recommendations

In pursuit of the "Parks Within a Park" concept, most of the upland habitat areas are proposed in the northeast quadrant of the Park, particularly within Fiesta Island.

72. Preserves: The NRMP identifies four of the Least Tern preserves to remain: on the north shore of the San Diego River Channel near Sea World Drive, by the Ingraham Street "cloverleaf"; the tip of Mariner's Point; FAA Island in Fiesta Bay; and the northern peninsula (north end) of Fiesta Island.

This Plan proposes that Stony Point in Fiesta Island and the Cloverleaf site at the intersection of Sea World Drive and Ingraham Street be abandoned and replaced at other locations. Stony Point, which was a historic breeding area, is proposed to be abandoned to permit the full utilization of the Island's southern peninsula for regional recreation purposes. NRMP recommended that the Cloverleaf site be released from a nesting site and be returned for park use, because it is surrounded by high traffic roads, is less than an acre in size, and is difficult to maintain and monitor. Proposed replacement sites include North Fiesta Island and area along the levee of the San Diego River floodway, west of Ingraham Street. The abandonment of Stony Point should be effected when Least Terns are confirmed to be breeding in a suitable replacement site.

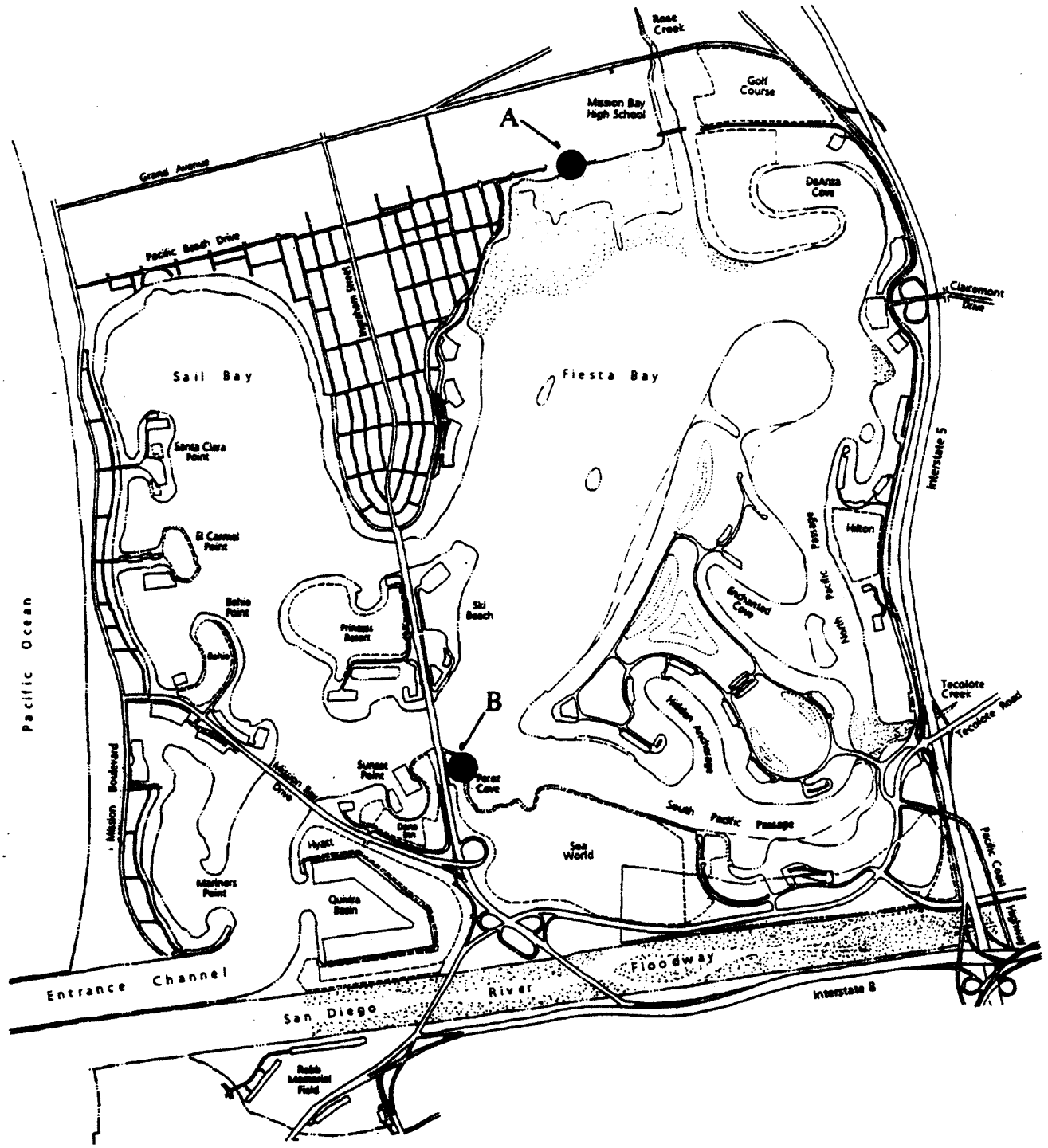
73. Coastal Landscape Enhancement: As described in more detail in the Land Use Section of this Plan, substantial new upland areas are proposed for recreation purposes. These areas would be vegetated primarily by beach strand and coastal sage scrub communities. In addition to their recreational value, these plant communities provide cover and forage for several wildlife species, adding to the overall biological vitality of the Park.



* The Stony Point site was a proposed reinstatement of a historical Least Tern breeding area.

Upland Habitats

figure 24



LEGEND

A Mission Bay Park Nature Center

B Hubbs-Sea World Research Institute

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Environmental Education

figure 25

ENVIRONMENTAL EDUCATION AND RESEARCH

There are few natural coastal areas within easy access of San Diego which can provide a setting for education and research. While all areas of the Park should offer discrete information about the Bay's environment, including advice and regulations aimed at curbing air and water pollution, a central, school-oriented facility would enhance the Park's function as a teaching laboratory.

Recommendations

74. Nature Center: A nature center should be developed in the vicinity of the Northern Wildlife Preserve (NWP). The NWP, with the addition of marsh at the outfall of Rose Creek, should eventually enjoy a significant diversity of natural habitats, plus the only extant marsh in Mission Bay.

The nature center should provide interpretive and educational information and facilities for use by educational organizations and the general public, and serve as a research base from which to study and monitor and Bay's environmental health.

The program of continuing studies should be initiated to record the vitality of habitat areas, pollution, sedimentation and other aspects of the Bay's ecology.

75. Hubbs-Sea World Research Institute: Established in 1963, the Hubbs-Sea World Research Institute is a non-profit research foundation, supported by Sea World, and various research grants. The Institute has expressed interest in expanding their facilities into the existing "A Place to Meet" building. Environmental education programs and displays would be part of this new facility. While not duplicating the educational/interpretive functions of the Park's nature center, the expanded education and research facility would enhance public awareness about the Bay and the region's coastal environment.

Should the Mission Bay Park Nature Center be preempted by the need to expand the wetland areas west of Rose Creek, the Hubbs-Sea World Research Institute should be targeted as a more significant venue for interpretive displays and educational programs.

76. Interpretive Program: Environmental education should not be restricted to the habitat areas of the Park. A program of Park-wide interpretive signs should be conceived and implemented, to inform the public of Mission Bay's unique environment.

VII. ACCESS AND CIRCULATION

As one of San Diego's preferred recreation destinations, Mission Bay Park is subject to considerable motorist, bicycle and pedestrian traffic. At peak times, the current infrastructure of roadways, paths, and parking areas is over-taxed, resulting in congestion and reduced access to the Park. Contributing to the traffic problems is a significant volume of commuter traffic on Ingraham Street and Sea World Drive, which are major roadways serving the Park. The latter also becomes highly congested during peak weekends and holidays as thousands of visitors flock to Sea World.

Circulation problems are not exclusive to motorized vehicles. Bicycle travel, jogging and walking are highly valued as recreational activities in Mission Bay Park. Bicycle and pedestrian paths are interrupted in several areas around the Park and are too narrow to safely and conveniently accommodate these users.

Because of these conflicts, circulation in the Park currently contributes to a diminished recreation experience. Through land use planning, parking and access controls, the provision of convenient public transit, and enhanced bikeways and paths, this Plan aims to ameliorate the traffic problems facing the Park and further enhance its mission as a regional recreation attraction. As a goal...

...Mission Bay Park should provide safe, efficient and enjoyable access to all of its recreation areas, minimizing circulation and parking impacts on adjacent residential areas. Traffic and parking should support, but not overwhelm, the Park's recreation areas, the regional parkland areas in particular. Bicycle and pedestrian paths should reach all areas of the Park and extend to adjacent open space corridors in as safe and enjoyable a manner as possible.

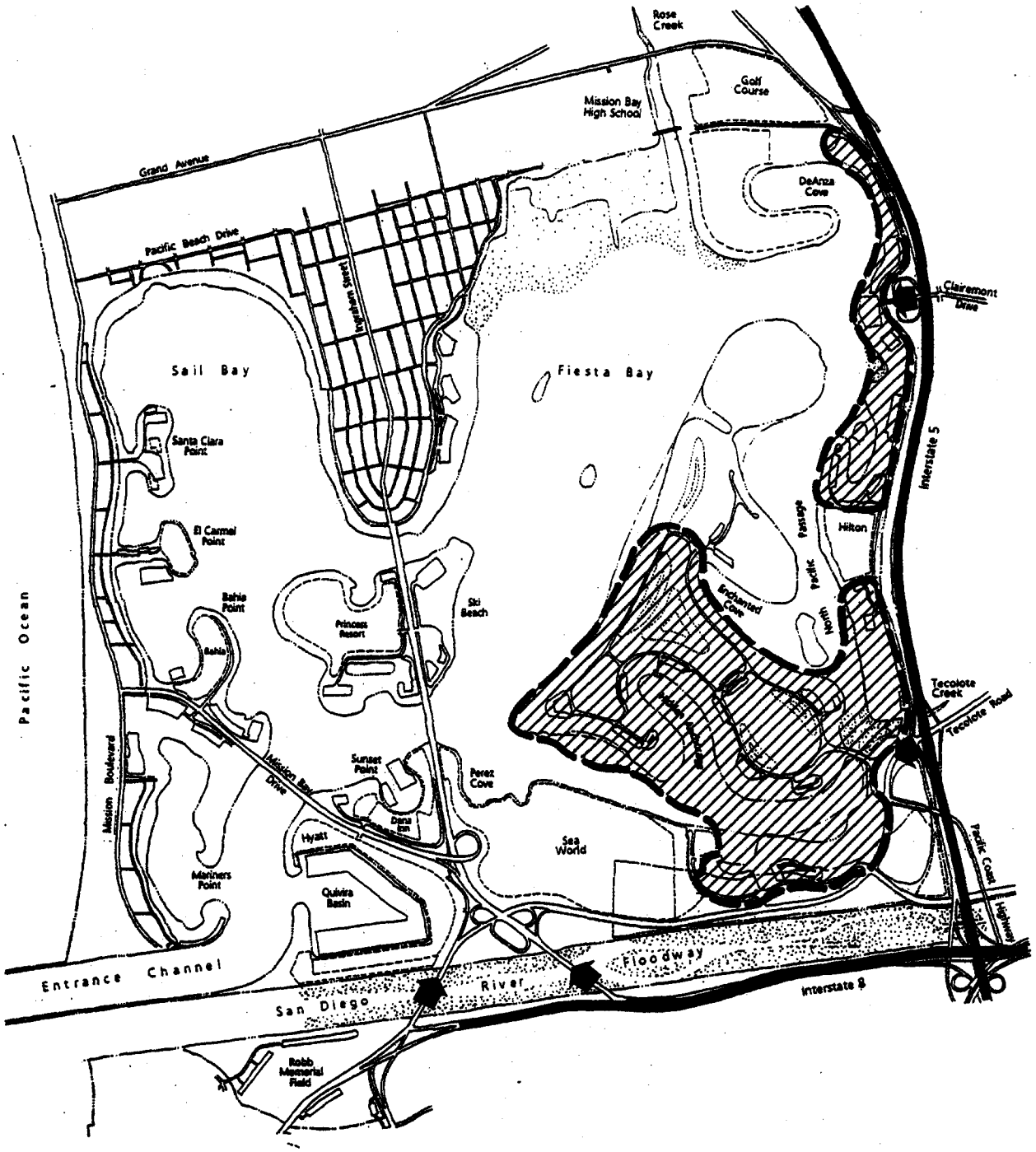
LAND USE GUIDANCE

Traffic and circulation efficiency is dependent on land use considerations as much as actual physical roadway improvements. Some areas of the Park, such as Crown Point Shores, generate substantial traffic movement through the adjacent neighborhoods. The resulting creates congestion a natural conflict between Park visitors and residents while causing a Park-access hardship. The opposite occurs in East Shores: there is convenient freeway access and no conflict with the neighbors.

Recommendations

77. Regional Destinations: Regional access to Mission Bay Park is provided by I-5 and I-8, the intersection of which defines the southeast corner of the Park. To make optimum use of this infrastructure while minimizing vehicular circulation through the Park and adjacent neighborhoods, intensive regional recreation and special event venues should be focused on the southern quadrant of the Park.

78. Large Group Picnics: Because they generate substantial vehicular traffic, large group picnics and events requiring permits and/or reservations should be targeted on South Shores and the southern area of Fiesta Island. Conversely, such activities should be scaled back and de-emphasized in Park areas adjacent to residential districts, such as Crown Point Shores.



Note: Refer to "Optional South Fiesta Island Development Plan" on page 126.

NORTH 0 800 1600 1/2 MILE ACRES 5 10

LEGEND

Primary Regional Recreation

Access from Freeway

Land Use Guidance

figure 26

PARKING DEMAND

The Park's primary regional parkland, such as East Shores and Crown Point Shores, currently hold from 40 to 60 individuals per acre during peak times. About 25 parking spaces per acre currently support these primary parkland areas (including curbside parking on East Mission Bay Drive). Demand for parking is directly linked to the supply of parkland and to the level of use the parkland receives. The question is: what intensity of use should be assumed for new parkland areas?

Recommendations

79. Use-Intensity and Vehicle-Occupancy Assumptions: Given that over 80 percent of Park users regard picnic and grassy areas to be at least somewhat crowded on peak days (see Appendix D, Table 27) the current 50-person per acre average use intensity should be used as a practical maximum.

At present, parking supply yields an average vehicle occupancy of about 2. This is a low ratio for a major regional park. Most urban parks across the country use ratios of 2.5 or more. However, as use of the auto remains the preferred mode of transport in the region, a 2.25 vehicle-occupant ratio is recommended for peak-day planning purposes.

80. General Parking Demand: About 340 acres of parkland are proposed under the Plan, representing a 50 percent increase over the current parkland area. Using the preceding assumptions for use intensity and vehicle occupancy loading, the parkland areas will generate a parking demand of about 7,555 parking spaces.

To this demand should be added about 1,066 spaces to serve the open beach areas of Fiesta Island. This figure is derived from National Recreation and Park Association standards, which call for a minimum of 50 square feet of beach per person, 4 acres of supporting area per acre of beach, and a 4-person average vehicle occupancy [1].

1. Given its lesser attraction compared to Mission Beach, for example, a 3-person per vehicle occupancy has been assumed instead of 4. Other assumptions are: the northern half of the western beach will remain less intensively used, with vehicular access permitted only during special events; and the depth of beach areas will be 150 feet maximum from the mean high water line.

81. Special Events Parking Demand: During the Over-the-Line tournament, close to 2,000 vehicles have been recorded on Fiesta Island. The 864 spaces currently provided for this event are in unmarked, unpaved lots; the remaining vehicles park along the Park road and on the beach areas. For purposes of the Master Plan Update, 2,000 spaces have been assumed as the minimum necessary to satisfy the Over-the-Line event. An equal, although not overlapping, demand is assumed for the Thunderboat races.

82. Overall Parking Demand: The addition of the general and special event parking demands yields combined demand for about 10,621 spaces.

(7,555 + 1,066 + 2,000 = 10,621 spaces)

At the height of the day during peak days, the Park experiences an average parking occupancy rate of 85 percent, although several lots reach over 95 percent occupancy. Given the high efficiency anticipated for the new parking areas, a 90 percent occupancy rate should be assumed for planning purposes. Accordingly, 10,621 net occupied spaces require the provision of about 11,801 actual spaces.

(10,621 / 0.9 = 11,801 spaces)

The 11,801 spaces represent the total anticipated demand serving land-based regional recreation. Boat trailer and other watercraft-related parking provisions are contained in the Water Use section of this Plan.

83. Required Additional Parking: At present, the Park contains 6,595 assigned parking spaces, plus about 700 curbside spaces along East Mission Bay Drive, for a total of 7,295 spaces. Some existing parking spaces are proposed to be deleted in Bahia Point, to exercise a shift and a potential expansion of the Bahia Hotel lease.

PARKING PROVISIONS

Since all of the new regional parkland is targeted for the southeast area of the Park, all of the additional parking needs should be met in South Shores and Fiesta Island. It is the intent of this Plan to maximize the utility of the land for recreation purposes. Therefore, the provision of new parking has been approached under the following criteria:

- New parking facilities should not occupy parkland within the primary waterfront zone (300 feet from the shore), as a means to meet peak demands.

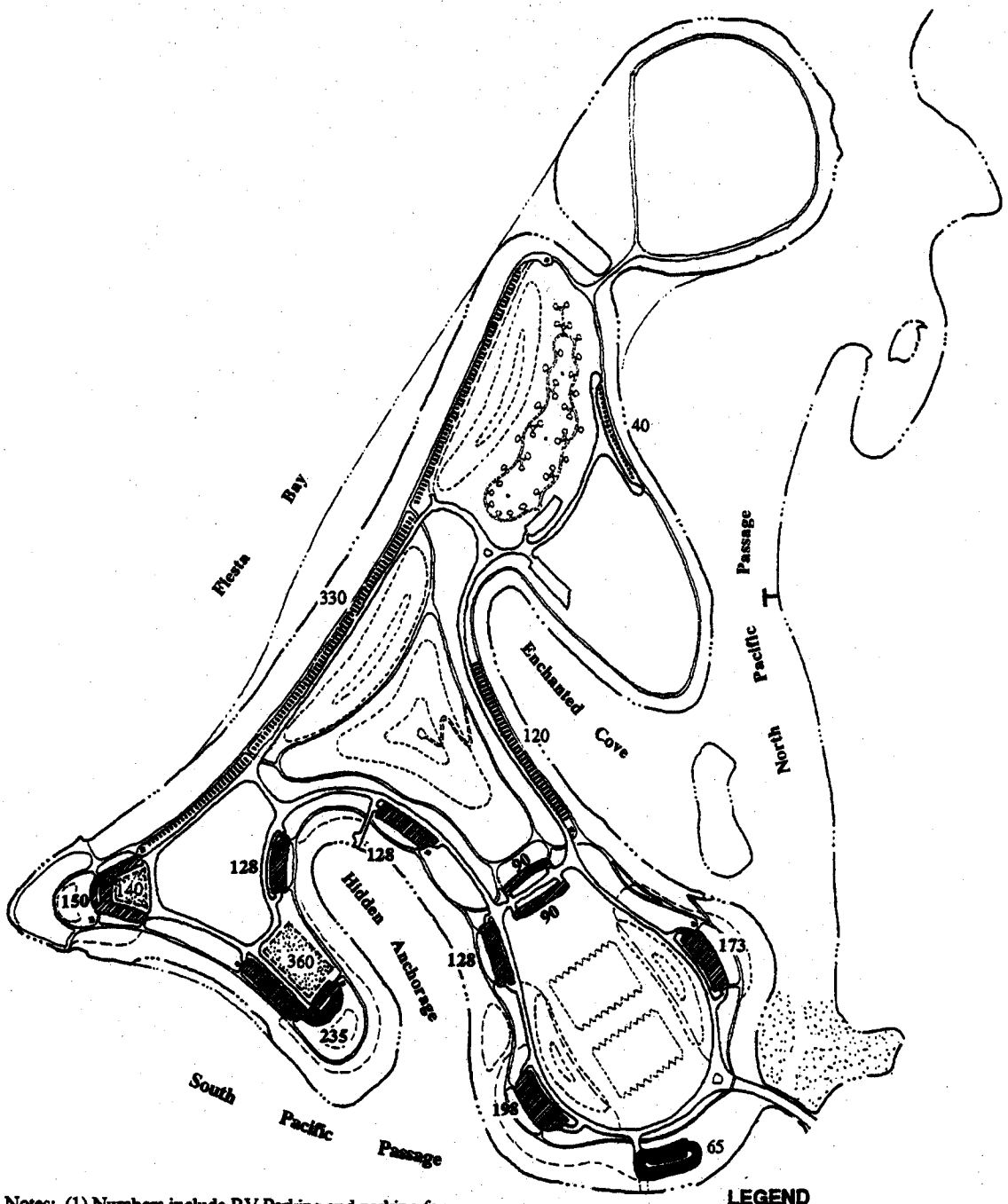
- In the interest of safety and efficiency, parking provisions should promote reductions in vehicular circulation around the Park.

- Parking provisions should serve multiple needs, including those of persons with disabilities and recreational vehicles.

Recommendations

84. Fiesta Island/South Shores Parking: Following the standards set in the Design Guidelines, 2,570 parking spaces can be accommodated on Fiesta Island and South Shores for land-based recreational purposes. These spaces are distributed as follows:

• Paved Parking Lots	1,620	spaces
• Overflow parking in turfed areas	500	spaces
• Roadside gravel parking	450	spaces
Total	**2,570**	spaces



Notes: (1) Numbers include RV Parking and parking for persons with disabilities. Parking for new campground lease area and Youth Camp is not included.

(2) Refer to "Optional South Fiesta Island Development Plan" on page 130

NORTH 0 500 1000 2000 FT

Parking and Circulation of Fiesta Island

figure 27

LEGEND

- Paved Parking: 1320
- Roadside Gravel Parking: 450
- Turf Parking : 500 (Special Event Overflow)
- PWC Parking and Launching: 65
- Board Sailing and Launching: 40

Total: 2375

This figure does not include 105 spaces provided for water-based recreation purposes, namely for personal water-craft and sailboard users.

85. Overflow Parking: Given that 2,570 parking spaces can be accommodated within the recreation areas of Fiesta Island and South Shores, a deficit of about ~~2,445~~ 2,537 [1] parking spaces remains.

(5,107 - 2,570 = 2,537 spaces)

This deficit should be accommodated in an overflow parking facility at the eastern end of South Shores. Preliminary site studies indicate that about 2,900 vehicles can be accommodated in the overflow parking area, yielding a potential "surplus" of about 360 [2] spaces.

With the proposed traffic improvement measures, providing an overflow parking facility accomplishes the following objectives during peak use times:

- Minimizes the amount of area dedicated to parking within the primary recreation areas in South Shores and Fiesta Island. This corresponds to a savings of about 18 acres, which supports over 1,000 park users.
- Reduces vehicular circulation around Fiesta Island, making the island more open, and less congested.
- Reduces vehicular miles traveled within the Park, which reduces exhaust emissions.
- Permits the efficient collection and treatment of a large amount of contaminated runoff from parking lots, which helps improve the Park's water quality.
- Enhances the viability of a tram to distribute people around the Park by concentrating tram users in one location.

To make effective use of the overflow parking facility during peak days, access to Fiesta Island must be monitored and controlled. A simple solution would be to electronically register the number of vehicles entering the Island.

1. This appears to have been a mathematical error in the original document. The number should reflect the result of subtracting 2,570 from 5,107, as shown in the equation below which equals 2,537 parking spaces.

2. The 360 approximation was derived from subtracting the remaining 2,537 spaces from the 2,900 spaces resulting in 363 which is "about 360 spaces."

Table 4

ACCESSIBLE PARKING REQUIREMENTS

Total Parking in Lot	Required Minimum Number of Accessible Spaces
1 to 25	1
26 to 50	2
51 to 75	3
76 to 100	4
101 to 150	5
151 to 200	6
201 to 300	7
301 to 400	8
401 to 500	9
501 to 1000	2 percent of total
1001 and over	20 plus 1 for each 100 over 1000

Source: ADA

Once the count reaches 90 percent of the assigned parking lot spaces, a Park ranger would place or activate gates restricting access to the Island and activate signage indicating the availability of the overflow parking as an alternate parking area.

86. Parking for Persons with Disabilities: Circulation and access facilities in Mission Bay Park must comply with the Federal Americans with Disabilities Act (ADA) of 1990. Among its provisions, the ADA requires a certain proportion of parking areas devoted to persons with disabilities. Each parking lot in the Park, including the overflow parking, must meet the ADA requirements. A future tram, or any other public transit vehicle must be equipped to carry individuals with disabilities.

In addition, the Park should provide paths and areas where persons with disabilities can access the shore. These facilities should include ramps, guardrails, and aprons for persons with disabilities to reach the water's edge.

87. Recreational Vehicles: Many RVs use boat trailer spaces to access the park. It is estimated that up to 50 percent of all trailer spaces may be taken by RVs during peak summer weekends. The Water Use section of this Plan accounts for this estimate by assigning an adequate number of trailer spaces to serve both boaters and RV users. This RV parking demand is over and above the total parking demand calculations as described above.

However, dedicated RV parking should be provided to minimize conflict with boaters and to provide more amendable areas for RV use. The following is recommended:

- Where appropriate, new parking lots should be designed with a water-facing parallel parking lane such that day-use RVs can park alongside and immediately adjacent to the parkland. This measure could afford RV users the opportunity to park in a variety of sites within close proximity of the water and picnic areas, if found to satisfy safety, traffic, and visual quality concerns after analysis.

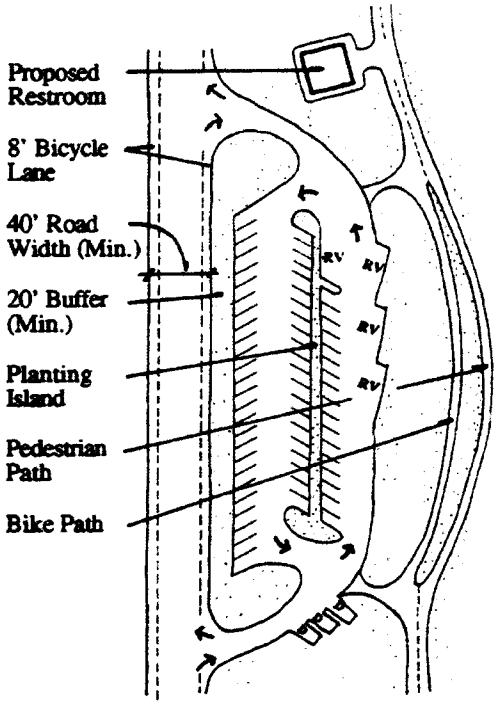
- About two-thirds, or 120 spaces, of the existing De Anza boat ramp trailer spaces should be maintained for day-use RVs (the ramp is being abandoned as part of the Water Use recommendations). The remaining spaces should be re-striped to serve full-size automobiles. The trailer spaces should be grouped in the south end of the parking lot to minimize the obstruction of water views from I-5.

88. Curbside Parking: In the interest of emergency access, pedestrian safety, Park surveillance, visual access to the water, convenience and safety of touring cyclists, and the operational efficiency of a potential future tram service, curbside parking on the Park roadways should be prohibited.

EXCEPTION: On East Mission Bay Drive, the removal of curbside parking should be subject to the following conditions:

- Priority given to the removal of vehicles from the eastern curb of the road
- Operation of a tram service along East Mission Bay Drive
- Replacement of the lost parking on the overflow lot, which can accommodate up to about 2,900 spaces, 360 more than is minimally required
- Consideration of the expansion of the Pacific Passage parking lot off East Mission Bay Drive and south of the Hilton Hotel to make up part of the loss in parking convenience

89. Drop-off and Loading: Curbside pull-outs should be provided at regular intervals on the water-side of the Park road to facilitate the loading and unloading of passengers and picnic ware. Permanent parking should be prohibited in these spaces.



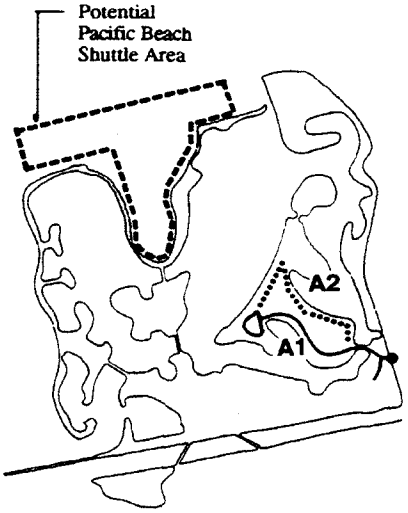
RV: Recreational Vehicle Parking (5% of Parking Spaces)

D: Parking for Persons with Disabilities

Typical Parking Lot

PUBLIC TRAM

The proposed 2,900 space overflow parking lot is intended to satisfy the parking demand during peak summer weekends and holidays. During such times, a tram service should operate from this lot to the various regional parkland areas, and possibly beyond to Mission Beach. The telephone user survey revealed wide-spread support for a tram along with a willingness to pay a nominal fee for its use.



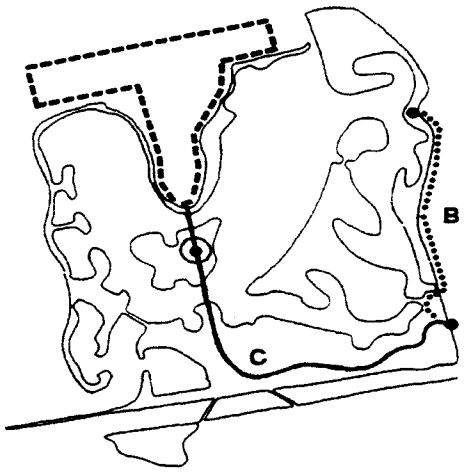
Tram Routes A1 & A2

- Tram Station

Recommendations

Several route options are available for the operation of a tram system. A more detailed evaluation of the potential routes is included in Appendix C, which contains a traffic study for the Park prepared by Wilbur Smith Associates.

90. Fiesta Island Routes A1 and A2: The first option recommends that the tram operate exclusively during peak days between the overflow parking lot and Fiesta Island. Given that it would operate only 50 to 60 days a year, the tram could be made available as a concession to private operators to minimize public costs. Or, at a minimum, the City could require the Thunderboat promoters or other special event organizers to operate a tram service during their particular events.



Tram Routes B & C

- Potential Common Stop for P.B. Shuttle and M.B.P. Tram

Route A2, reaching the north-central portion of the Island, would require more tram vehicles if the same head time is to be maintained as in Route A1, which is limited to the southern portion of the Island.

91. Routes B and C: These two routes are intended to expand the tram service northward and westward from the overflow parking area. It is not anticipated that the demand for these routes will provide feasible for a private tram concession. In all likelihood, these routes will require a public service, to be subsidized by general fund or revenue increments generated from within the Park.

The Vacation Isle stop of Route C could be used as a common stop with the potential Pacific Beach shuttle service, allowing Pacific Beach residents to access South Shores and Fiesta Island other than with their autos.

92. Transit Interface: As a third option, the tram service could be planned as a comprehensive system, looping around the Park through Pacific Beach with a stop at the Morena Boulevard Station of the planned light-rail trolley. This type of service could be expanded in frequency and routes during peak days to bring people to Fiesta Island, Sea World, other Park destinations, and Mission Beach. While this option is valid from a transit perspective, its feasibility cannot be determined as part of this Mater Plan Update; additional studies, therefore, are required.

Under all of the above options, the tram should run on the Park roads. Where the tram must run on Sea World Drive or other city streets, the provision of special, dedicated tram lanes should be considered.

93. Commuter Use of the Overflow Parking: Considering the proximity to a regional light-rail transit station, the overflow parking could be dedicated for commuters during working days. This would enhance the function and efficiency of the facility and potentially maximize the use of the tram system. However, to make this lot available for non-park use, the land would have to be removed from the "dedicated" Park boundary, requiring a two-thirds citizen approval vote.

SPECIAL SIGNAGE AND INFORMATION

The effective use of the Park's parking areas and the alternate use of the tram service during peak days will require special signage and information. Motorists should learn of parking area availability, tram schedules and stops as soon as they enter the Park, minimizing the potential for confusion and unnecessary driving.

Recommendations

94. Electronic Information Displays and Radio Transmission: At the main Park entrance roads namely, Clairemont Drive, the juncture of Sea World Drive and I-5, Friars Road, and Ingraham Street - electronic information displays and pullover lane should be considered to inform motorists of special event venues, location of available parking and access to the Park's tram. Such displays would be of most value southbound on Sea World Drive prior to the Pacific Highway intersection. At this location, motorists would be informed about the closure of Fiesta Island during peak days, holidays, and special events and be directed to the overflow lot and tram station.

Alternatively, public service radio frequencies could be used to inform motorists of park activities and direct them to appropriate parking areas.

ROADWAY IMPROVEMENTS

As the portions of Fiesta Island and South Shores are more intensively developed, new roadway infrastructure will be necessary. In addition, roadway improvements will be necessary to mitigate the traffic flows on Sea World Drive, and to effectively and safely direct motorists to the overflow parking lot.

Recommendations

In an effort to comprehensively address the required traffic improvements, discussions were held jointly with Caltrans and the City's Engineering and Development Department. The recommendations described below meet, preliminarily, with their respective approvals. All traffic and roadway improvements as described in this regard should ultimately be designed to meet the requirements of the City Engineer and Fire Department.

95. Overflow Parking Access: With the addition of a 2,900-space overflow parking lot, the capacity of Sea World Drive will be further taxed, very likely causing longer back-ups into I-5. To mitigate this potential congestion, it is essential that access to the overflow parking be as quick and efficient as possible. To this end, the following improvements are recommended:

- Building underpasses at Tecolote Road and Pacific Highway, as close to the Park boundary as possible. The underpasses should maintain minimum clearances as determined by the City.

- Widening Sea World Drive and the curving portion of East Mission Bay Drive by the Fiesta Island causeway to permit continuous, right-hand turns to East Mission Bay Drive and under Tecolote Road into the overflow parking lot.

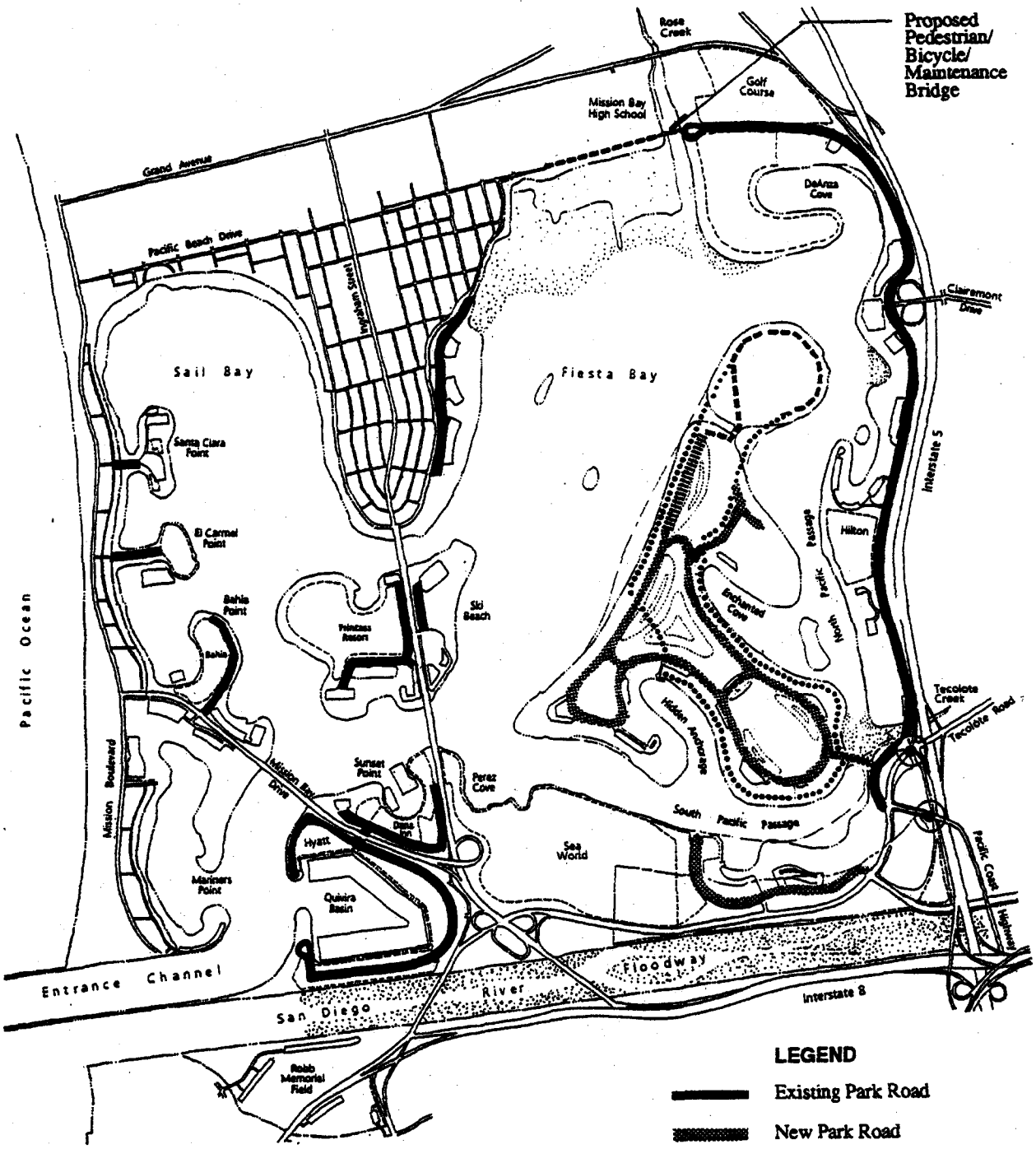
- Providing signalized pedestrian crossings at the intersections of Sea World Drive with Friars Road and Pacific Highway.

Caltrans is already planning the widening of the Pacific Highway bridge over I-5, a project that can incorporate the recommended underpass serving the overflow lot.

96. New Park Roads: A new loop road should be constructed on the southern half of Fiesta Island to serve the new parkland areas. In accordance with the Design Guidelines, the Park road should maintain a 300-foot clearance from the water's edge, except on selected areas as defined in the more detailed plan for Fiesta Island. To facilitate access to the various parking areas, as well as ensure a rapid response by fire and safety vehicles, the Park road should be two-lane, two-way all the way around the Island.

In South Shores, a park road separate from Sea World Drive should be implemented to the extent possible.

97. Fiesta Island Causeway: Because of the anticipated intensified use of the Island, the Island's causeway should be rebuilt as a three-lane roadway, reserving the middle lane for emergency vehicles and, potentially, for alternate flows into and out of the Island during peak days, holidays, and special events. The causeway should be gradually arched and a suitably-sized culvert placed under it to permit passage by rowers. The slope of the causeway and sidewalks should not have gradients steeper than those accessible by persons with physical disabilities.



Proposed Roadway System

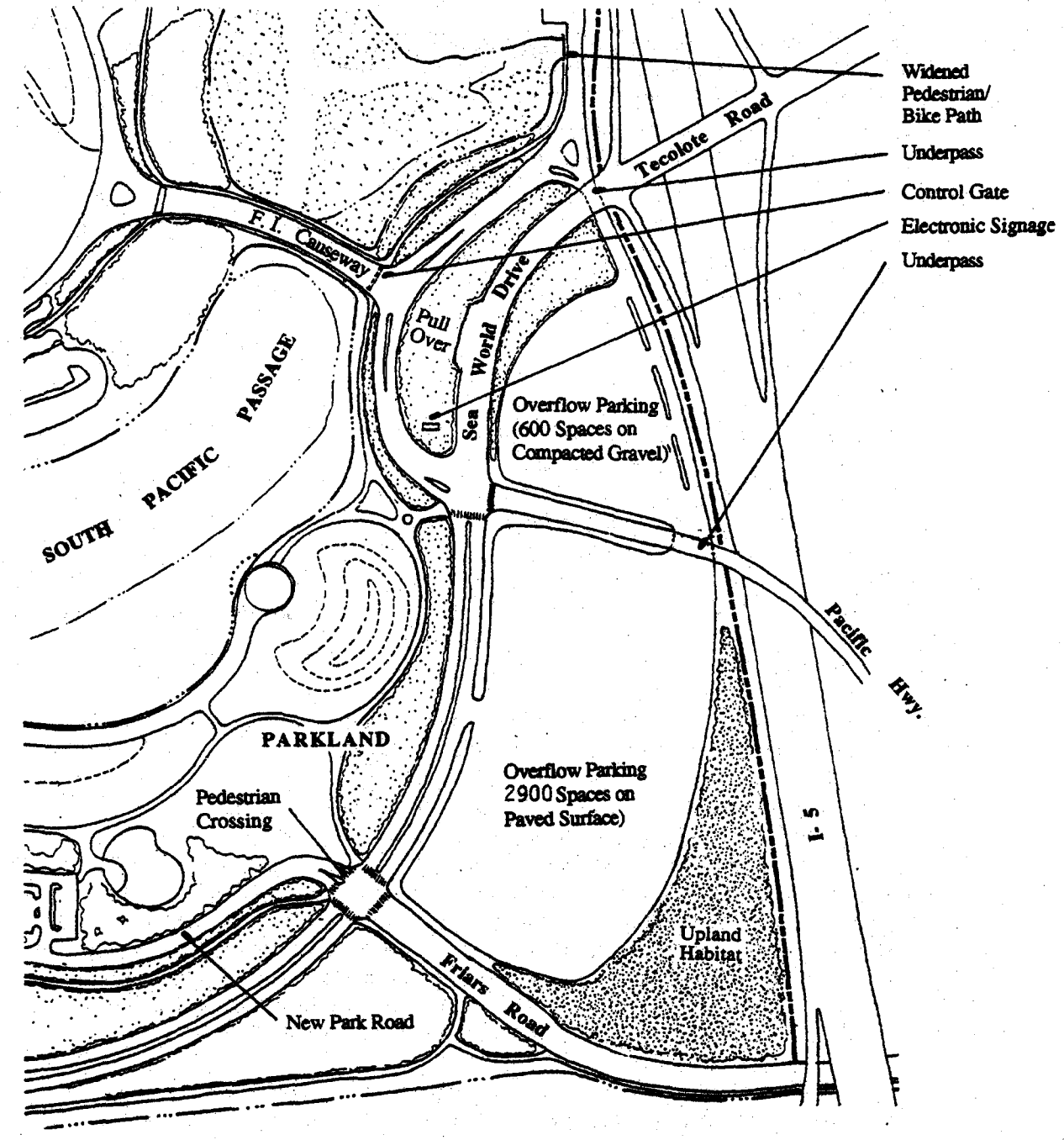
figure 28

98. Emergency Vehicle Access: To meet public safety concerns, the ultimate design of the Park roads must recognize emergency vehicle access needs. To this end, tram and emergency vehicle roadways may be combined.

99. I-5, I-8 Interchange Ramps: Several previous studies and reports, including the Midway Community Plan, have identified the need to complete the two remaining interchange ramps between Interstates 5 and 8. The two identified are the southbound ramp from I-5 west to I-8, and the eastbound ramp from I-8 north to I-5. These ramps would remove congestion from other freeway interchanges and local streets, and reduce the level of commuter traffic from Park roads.

Due to their expense, Caltrans is not anticipating implementing the ramps in the immediate future. They are, however, an included project in the currently ongoing Interstate 5 Corridor Study, and would also require completion of a Project Study Report. However, as they would be of benefit to Park users and commuters alike, it is recommended that efforts to complete these studies and secure funding for the "missing" ramps be pursued. The Caltrans Project Study Reports for these and other traffic improvements at the I-5/SeaWorld Drive Interchange are necessary to determine the phasing and funding of improvements necessary to relieve congestion during peak summer recreational use and address the cumulative effects of increased commercial development, population and public recreational demand. These reports will be funded out of the first mitigation dollars received and utilized as a factor in determining appropriate mitigation measures for future commercial projects within Mission Bay Park.

SeaWorld shall pay the City a total amount of $10,656,900 (subject to City/SeaWorld confirmation) (the "Traffic Mitigation Funds"), payable in five (5) annual installments, commencing on the date of effective certification of this land use plan amendment. Subsequent payments shall be increased to reflect a 3% increment or by the CPI, whichever is the greater amount. The 3% or CPI shall be applied to the amount of funding remaining to be paid. SeaWorld's payment of the Traffic Mitigation Funds to the City shall be full satisfaction and implementation of the traffic mitigation measures identified in Section 4.4.5, Transportation and Circulation, Mitigation, Monitoring and Reporting Program of the Final Environmental Impact Report for the SeaWorld Master Plan Update ("EIR"). The City shall use the Traffic Mitigation Funds for the development and construction of traffic congestion reduction measures in Mission Bay Park. The payment schedule and other details of this Traffic Mitigation Fund shall be set forth in the lease between the City and SeaWorld.



Overflow Parking Access and Circulation

figure 29

BICYCLE AND PEDESTRIAN PATHS

The Park's bicycle and pedestrian paths are among the Park's preferred and most used recreation facilities serving cyclists, in-line and roller skaters, skateboarders, strollers, wheel-chairs, joggers, and casual walkers. At present these paths are combined into a single 10-foot path, which during peak days proves to be inadequate to handle the traffic. The path is also interrupted in key parts around the Park, limiting the ability of Park users to safely and conveniently ride or walk around it. Accordingly, the Park's paths need to be widened, and extended throughout its waterfront.

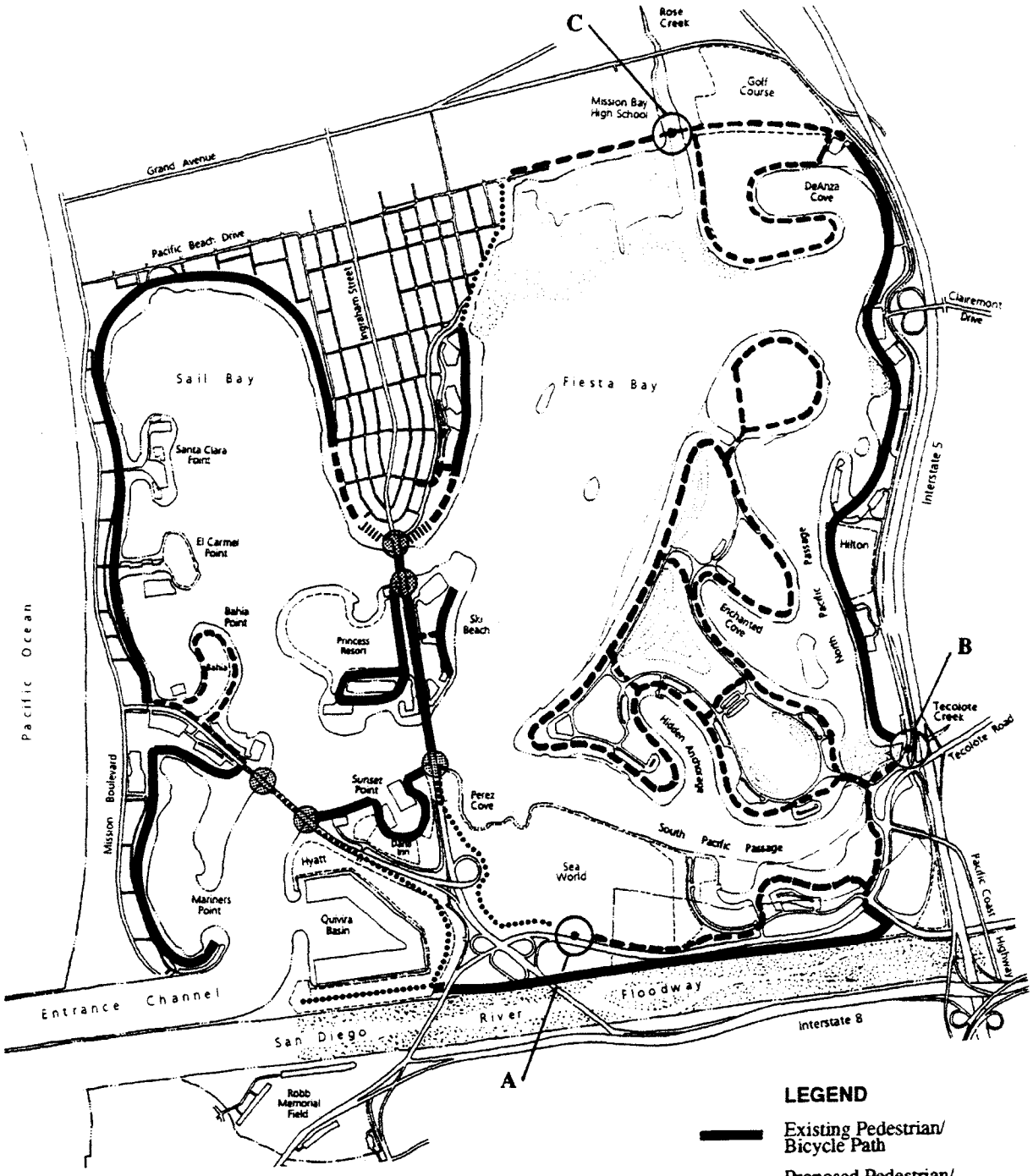
Recommendations

100. Combined Paths: As detailed in the Design Guidelines, a combined path around the Park should be implemented, consisting of a clearly marked 8-foot walkway and an 8-foot bicycle and skating way. These standards apply where both courses adjoin each other. Where desirable to separate the courses, the bike/skating course should be 9 feet in width to allow circulation by Park maintenance and emergency vehicles. These courses are not intended to accommodate "first-in" emergency responders.

The combined path is intended to serve the casual recreation user. Accordingly, a 5 mile-per-hour speed limit should be maintained on the bike/skating portion of the path.

101. Key Linkage Improvements: In general, continuous public access, either improved or unimproved, shall be provided around the entire waterfront of Mission Bay. Current exceptions are located in the following areas; the leases of Sea World, Pacific Rim, Mission Bay Yacht Club, San Diego/Mission Bay Boat ad Ski Club, and Fiesta Island Sludge Treatment Facility; the Mission Bay Park Headquarters Facility on Hospitality Point, and the Least Tern nesting areas at Stony Point and Mariner's Point. Where such access does not now exist, as leases or uses come up for renegotiation or change, the issue of public shoreline access will be re-examined consistent with security, safety and specific public aquatic/recreational needs and requirements. Moreover, to maintain safe and convenient continuity of the paths around the Park, these four key improvements should be implemented:

- A grade-separated pathway spanning Sea World's exit roadway. This overpass would allow pedestrians and bicyclists to safely cross from the entrance roadway and continue along its south side to Ingraham Street.



LEGEND

- Existing Pedestrian/ Bicycle Path
- Proposed Pedestrian/ Bicycle Path
- Roadside Bicycle Lane
- Boardwalk (Under Bridge)
- Existing Under-Bridge Connection
- Special Improvement

A Overpass on Sea World Exit Road

B Widened Pedestrian/ Bike Path @ Existing Bridge

C New Bridge

Note: Refer to "Optional South Fiesta Island Development Plan" on page 130

NORTH 0 800 1600 1/2 MILE ACRES 5 10

Pedestrian / Bicycle Path Improvement

figure 30

- A pedestrian and bicycle bridge over Rose Creek, designed also to accommodate maintenance and emergency equipment. This bridge would allow Park users to conveniently circle the northern edge of the Park.

- A raised path, or boardwalk, under the Ingraham Street Bridge at Crown Point Shores. The path would permit uninterrupted movement from Fiesta Bay to Sail Bay.

- Widening of the East Mission Bay Drive Bridge. The combined path is currently inadequate at this location. A widened bridge or separate path along its west side is recommended.

In addition to the above key linkage improvements, a continuous pedestrian and bicycle path should be pursued around Bahia Point. To this end, a shift in the Bahia Hotel lease area should be considered in accordance with Recommendation 17.

102. High-Speed Bicycle Path: To accommodate the higher speeds of touring cyclists and skaters, dedicated bicycle lanes should be provided on the Park roads to the extent possible.

If curbside parking is removed from East Mission Bay Drive, the parking lanes should be converted to bicycle lanes (this also facilitates emergency vehicle access). Alternatively, a dedicated bicycle path could be provided between the Park road and the boundary with I-5.

Extending a dedicated bike lane along the eastern edge of the Park next to the overflow parking lot, and bridging the path over Friars road, linking it to the San Diego River pathway should be considered. This improvement would create a nearly uninterrupted high-speed bikeway between De Anza Cove and Hospitality Point.

103. Regional Linkages: The Park should be viewed as a key destination of the regional system of recreational paths. To this end, studies should be conducted to determine the feasibility of connecting the Park's bikeways and pedestrian paths to the regional network, particularly along Rose Creek Canyon to San Clemente Canyon and across I-5 to Clairemont Boulevard. Coordination with Metropolitan Transit Development Board (MTDB) should be exercised to ensure the optimum pedestrian and bicycle access to the Park (possibly over I-5 from future planned light rail station).