CITY OF
CHULA VISTA

Environmental Impact Report

FINAL SUPPLEMENTAL
ENVIRONMENTAL IMPACT REPORT
FOR AMENDMENTS TO THE
CHULA VISTA BAYFRONT SPECIFIC PLAN

City of Chula Vista Case Number EIR-86-1
State Clearinghouse Number 86 021919

City of Chula Vista
276 Fourth Avenue
Chula Vista, CA 92010

September 9, 1986

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1.0 INTRODUCTION

1.1 PURPOSE OF SUPPLEMENTAL EIR

This Supplemental Environmental Impact Report (SEIR) has been prepared to assess the impacts of proposed revisions to the adopted Chula Vista Bayfront Specific Plan, pursuant to the California Environmental Quality Act (CEQA) (Public Resources Code Section 21000 et seq.) and the CEQA Guidelines (14 California Administrative Code Section 15000 et seq.).

Chula Vista's Local Coastal Program (LCP) consists of a Specific Plan, Land Use Plan, and amendments to the City's Subdivision Ordinance. These documents were prepared to satisfy the LCP requirements of the California Coastal Act. Because the program of the California Coastal Commission involving the preparation, approval, and certification of LCPs is exempt from the requirement for preparing EIRs, Negative Declarations, and Initial Studies (CEQA Guidelines Sections 15250 and 15251), no EIR was prepared on the Land Use Plan. The Chula Vista Bayfront Specific Plan is the implementation program of the LCP. The City determined that an EIR should be prepared on the Specific Plan because plan implementation would constitute a project under CEQA and the plan area lies within a Redevelopment Area. The Final EIR on the Bayfront Specific Plan was adopted by the Chula Vista City Council on January 15, 1985, and is hereby incorporated by reference.

This document is a supplement to the adopted Bayfront Specific Plan Final EIR. This supplement discusses the environmental impacts of the proposed revisions to the Bayfront Specific Plan, and alternatives pursuant to Section 15163 of the CEQA Guidelines. Section 15163 provides that a supplement to an EIR may be prepared if only minor additions or changes would be necessary to make the previous EIR adequately apply to the project in the changed situation. The proposed revisions include minor land use, engineering, and design changes to the adopted Specific Plan. The same notice and public review period is required for a supplement to an EIR as for a Draft EIR. The major difference between an EIR and a supplemental EIR is that the supplemental document need contain only the information necessary to make the previous EIR adequate for the project as revised.

1.2 EIR REQUIREMENT

The proposed revisions to the Chula Vista Bayfront Specific Plan are considered a "project" as defined by CEQA Guidelines (Section 15378). Following the preparation of an Initial Study, City staff determined that minor additions would be necessary to make the Final EIR on the Bayfront Specific Plan adequately apply to the revised project. Based on this determination, the City required the preparation of this supplemental EIR.

1.2.1 Scope of Supplemental EIR

As provided for in State CEQA Guidelines, the focus of the Supplemental EIR (SEIR) is limited to specific issues and concerns identified as possibly significant. City staff has determined that the SEIR should focus on the following potentially significant issues:

- Land Use
- Biological Resources
- Hydrology and Water Quality
- Transportation and Circulation

This supplemental EIR describes the probable environmental consequences if the proposed project revisions were approved. It is an informational document to be considered with the previous Final EIR to aid in the local planning and decision-making process. The additional potential impacts that the project may have on the environment are discussed in this document and methods for avoiding or minimizing potential adverse effects are described.

1.2.2 Organization of Supplemental EIR

The following section of the Supplemental EIR (Section 2) presents a summary of the potential impacts of the project revisions, mitigation measures, and impact conclusions required by CEQA. Section 3 describes the proposed revisions to the Bayfront Specific Plan. The following Sections (4-7) are each devoted to a single impact topic. Within each topic relevant environmental setting data are presented, the impacts of the proposed project are evaluated, and mitigation measures are suggested. Section 8 lists persons and agencies consulted in preparing this EIR and Section 9 lists the references utilized in EIR preparation. Section 10 lists those involved in EIR preparation and finally, Section 11 includes comment letters on the Notice of Preparation.

Technical appendices consisting of a scientific article, and a traffic study and geotechnical report prepared for the applicant are on file and available for review at the Chula Vista Planning Department.

2.0 SUMMARY OF FINDINGS

This chapter contains a summary of the project description, a description of the project alternatives, a summary of project impacts and mitigation measures, and the impact conclusions required by CEQA (CEQA Guidelines, Section 15126). A complete project description is included in Section 3.0.

2.1 PROJECT DESCRIPTION

The proposed project includes changes to the planned land uses for the Midbayfront subarea. These changes include reconfiguration and relocation of open space acreages, consolidation and relocation of the residential land use east (inland) of Tidelands Avenue (renamed Marina Parkway), and incorporation of the specialty retail use into the office park area.

Other proposed changes consist of revisions to the planned circulation system for the Midbayfront and revisions to the conceptual drainage and grading plans.

2.2 PROJECT ALTERNATIVE

For each impact category in this supplemental EIR, there is a detailed analysis of the following alternatives. Both alternatives consist of the same circulation reconfiguration as the proposed project. The revisions to the planned grading and drainage systems would be different than under the revised plan.

2.3 IMPACTS AND MITIGATION MEASURES

The Summary Table on the following pages presents a summary of the impacts of the proposed project not discussed in the previous FEIR on the Bayfront Specific Plan and lists mitigation measures for identified impacts. For detailed discussions of these impacts and mitigation measures, refer to the appropriate sections of the text following this chapter.

2.4 CEQA REQUIRED IMPACT CONCLUSIONS

2.4.1 Growth - Inducing Impacts

The proposed project revisions would not change the analysis and conclusions regarding growth inducing impacts presented in the FEIR (see p. 100 of the FEIR).

2.4.2 Cumulative Impacts

The proposed project revisions would not change the analysis and conclusions regarding cumulative impacts which are described under each impact category in the FEIR (also see p. 99 of the FEIR).

SUMMARY TABLE

Section and Impact Category	Potential Impacts	Mitigation Measures Necessary to Reduce Impacts to Less-Than-Significant Level
4.0 LAND USE	One acre of parkland would be lost to maintain the 3-acre enhancement site at the southeast corner of Vener Marsh.	If more than 99 acres of developable land is available within the Midbayfront at the time of subdivision, then the first additional acre will be required as a parkland dedication. Otherwise, this will be considered an acceptable exchange of uses.
	The planned crossing of Tidelands Avenue (renamed Marina Parkway) between the linear park and the bayside park cannot be provided at-grade due to safety constraints and an underpass is not feasible due to the high groundwater table.	The applicant must investigate provision of an overpass in this location. If an overpass is found to be feasible, the applicant must fund construction. In addition to possible provision of a pedestrian overpass, pedestrian access to the shoreline must be provided at the Lagoon Drive/Marina Parkway and Gunpowder Point Drive/ Marina Parkway intersections.
	Coastal access could be impeded due to the location of the drainage swale.	Formal pedestrian and bicycle access across the drainage swale must be provided.
	The drainage swale would require a high level of maintenance because the Bayfront will be a highly visible, visitor-serving area.	Funds from the Bayfront Open Space and Maintenance District could be utilized for swale maintenance. (These funds were, however, designated in the Specific Plan for Sweetwater Marsh/upland habitat maintenance.)
	One acre of usable open space would be lost due to the relocation of the planned park north of "E" Street to the area within the I-5 on/off ramp.	One acre of usable open space must be provided adjacent to the open space area around the desiltation basin and residential area.
	Approximately .2 acre of usable park acreage would be regularly innundated by tidal action within the proposed drainage swale.	Provide .2 additional acre of usable parkland adjacent to the open space area around the desiltation basin and residential area.
	Periodic innundation of the drainage swale may be found to be inconsistent with access and recreational goals.	If access and recreational goals are found to be inconsistent with periodic innundation of the drainage swale, then the applicant should be required to provide ±1 acre of usable space elsewhere in the Midbayfront.

Section and Impact Category	Potential Impacts	Mitigation Measures Necessary to Reduce Impacts to Less-Than-Significant Level
	Specialty retail acreage would be reduced and incorporated into the office park use.	None required.
	Tidal innundation of the southern 400 feet of the drainage swale, as well as concentration of urban runoff in the swale may result in creation of emergent wetlands and ongoing maintenance costs.	Require implementation of one of the Project Alternatives which does not include a drainage swale.
	Transfering allowable floor area ratio to increase development potential could result in a bulky, unvaried appearance.	Require the following design considerations: - A 50-foot landscaped setback along street frontage - Varied roof heights - Faceted and stepped building frontages
5.0 BIOLOGICAL RESOURCES	The specialty retail use, which would be allowed on four acres within the office park designation, has the potential to concentrate outdoor human activities adjacent to natural areas and disturb wildlife.	Set back specialty retail use at least 200 feet from the eastern (upper) boundary of the 100-foot buffer adjacent to Vener Pond and Sweetwater Marsh.
	Midbayfront development may precede buffer design and implementation. If this is the case human activities on the construction sites may disturb marsh species.	The applicant and the City should work with the U.S. Army Corps of Engineers to achieve buffer installation prior to project implementation. If construction precedes buffer installation, a 6-foot chain link construction fence, lined with green plastic material must be built east of the 100-foot buffer boundary to screen human activities from wetland species.
	Lights from Midbayfront development could impact bird breeding behavior.	Direct street and parking lot lights away from the marsh area and/or provide shields.
	Approximately 3.2 acres of freshwater marsh habitat at the location of the existing remnant marsh would be lost.	A ±3.2 acre freshwater marsh will be provided south of Lagoon Drive.
	The wildlife habitat value of the newly created freshwater marsh could be decreased by direct discharge of urban runoff.	Provide grease and sediment removal facilities for filtering urban runoff prior to discharge into the newly created freshwater marsh.

Section and Impact Category	Potential Impacts	Mitigation Measures Necessary to Reduce Impacts to Less-Than-Significant Level
	The reverse osmosis plant at the foot of Lagoon Drive will not provide a seasonal freshwater flow for the newly created freshwater marsh.	During the dry season, both the desiltation basin and the newly created freshwater marsh will receive dampened tidal action.
6.0 HYDROLOGY AND WATER QUALITY		
A. Flood Protection	If not properly designed and maintained, the drainage system may result in improvements inadequate to handle 100-year 6-hour storm flows.	The proposed drainage facilities must be designed to adequately direct, store, and discharge 100-year 6-hour storm flows. Any alternative drainage facilities must meet this same design criteria.
B. Siltation		
1. Buffer Design	Siltation in wetland areas could result from the construction of bicycle and pedestrian paths in the outer 50 feet of the buffer areas.	Provisions must be included in the revised grading and drainage plan to direct runoff from the portion of the buffer that adjoins the development area away from wetland areas.
2. Construction Activities	Erosion during construction could result in siltation in wetland areas.	Prior to the commencement of grading, erosion control consisting of sandbagging, silt fences, or similar measures must be accomplished. These erosion control measures must be maintained until landscaping is established.
3. Post Grading	Erosion may result if graded areas are not promptly revegetated.	All graded areas shall be planted within 60 days of initial disturbance and prior to November 1 of the same year with temporary or permanent erosion control vegetation. Such planting shall be accomplished under supervision of a licensed architect and shall consist of seeding, mulching, fertilization and irrigation adequate to provide 90 percent coverage within 90 days. Planting shall be repeated if the required coverage is not attained. This requirement applies to all disturbed soils, including stockpiles.

Section and Impact Category	Potential Impacts	Mitigation Measures Necessary to Reduce Impacts to Less-Than-Significant Level
C. Pollutant Content of Urban Runoff	Urban pollutants in the drainage from the project site could impact the water quality in the wetland areas and San Diego Bay. The most significant concern is the potential for increases in heavy metal concentrations over that in agricultural runoff.	Establish the aggressive street maintenance program to control the accumulation of pollutants in parking areas, streets, and curbs and gutters within the drainage systems as described in Section 6.0 Hydrology and Water Quality.
	The water quality in the newly created freshwater marsh could be degraded by direct discharge of urban runoff.	Provide grease removal facilities, in addition to the proposed siltation basin, for filtering urban runoff prior to discharge into the newly created freshwater marsh.
7.0 TRANSPORTATION AND CIRCULATION		
A. Marina Parkway Realignment	The new alignment would be an improvement over the alignment in the adopted plan.	None required.
B. Marina Parkway Section	The proposed 6-lane Marina Parkway section needs to be maintained to handle projected traffic between Bay Boulevard and Tidelands Avenue.	Retain the 6-lane section between Bay Boulevard and Tidelands Avenue.
C. Lagoon Drive Section	The Lagoon Drive right-of-way would be reduced from 100 to 95 feet.	None required.
D. Freeway Ramps and "E" Street Bridge	The proposed project does not include widening of the "E" Street bridge as did the adopted plan. Depending on the methodology used to calculate level of service, the "E" Street/I-5 freeway interchanges would operate at either a level of service C or D at build-out following incorporation of the recommended physical improvements.	Exclusive "free" right turn lanes need to be provided at the following ramps: I-5 N/B off to E/B "E" Street I-5 S/B off to W/B "E" Street I-5 N/B on from W/B "E" Street I-5 S/B on from W/B "E" Street I-5 S/B on from E/B "E" Street
		"E" Street directly east of the I-5 N/B on/off-ramp needs to be 6-lanes with a raised median.

Section and Impact Category	Potential Impacts	Mitigation Measures Necessary to Reduce Impacts to Less-Than-Significant Level
		The S/B I-5 off-ramp needs to be realigned with Bay Boulevard to the south. A loop on-ramp needs to be constructed in the NW interchange quadrant for the W/B to S/B move. The I-5 N/B off-ramp to W/B "E" Street needs to have dual left turn lanes. The "E" Street I-5 overpass, 72 feet-wide, will be restriped to provide dual left turn lanes for the E/B to N/B I-5 turning movement. When congestion reaches LOS D, as determined by the City's traffic engineer, additional traffic lanes must be added to the bridge. Transit provision and other measures to reduce traffic congestion (discussed below) should be pursued.
E. Bay Boulevard	The proposed section for Bay Boulevard south of "E" Street would be reduced in width to reflect the existing R-O-W because railroad abandonment is not anticipated in the near future. At build-out the segment between "E" and "F" Streets would operate over capacity.	Continue to pursue railroad abandonment to avoid capacity problems at build-out.
F. Transit and Other Methods to Reduce Congestion	Traffic congestion, particularly at the "E" Street I-5 interchanges, will result unless measures in addition to the recommended physical improvements are undertaken.	Implement bus service on major roadways supplemented by public or private jitney service. These services should connect to the "E" Street Trolley Station and interconnect with the rest of Chula Vista's transit service. Complete SR-54 as an east-west freeway with freeway-to-freeway connections. Pursue a direct connection from Tidelands Avenue to I-5/SR-54 to accomodate traffic generation from "D" Street Fill.

Section and Impact Category	Potential Impacts	Mitigation Measures Necessary to Reduce Impacts to-Less-Than-Significant Level
		Encourage staggered work hours to avoid peak hour conflicts. The subdivision maps for phases of the Midbayfront development will be tied to specific required public improvements including the mitigation measures herein.

2.4.3 Unavoidable Adverse Impacts

The proposed project revisions would not change the analysis and conclusions regarding unavoidable adverse impacts presented in the FEIR (see p. 92 of the FEIR). All of potential impacts discussed in this supplemental EIR were found to be mitigable.

2.4.4 Significant Irreversible Environmental Changes

The proposed project revisions would not change the analysis and conclusions regarding significant irreversible environmental changes presented in the FEIR (see p. 99 of the FEIR).

2.4.5 Short-Term Uses of the Environment vs. Long-Term Productivity

The proposed project revisions would not change the analysis and conclusions regarding short-term uses of the environment vs. long-term productivity presented in the FEIR (see p. 98 of the FEIR).

2.4.6 Effects Not Found to be Significant

An Initial Study (86-24) is available for review at the City of Chula Vista Planning Department. The following paragraphs present the basis for the finding that the FEIR analysis is adequate for the impact categories not considered in this supplemental EIR.

2.4.6a Geology

The geologic impacts would be the same as described under the adopted plan. As stated for development under the adopted plan, prior to final project design, additional test borings are required to determine the extent of the liquefaction hazard.

2.4 6b Soils

The limited geotechnical investigation prepared for the 18.1 acre residential area designated in the adopted Specific Plan is available for review at the Chula Vista Planning Department. This study recommended, based on soils samples from six trenches in the area designated for residential use in the adopted plan, that the area adjacent to Vener Marsh be designated for permanent open space because the underlying soils were found to be unsuitable to support structural loads. The study further recommended, based on soils samples from a seventh trench located just east of the northern levee road, that the area designated for public open space located between Vener Pond and the office park use

to the east in the adopted plan be considered as a trade for development acreage lost in the area designated for residential uses.

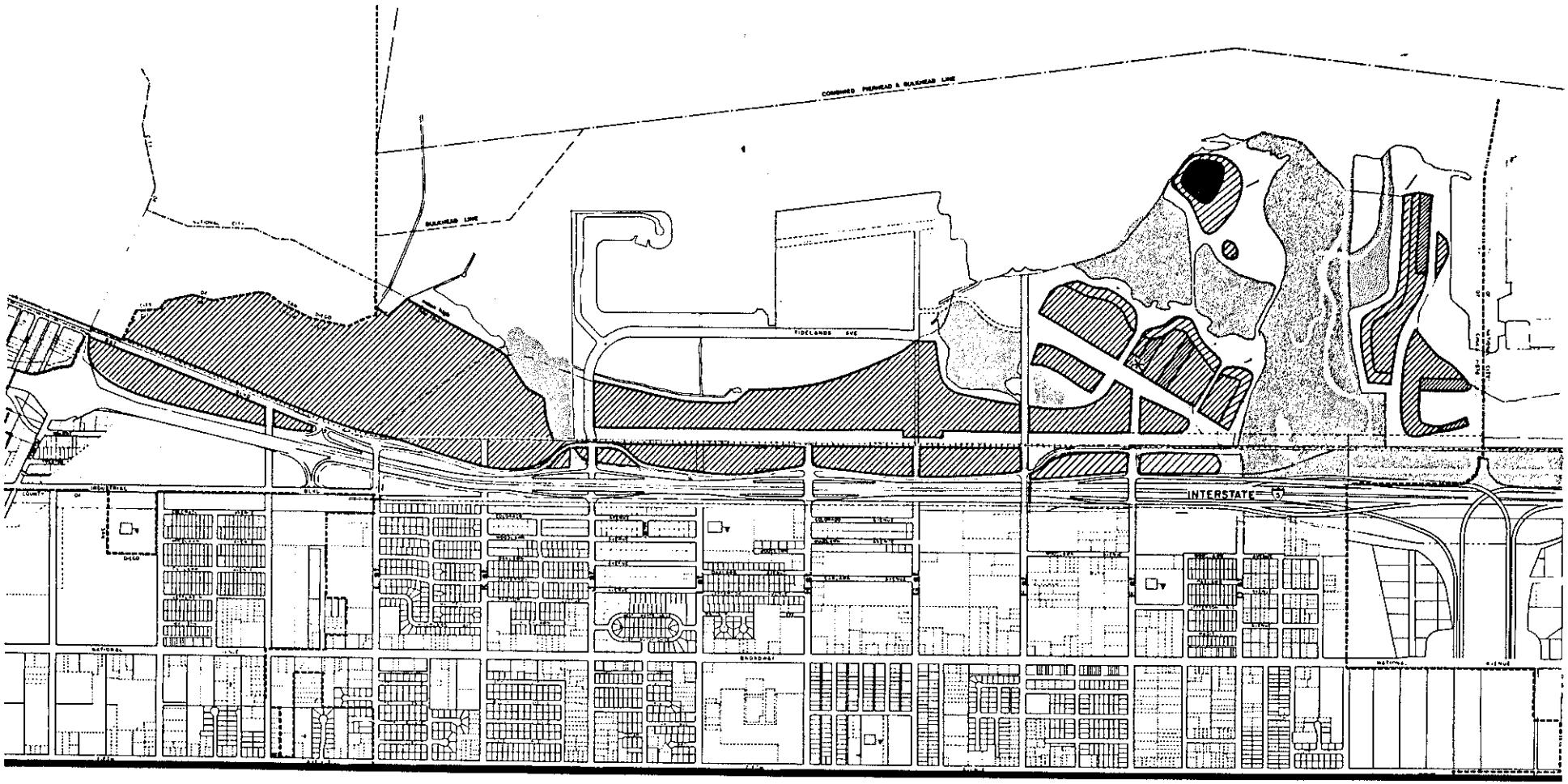
As a result of this study, the principal landowner is proposing to reconfigure the land uses as recommended.

2.4.6c Landform and Visual Quality

The visual character of the project site under the proposed amendments would be similar to development according to the existing plan as the land uses are very similar. The major visual difference would result from the proposed changes to the circulation system and related revisions to the building height controls. The proposed building height controls map (see Map 2a) would actually provide improved views of the shoreline from the "E" Street gateway to the bayfront than would be provided by development according to the adopted plan (see Map 2). The small area designated for a 70-foot maximum height limit was located at the intersection of "E" Street and Tidelands Avenue in the adopted plan, potentially obstructing bay and marsh views from the "E" Street gateway. The proposed project revisions entail moving the area designated for a 70-foot maximum height limit north of Marina Parkway (the proposed name for the "E" Street extension). Roadway relocation combined with movement of the 70-foot height limitation would open up views from the "E" Street gateway to Vener Marsh and San Diego Bay.

2.4.6d Noise

The noise discussion in the FEIR also applies to the proposed amendments. The major difference from the adopted plan is that residential land use would be moved east of the realigned Marina Parkway (formerly Tidelands Avenue). In the adopted plan, Tidelands Avenue bisected the residential area. Moving the residential area east of Marina Parkway would reduce noise impacts from Marina Parkway traffic on the residential development. The extent of the masonry buffers that were required in the FEIR to mitigate noise impacts would be reduced because the residential development would only occur on one side of Marina Parkway. Another option for reducing roadway noise impacts in residential areas would be to install landscaped berms to act as noise barriers. If properly designed, landscaped berms have the potential to be more visually appealing than masonry buffers.



DEVELOPMENT AREAS

- 2 Story Maximum (30 feet)*
- 4 Story Maximum (44 feet)
- 5 Story Maximum (55 feet)
- 8 Story Maximum (88 feet) (12 Story Conditional - 132 feet)
- * 70 Foot Maximum

MAP 2

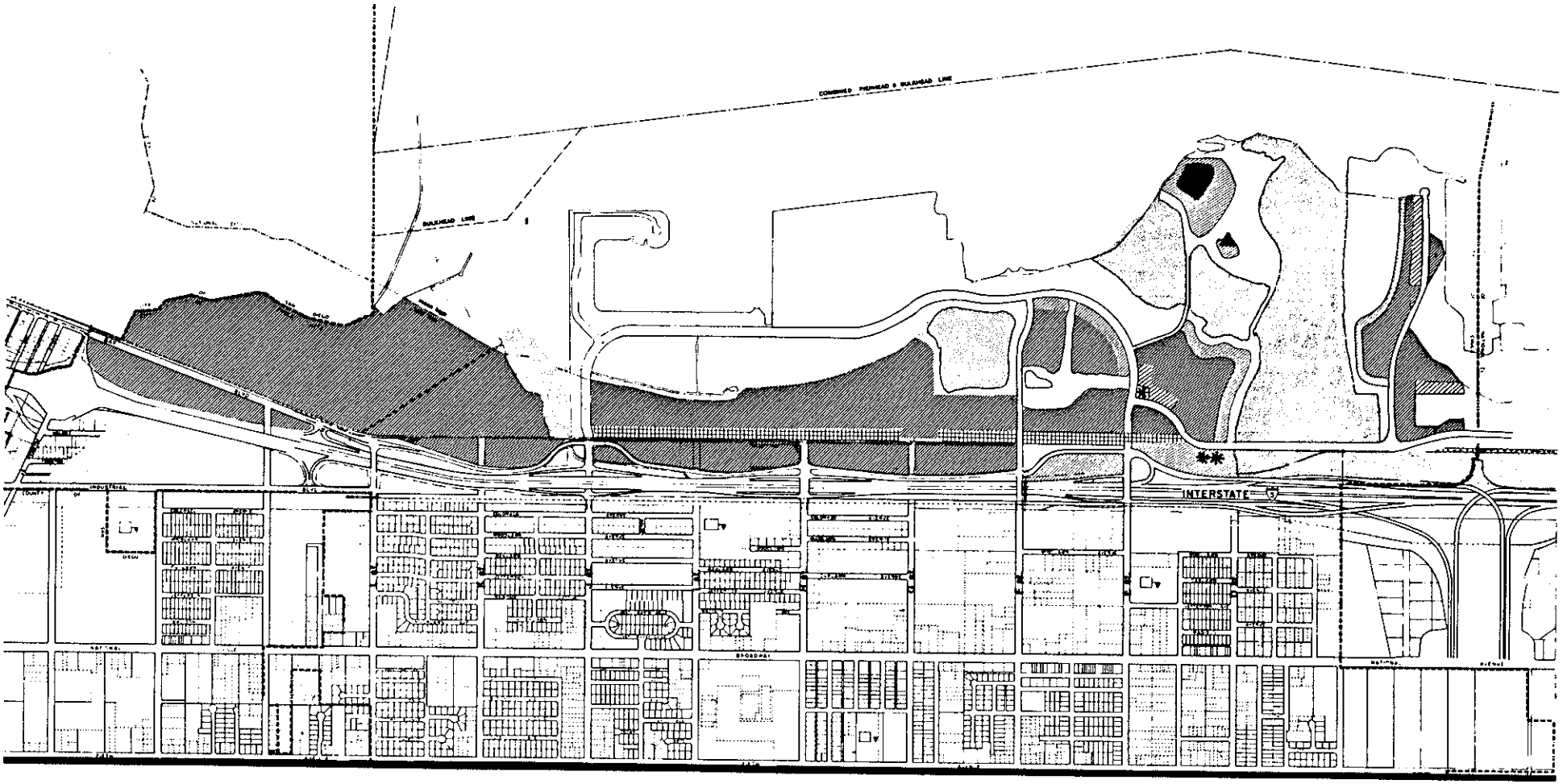
ADOPTED CHULA VISTA LOCAL COASTAL PROGRAM

BUILDING HEIGHT CONTROLS

0' 1200'

*A Viewing Tower for the Nature Interpretive Center is Permitted up to 45 feet High.

5a



2 Story Maximum (30 feet) ▲

4 Story Maximum (44 feet)

5 Story Maximum (55 feet)

8 Story Maximum (88 feet)
12 Story Conditional - 132 Ft.

* 70' Maximum - See Condition In Text

** 44' Maximum - See Condition In Text

▲ A Viewing Tower for the Nature Interpretive Center is Permitted up to 45 feet High.

PROPOSED CHULA VISTA LOCAL COASTAL PROGRAM BUILDING HEIGHT CONTROLS

MAP 2a

sgpa PLANNING AND ARCHITECTURE SAN DIEGO SAN FRANCISCO 9/8

2.4.6e Archaeological/Historical Process

The impacts described for development according to the adopted plan would be the same under the proposed amendments. Salvage excavation is required for any archaeological sites prior to development of the property to reduce resource impacts to a level of insignificance.

2.4.6f Air Quality

The proposed revisions are in substantial conformance with the redevelopment plan used in developing RAQS and so, no significant impacts on regional air quality are anticipated. The proposed project would minimize the importation of fill required to provide the elevation differences necessary for site drainage. The short-term construction-related impacts on air quality would be reduced by minimizing the truck trip generation required for fill importation.

2.4.6g Community Infrastructure

The land uses proposed by the amendments include only minor modifications to the planned land uses, so impacts on community infrastructure would be similar to those described in the FEIR.

2.4.6h Utilities

The proposed utility routing has been modified from the planned routing to reflect circulation changes. Some of the water line sizes in the Midbayfront have been increased to provide looped 16-inch service to Gunpowder Point using the southern levee road for utility provision. Utility improvements are proposed to be removed from the north levee road. These reconfigurations are expected to provide adequate utility services to the Midbayfront and Gunpowder Point areas.

2.4.6i Project Alternatives

The revised project would not change the analysis of overall project alternatives presented in the FEIR. Two additional alternatives, referred to as Project Alternative #1 and Project Alternative #2, that are specific to the Midbayfront subarea are, however, included under each impact category.

The alternative of subterranean detention of stormwater was also explored. This alternative would not utilize either the existing freshwater marsh or direct discharge to San Diego Bay for storm water runoff. A Section 404 permit from the U. S. Army Corps of Engineers would not be required for this drainage scheme, as the stormwater would be discharged through the existing City system. The subterranean detention alternative is not, however, considered in this SEIR because it is considered infeasible from a financial standpoint. The applicant's engineer estimates the cost of subterranean detention at approximately $3.5 million.

3.0 PROJECT DESCRIPTION AND PROJECT ALTERNATIVE

The project site includes approximately 190 acres in the City of Chula Vista bounded by the Sweetwater Marsh to the north, Vener Pond and "E" Street (Vener) Marsh to the west, Rohr Industries to the south and Interstate 5 to the east. This area is shown as subarea 3 in Figure 1 and is referred to as the Midbayfront. The Midbayfront is a portion of the 790 acre area planned for in the Chula Vista Bayfront Specific Plan for which the Chula Vista City Council adopted a Final EIR on January 15, 1985, by Resolution 11902.

The Specific Plan is incorporated into the Chula Vista Zoning Ordinance and is intended to implement all elements of the Chula Vista Bayfront Land Use Plan. The proposed project, if approved, will amend the Specific Plan and Land Use Plan for a portion of the Bayfront. These two documents together comprise the City's Local Coastal Program (LCP).

Land uses designated in the adopted Specific Plan were reconfigured based on soils limitations identified by further studies as required by the LCP. The geotechnical investigation, the USA, Inc. traffic study and a revised grading plan designed to minimize the amount of imported fill required, resulted in modifications to the land use configuration, the circulation system, and the drainage and grading conceptual plans.

3.1 SUMMARY OF ORIGINAL PROJECT CHARACTERISTICS

3.1.1 Land Use

The adopted plan for the Midbayfront area entails a mixed-use development of approximately 189.7 acres. The designated uses include residential, office park, highway commercial, landscaped parking, industrial business park, specialty retail, public open space, roadways, and public rights-of-way. Six neighborhood and community parks are included in the Midbayfront on the Land Use Controls Map (see Map 1), three are located along either San Diego Bay or the marsh areas, one is located adjacent to the remnant marsh, and the remaining two parks are located adjacent to the railroad right-of-way.

3.1.2 Circulation

The circulation system outlined in the adopted plan (see Map 3) includes the extension of Tidelands Avenue from its terminus at the north edge of the "J" Street Marina to provide a continuous bayfront parkway. This alignment is designed to avoid the F-G Marsh and introduce major views of the waterfront from the moving automobile. The central portion of Tidelands Avenue is to be developed as a landscaped parkway with median planting to provide a strong visual element to organize physical development in the bayfront.

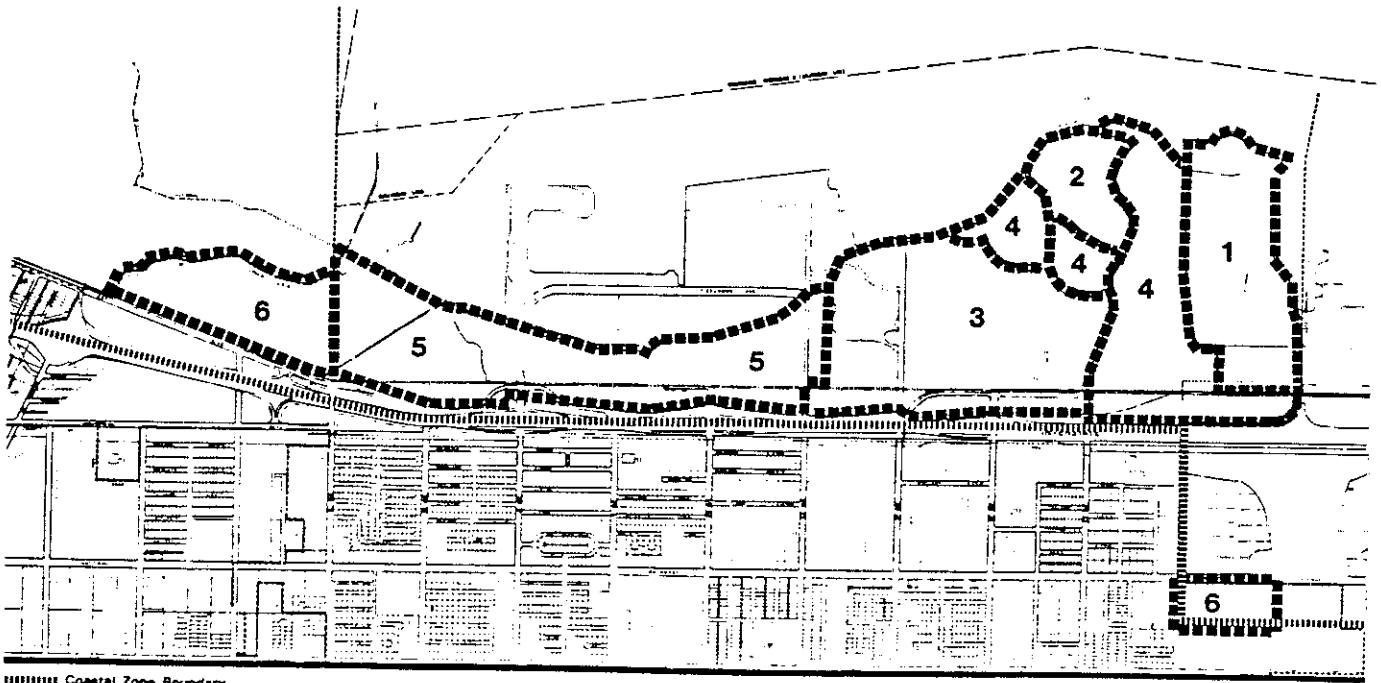
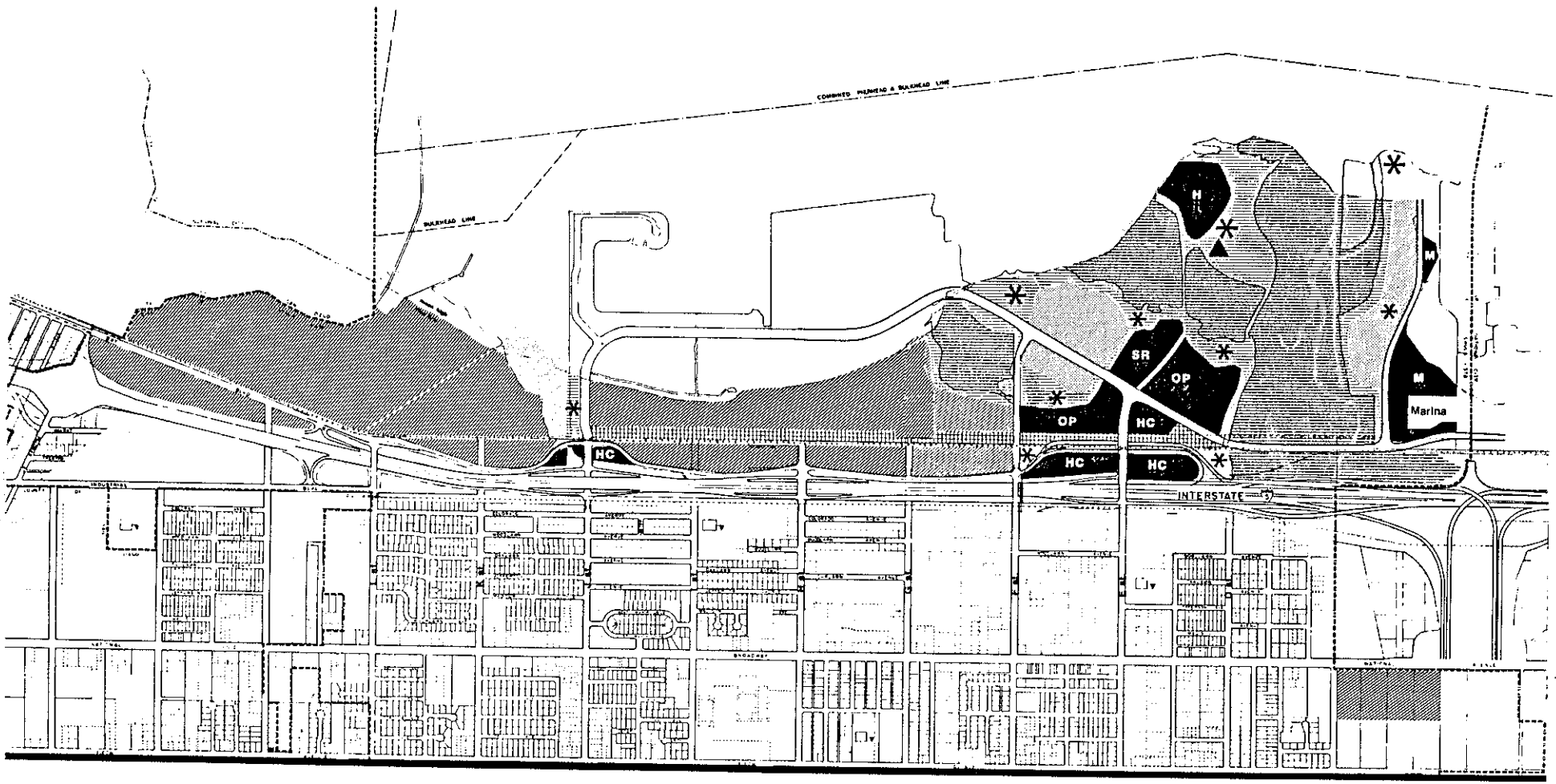


FIGURE 1

CHULA VISTA
LOCAL COASTAL PROGRAM

COASTAL ZONE BOUNDARY AND SUBAREA MAP

SEDWAY COOKE ASSOCIATES



Industrial: General

Industrial: Business Park

Residential

Landscaped Parking

Commercial

OP Office Park

HC Highway Related

M Marine Related

SR Specialty Retail / Mixed Use

H Hotel

Public Park and Open Space

* Community/Neighborhood Park

▲ Nature Interpretive Center

Wetlands

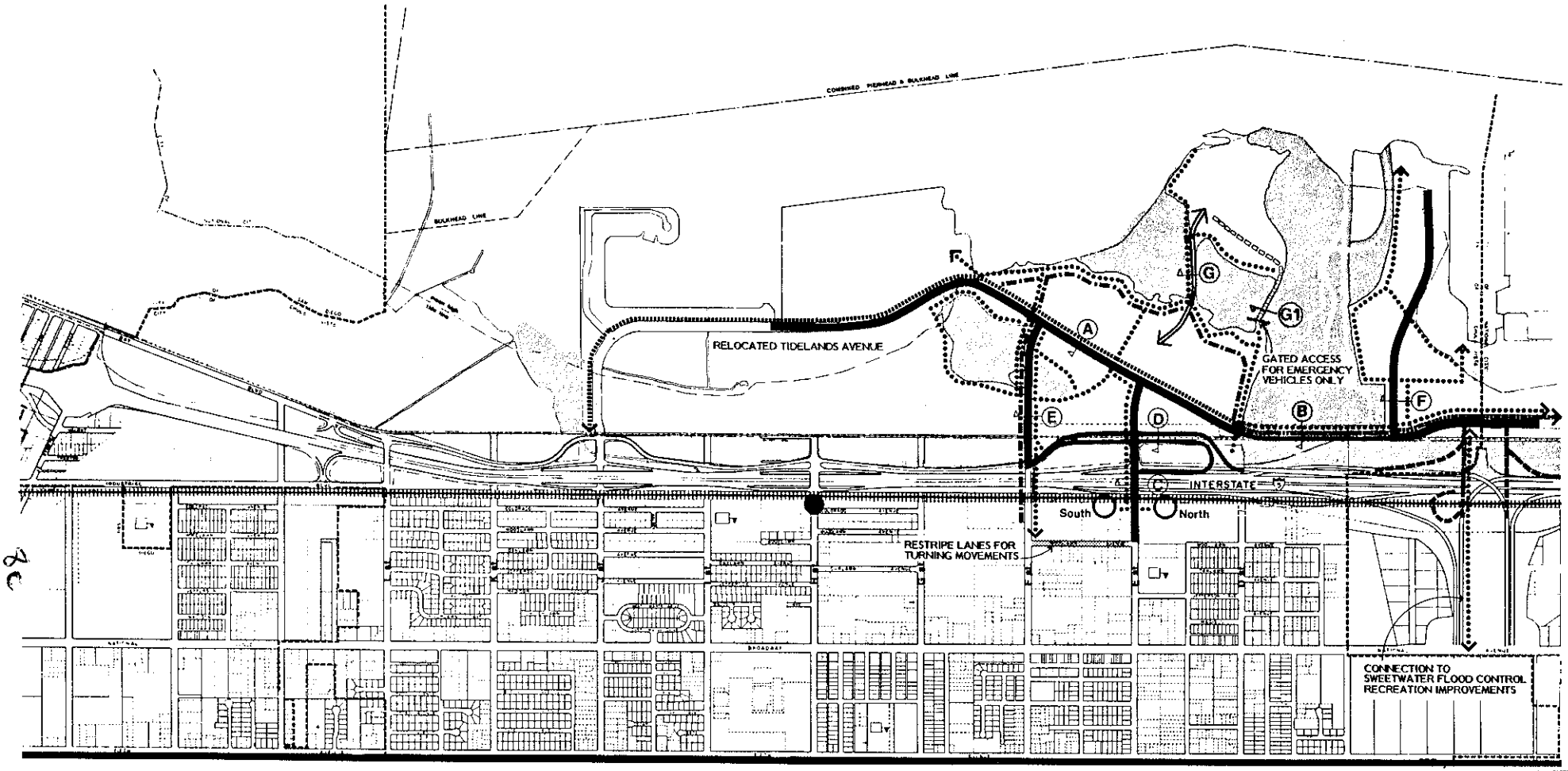
ADOPTED

MAP 1

CHULA VISTA LOCAL COASTAL PROGRAM

LAND USE CONTROLS

0' 1200'



Existing Trolley Line

Existing Trolley Stop

New Roadway

Controlled Access Roadway

Emergency Access Roadway

Future Trolley Station (alternative locations)

Regional Bicycle Route

Local Bicycle Route

Pedestrian Route

Right of Way Preservation

Typical Roadway Section (see illustrations in "Roadway Design")

ADOPTED

MAP 3

CHULA VISTA LOCAL COASTAL PROGRAM

CIRCULATION

0' 1200'

The plan also provides for the widening of the "E" Street bridge over I-5 from its present six-lane configuration to between seven and nine lanes. Another improvement recommended for "E" Street was a pedestrian walkway at least 20-feet wide separated from the roadway with bollards (see Figure 3). The walkway would connect the Midbayfront with the planned "E" Street trolley station.

Improvements at the Bay Boulevard intersection will eliminate the left-turn movement from westbound "E" Street to the southbound freeway by providing an alternative freeway ramp configuration. Several potential configurations for the freeway interchange were discussed as alternatives. The option for the Bay Boulevard/I-5 on/off-ramp configuration identified in the adopted plan as the preferred alternative will require two traffic lanes in each direction, two left-turn lanes, a sidewalk, and landscaping. This option requires encroachment on the existing railroad right-of-way.

"E" Street is planned to extend to connect with Tidelands Avenue and permit looped bus service (via "F" Street) to the bayfront. The "F" Street right-of-way is 100-feet wide and provides two traffic lanes in each direction, an opposing left-turn lane, a sidewalk, landscaping, and a bicycle route separated from the roadway.

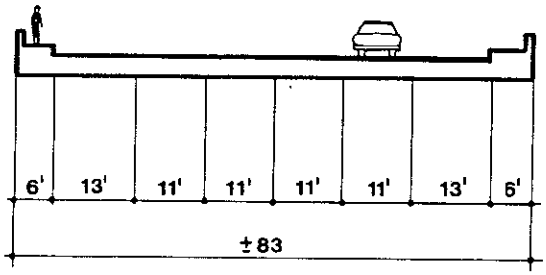
3.1.3 Grading and Drainage

The generalized grading plan for the Midbayfront, "D" Street Fill, and Gunpowder Point will require the importation of approximately one million cubic yards of earth to ensure that building pads are above the 100-year flood and higher high tide levels as well as provision of adequate grades to allow for drainage. The grading plan was designed to provide a major detention/desiltation basin in the Midbayfront to prevent water containing silt, oil, and other contaminants from flowing directly into wetland areas. The schematic diagram in the Specific Plan shows a portion of the Midbayfront drainage being discharged to the bay, but a specific discharge methodology is not discussed (see Map 5).

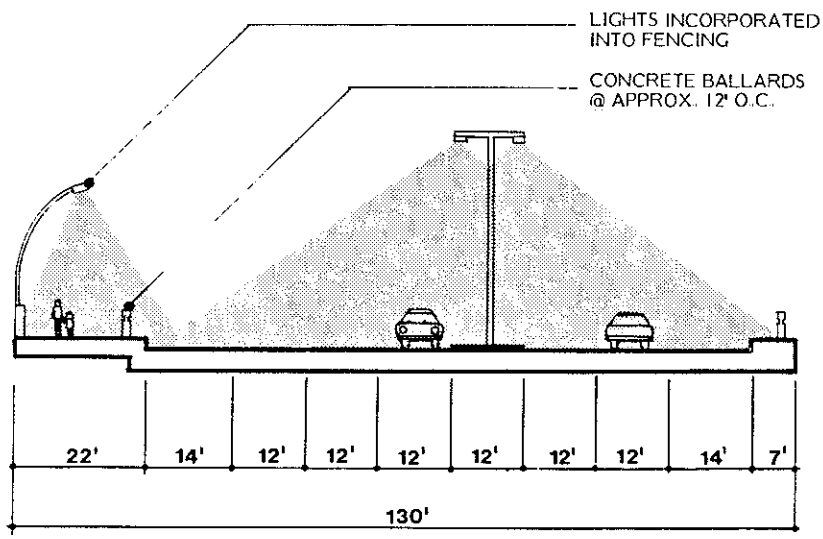
3.2 SUMMARY OF PROPOSED PROJECT CHARACTERISTICS

3.2.1 Land Use

Planned land uses were reconfigured based on soils limitations identified by further studies required by the LCP. The public open space between the office park and Vener Pond was moved to form a bayside park in the area between the realigned Tidelands Avenue (renamed Marina Parkway) and Vener Marsh. The residential land use was consolidated east of Marina Parkway providing a contiguous



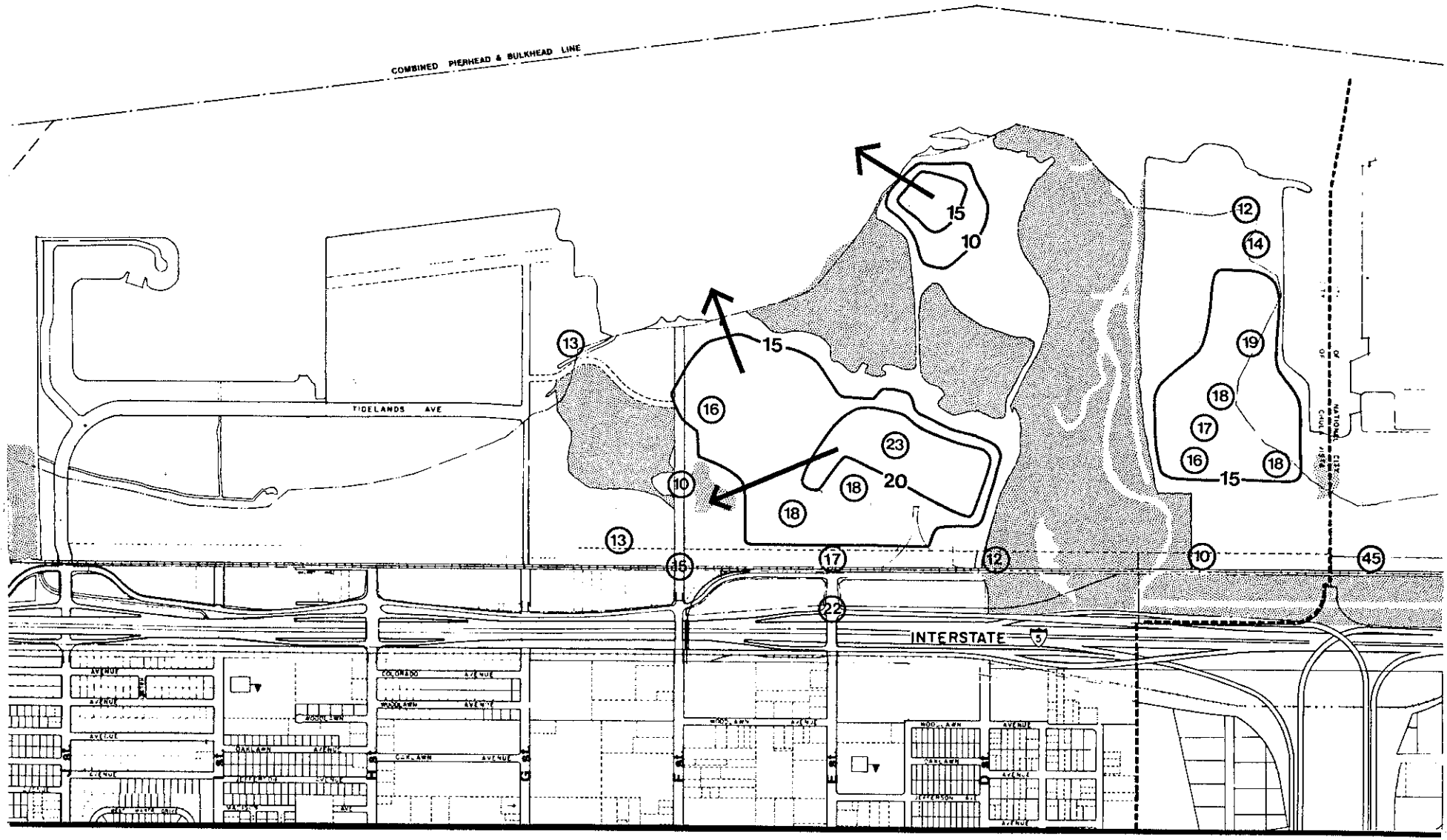
EXISTING FREEWAY BRIDGE



WIDENED BRIDGE

FIGURE 3 ADOPTED
SECTION C (Prototypical) Looking West
FREEWAY BRIDGE WIDENING AT E STREET

0 10' 20'



—15— Contour Line

(18) Spot Elevation

← Drainage Direction

MAP 5

ADOPTED CHULA VISTA
LOCAL COASTAL PROGRAM

PLANNED LAND FORM: GRADING/FILLING AND DRAINAGE

0' 1200'

residential development. The park use that was located adjacent to the SDG&E right-of-way immediately south of Sweetwater Marsh was moved to the area just north of "E" Street to provide a landscaped open space area within the proposed I-5 on/off-ramp. In addition, the specialty retail use, designated for a specific eight acre area in the adopted plan was incorporated into the office park use (four acres) to allow flexibility in location of the specialty retail use (see Map 1a). This location and acreage allocation for the specialty retail use is consistent with the certified Land Use Plan.

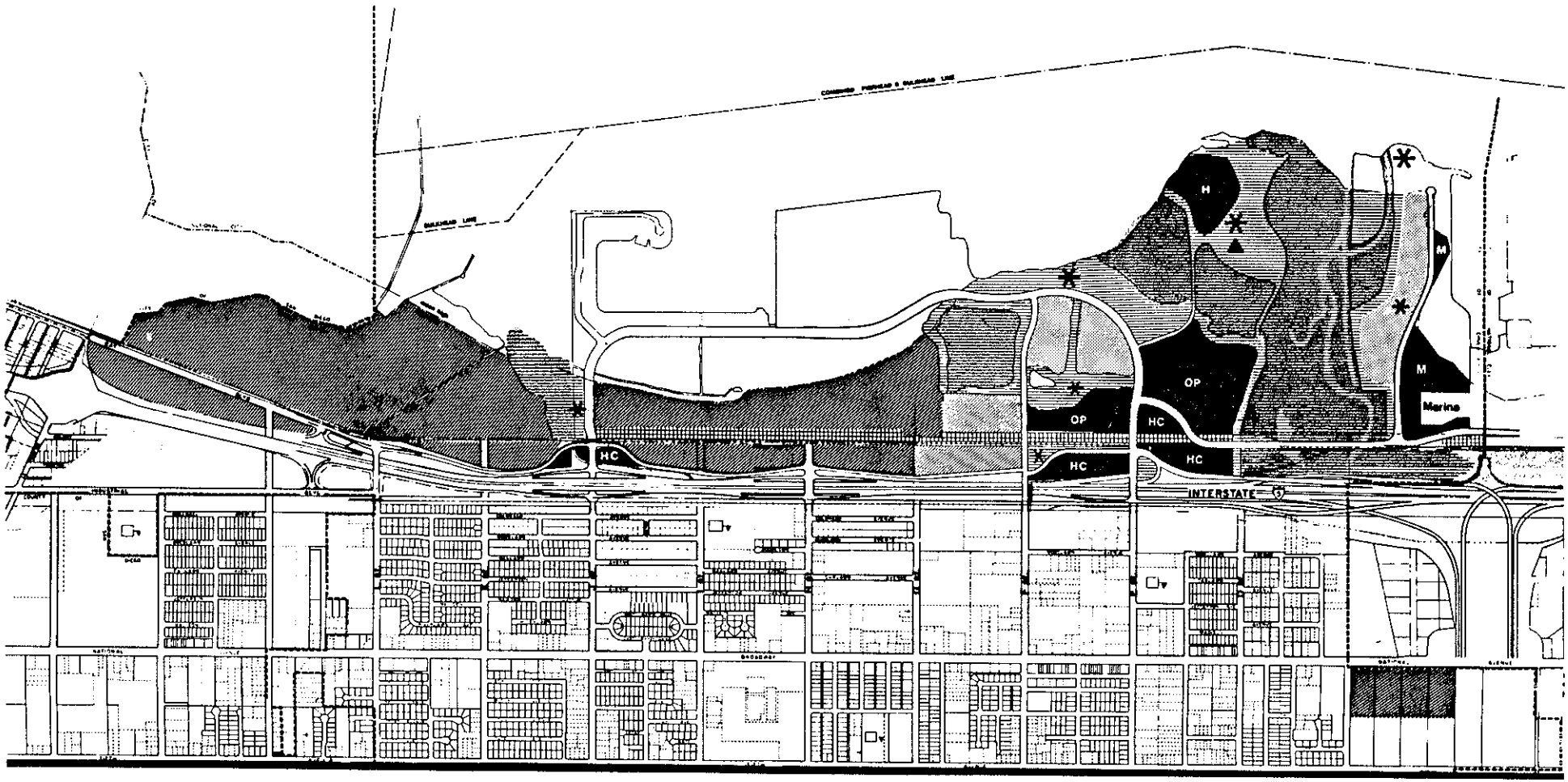
The adopted Specific Plan did not quantify land use acreages. The land use revisions made to the adopted plan during the Coastal Commission certification process which resulted in the replacement of office park use adjacent to I-5 between "F" and "G" Streets with industrial business park use, was not included in the Final EIR's land use quantification. The following table presents a comparison between Midbayfront land use acreages from the Final EIR, the proposed project revisions, and the Project Alternatives.

Land Use	Final EIR Acreage	Proposed Acreage	Project Alt. (1&2) Acreage
Industrial Business Park	10.2	21.0	21.0
Residential	26.6	18.1	18.1
Commercial			
Office Park	46.7	44.7	44.7
Highway-related	20.3	15.2	15.2
Specialty retail	8.0	*	*
Landscaped Parking/R-O-W	20.0	29.8	29.8
Public Open Space			
Wetlands	19.0	19.0	19.0
Wetland buffers	15.6	15.6	15.6
Parks	26.3**	24.1**	24.3**
	192.9***	187.5***	187.7***

* 4.0 acres included within office park designation
** See the Land Use section for a discussion of park acreage discrepancies.
*** These figures are approximate and do not correspond exactly.

3.2.2 Circulation

The proposed revisions to the Specific Plan include changes to circulation in the Midbayfront. The proposed circulation recommendations include redesign of the I-5 on/off-ramp at "E" Street, realignment of Marina Parkway and Tidelands



- Industrial: General
- Industrial: Business Park
- Residential
- Landscaped Parking
- Commercial
  - OP Office Park Includes 4 Acres Specialty Retail That Maintains A Minimum 200 Ft. Setback From Marsh Buffer
  - HC Highway Related
  - M Marine Related
  - H Hotel
- Public Open Space
  - * Community/Neighborhood Park
  - ▲ Interpretive Center
- Wetlands

MAP 1a

CHULA VISTA LOCAL COASTAL PROGRAM

PROPOSED LAND USE CONTROLS

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Avenue, reconfiguration of Bay Boulevard south of "E" Street, maintaining the "E" Street bridge at its existing width, and minor narrowing of the Marina Parkway and "F" Street rights-of-way (see Map 3a).

3.2.3 Grading and drainage

Revisions to the conceptual grading and drainage plans are also being proposed (see Map 5a). The detention/desiltation pond planned in the Specific Plan is proposed to be retained. The major function of the facility would be desiltation, as detention is not required because there is no downstream flood hazard because the basin would discharge via newly created additions to the F-G Marsh area directly to San Diego Bay. The principal revision is the addition of a drainage swale that would discharge into San Diego Bay. This swale is proposed to be located upland of the 100-foot wetland buffers of Vener Marsh, Vener Pond, and Sweetwater Marsh.

3.3 SUMMARY OF PROJECT ALTERNATIVE CHARACTERISTICS

3.3.1 Treatment of Alternatives

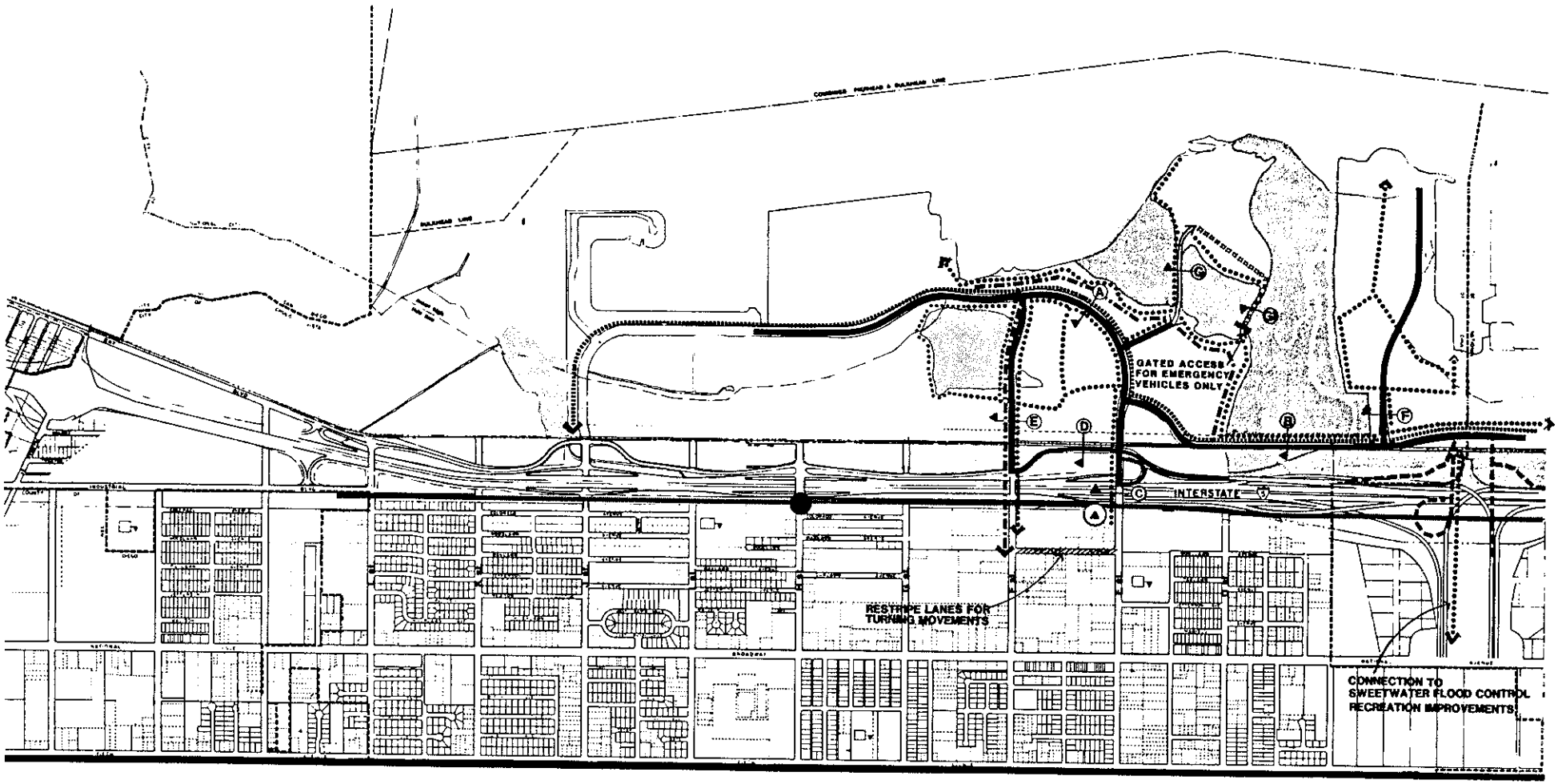
This Supplemental EIR is an alternative-based study providing detailed treatment of the project alternative throughout the report.

3.3.2 Land Use

The land uses under the Project Alternatives would be identical to those included in the proposed project with the exception that drainage swale would not be located in the bayside park. Under Alternative 1, a 5:1 slope would replace the drainage swale at the western edge of the office park use north of Marina Parkway and the bayside park east of Marina Parkway to allow the grades of the developed areas to slope gradually to meet the grades of the buffer areas. Under Alternative 2, an underground drainage system would be located in approximately the same location as the swale. Inlets for drainage would be provided along the length of the underground pipe. A +1.5 foot berm would be located west of the underground pipe inlets to ensure that urban runoff, from storm events up to 100-year storm, does not enter Sweetwater Marsh, Vener Pond, or Vener Marsh.

3.3.3 Circulation

The circulation system would be the same under the Project Alternatives as for the proposed project.



- Existing Trolley Line
- Existing Trolley Stop
- New Roadway
- Controlled Acess Roadway
- Emergency Access Roadway
- Future Trolley Station
- Regional Bicycle Route
- Local Bicycle Route
- Pedestrian Route
- Right of Way Preservation
- Typical Roadway Section (see illustrations in "Roadway Design")

MAP 3a

CHULA VISTA

LOCAL COASTAL PROGRAM

PROPOSED CIRCULATION

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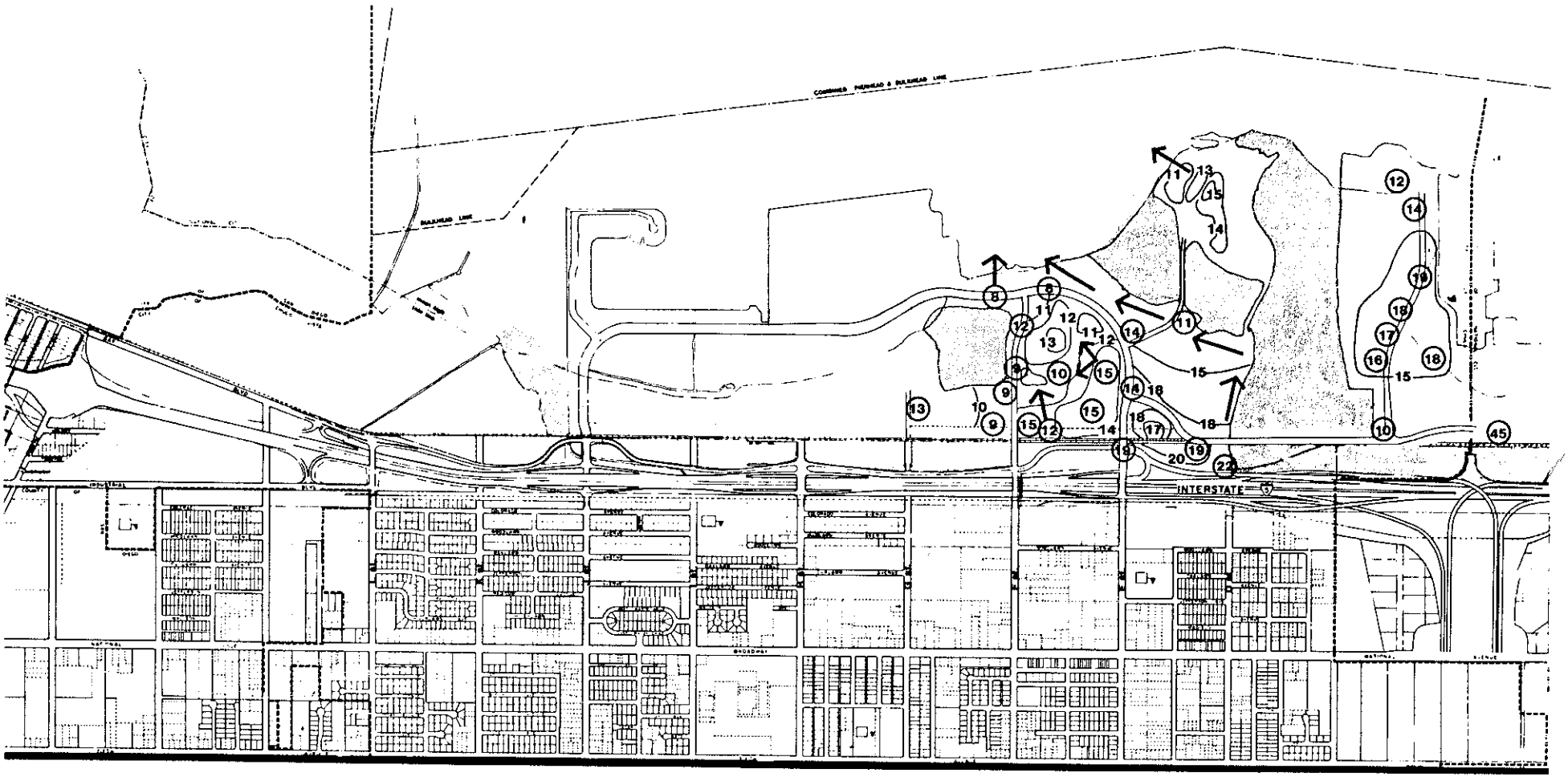

—18— Contour Line

(16) Spot Elevation

← Drainage Direction

MAP 5a

CHULA VISTA
LOCAL COASTAL PROGRAM

PROPOSED PLANNED LAND FORM: GRADING/FILLING AND DRAINAGE

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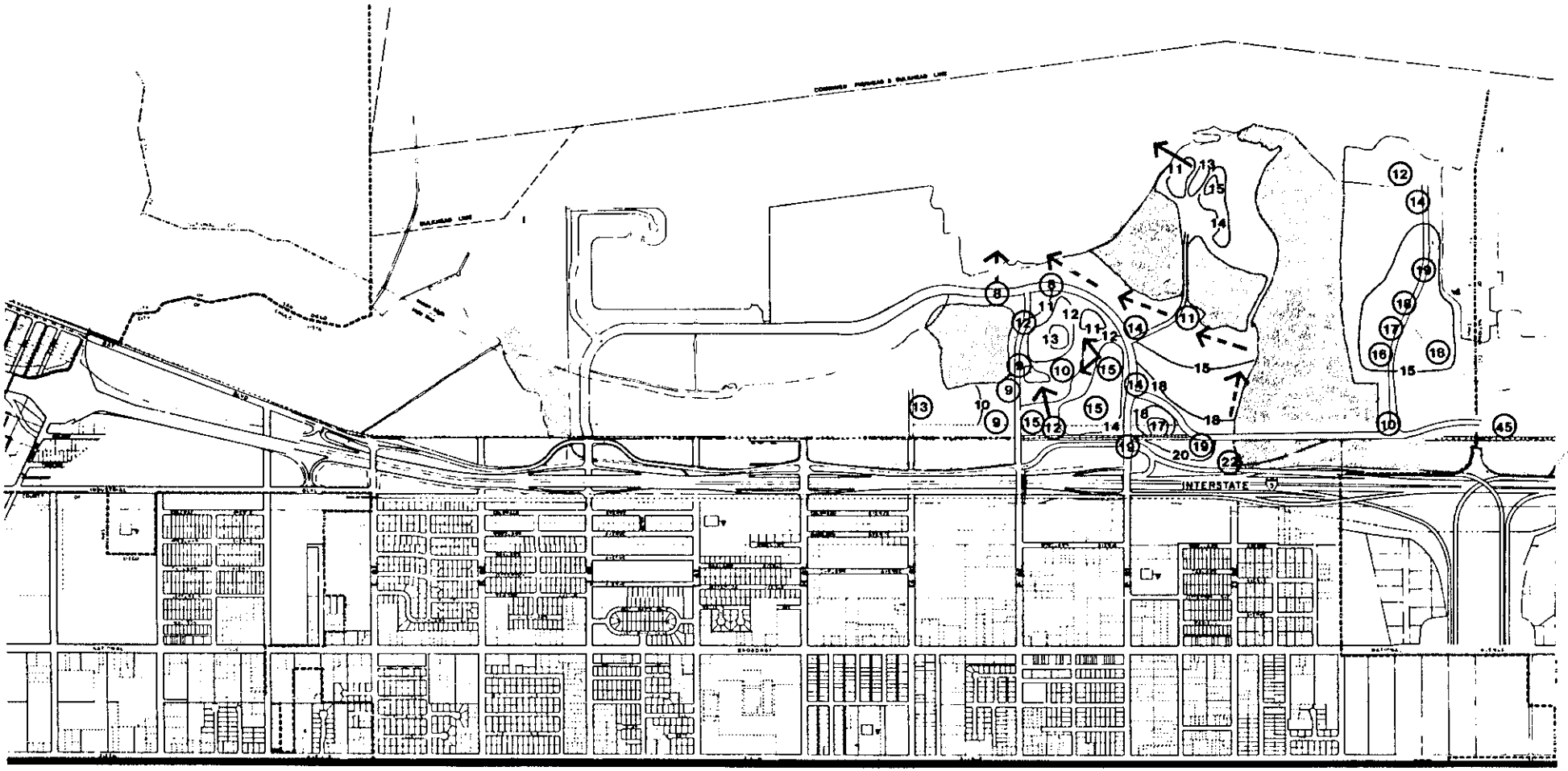
3.3.4 Grading and Drainage

Project Alternative 1 eliminates the drainage swale included in the proposed project. A 5:1 vegetated slope would protect the wetlands from runoff from the development areas. Project Alternative #2 also eliminates the drainage swale in the proposed project. This alternative would, however, require less imported fill than Project Alternative #1. Under this alternative an underground drainage pipe would be located in approximately the same place as the proposed drainage swale. A +1.5 foot berm would be provided west of the inlets to the underground drainage facility to ensure that urban runoff from the 100-year storm does not enter Sweetwater Marsh, Vener Pond or Vener Marsh. These revisions are shown on Map 5c.

3.4 APPROVALS REQUIRED

Following certification of the Final Supplemental EIR on the proposed LCP revisions, public hearings on the proposed LCP amendments will be held before the Chula Vista Planning Commission and City Council. If the LCP amendments are approved at the local level, they will be forwarded to the California Coastal Commission, along with the environmental document, for staff review and a public hearing. Once LCP amendments are approved by the Coastal Commission, the City has the authority to issue Coastal Development Permits for projects pursuant to the revised LCP.

An application for a Section 404 Permit has been filed with the U.S. Army Corps of Engineers (Corps) for proposed Midbayfront drainage improvements requiring dredging or filling in waters of the United States. Prior to implementation of the drainage system as proposed, a Section 404 Permit must be issued by the Corps.



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—18— Contour Line

(16) Spot Elevation

← Drainage Direction

← - - - DRAINAGE TO BE CONTAINED BELOW GRADE

MAP 5c

CHULA VISTA
LOCAL COASTAL PROGRAM

ALTERNATIVE PLANNED LAND FORM: GRADING/FILLING AND DRAINAGE

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4.0 LAND USE

4.1 Project Setting

The FEIR on the Bayfront Specific Plan includes a description of the existing land uses in the Midbayfront subarea and adjacent areas. Map 1 shows the Specific Plan land uses for the Midbayfront and adjacent subareas.

The land use designations for the proposed project were configured based on soils limitations, a revised grading and drainage plan, and circulation revisions. The following land use revisions are included in the proposed project:

- the speciality retail use was incorporated into the office park use to allow flexibility in the location of specialty retail uses
- several open space areas were relocated and/or reconfigured
- the residential use was consolidated east of Marina Parkway

In addition, acreage assignments within the various land use designations were modified. The office park acreage would remain close to the FEIR quantification as a result of the land use reconfigurations and incorporation of the specialty retail acreage. The additional industrial business park acreage (+10.8 acres) resulted from decreases in the specialty retail, residential and highway-related commercial acreages. It should, however, be noted that the 4.0 acre specialty retail acreage allocation is consistent with the certified Land Use Plan.

The City's Local Coastal Program includes special coastal access provisions. The Specific Plan (p. 51) states that "[A] major pedestrian link shall be included in the public open space linking the shoreline with the interior storm detention facility. Provision shall be made for pedestrian continuity across or beneath Tidelands Avenue."

4.2. Potential Impacts

4.2.1 Proposed Project

4.2.1a Incorporation of Speciality Retail Use

The intent of the LCP to provide specialty retail uses to support the hotel-conference facility, office park uses, and adjacent residential uses would be maintained by incorporating the specialty retail use into the office park designation. The number of automobile trips predicted by the traffic study (Appendix 2) may be reduced by the

location of specialty retail uses within walking distance of residential and office park uses. Although the acreage of specialty retail use would be reduced from the FEIR quantification, the intent of the specialty retail use would be maintained and the acreage allocation for specialty retail use would be consistent with the certified Land Use Plan. The impact of incorporating the specialty retail use within the office park designation and reduction of specialty retail acreage from the FEIR quantification is considered to be less-than-significant.

4.2.1b Relocation/Reconfiguration of Open Space

Several of the open space areas designated in the Specific Plan were either relocated or reconfigured for the proposed project (see Map 1a). Planned open space that was located west of the office park designation in the northwest portion of the Midbayfront was relocated to the area just east of the Vener Marsh 100-foot buffer because soils problems limit the usefulness of the area adjacent to Vener Marsh for development. Locating this open space acreage adjacent to Vener Marsh and San Diego Bay provides a bayside park which allows for improved public views of the coastal area because it would be adjacent to Marina Parkway, the major thoroughfare. Movement of the residential development east of Marina Parkway would: 1) provide an enlarged bayfront park; and 2) prevent the residential area from being bisected by a major transportation corridor.

The planned park north of "E" Street and east of the SDG&E right-of-way would be relocated to the area within the modified I-5 on/off ramp in the northwest corner of I-5/"E" Street intersection under the proposed project. In this location, the acreage could only function as visual open space because no recreational access would be available. As a result, one acre of usable open space would be lost. This decrease is reflected in the open space acreage quantification for the proposed project under Section 3.2.1 Land Use. This is considered a potentially significant adverse impact capable of mitigation by the provision of one acre of usable open space elsewhere in the Midbayfront. This acre of usable open space will be provided adjacent to the open space surrounding the desiltation basin and adjacent to the residential area.

Inaccurate measurements were used in assigning the land use acreages in the Specific Plan. The actual acreage set aside for the Vener Marsh enhancement area was only 2 acres, so in order to maintain a 3-acre enhancement site at that location, one acre of park land would be lost. Because the Midbayfront only includes a finite number of acres, tradeoffs are required when inaccuracies are discovered. If during the subdivision map stage more than 99 acres of developable land, as indicated in the Land Use Table on page 10, is available, then the first additional acre will be required as a parkland dedication to compensate for the acre of parkland lost for Vener Marsh enhancement. If additional acreage over the 99 acres allocated for urban development is not available, then this loss of park acreage will be considered less-than-significant as it allows increased wetland habitat which, along with parklands, is a desirable goal for Midbayfront development.

4.2.1c Coastal Access

The proposed Specific Plan amendment does not include a provision for pedestrian continuity across Tidelands Avenue (renamed Marina Parkway) between the residential area and the bayside park. Due to the 1,000-foot radius curve in the proposed alignment of Marina Parkway, provision of at-grade access across the parkway directly west of the linear park would be unsafe. An undercrossing would not be practical because of the high groundwater table in the area. An overpass is the only alternative for providing a pedestrian link from the detention basin area to the bayside park. Provision of an overpass must be investigated by the project applicant and if feasible, the overpass must be implemented at the applicant's expense.

The amendments proposed for the Specific Plan continue to indicate a continuous perimeter pedestrian and bicycle path along the shoreline buffer area. The primary design change in this area is along the wetland buffer area east of the E Street (Vener) Marsh. The original Specific Plan involved an interface of the residential uses and the wetland buffer, and the proposed amendment would place a larger park and open space area

adjacent to the wetland buffer. This change is the result of the proposed realignment of Marina Parkway (formerly Tidelands Avenue) westward to allow a minimum 1,000 foot radius curve connecting with "E" Street and redistribution of the parkland and open space acreages. Maps 1 and 1a present a comparison of the existing and proposed land uses for this area. Pedestrian and bicycle facilities would be provided along Marina Parkway, along the Midbayfront buffer trails, to the buffer trails on Gunpowder Point via the levee road, and on Lagoon Drive ("F" Street extension) (see Maps 3 and 3a for the adopted and proposed circulation graphics respectively).

Access to the Midbayfront buffer trails through the enlarged shorefront park and open space area would periodically be obstructed by the proposed low-profile, grass-lined drainage swale with a french drain in the bottom to handle nuisance water. The only portion of the swale which would be unpassable on a regular basis would be approximately the southern 400 feet, which would be subject to regular tidal action (approximately 15 days per month once a day).

Upstream from this area, the bottom of the swale would have a french drain to handle nuisance water. If the swale were planted with grass, informal pedestrian access to the buffer trails would be possible along the portion not inundated by tidal action. Additional formal crossings should take the form of a small concrete culvert which would pass small runoff flows and be flooded only during larger storms, or some other type of bridge structure. Provision of the structures would reduce impacts on coastal access resulting from the drainage swale to a less-than-significant level.

The precise design of the drainage swale and other improvements associated with it (e.g., french drain and culvert/footbridge structures) will be determined during review of the final grading and improvement plans for the Midbayfront.

4.2.1d Drainage Swale

Under the proposed project, the above-ground drainage swale would bisect the bayside park. During and following storm events, park use would be impeded by runoff and wet soils conditions. The southern portion of the swale, approximately 400 feet, would be subject to tidal inundation which would preclude the use of this area for any use other than visual open space. At a minimum, implementation of the drainage swale would result in the loss of 8,700 square feet (approximately .2 acre) of usable parkland (estimated by applicant's engineer). This impact is considered potentially significant. To reduce this impact to a less-than-significant level, .2 acre of usable parkland must be provided elsewhere in the Midbayfront. During and following storm events, up to another 49,000 square feet (approximately 1 acre) of the 11.4 acre bayside park would be unusable (estimated by applicant's engineer). This impact may be considered significant depending on park and open space goals.

The entire length of the drainage swale would require constant maintenance to provide an acceptable appearance because the bayfront will be a highly visible, visitor-serving area. The Bayfront Open Space and Maintenance District could be used as the funding mechanism for drainage swale maintenance, but this would reduce the financing available for Sweetwater Marsh/upland habitat maintenance which is stated as the purpose of the open space and maintenance district in the Specific Plan. Because of the high visibility of the Midbayfront, aesthetics are a very important consideration. The long-term maintenance costs and aesthetic concerns associated with the swale are considered potentially significant impacts.

Because the swale would be an open drainage feature, it would act as an "attractive nuisance" and has the potential to become a liability problem for the City. Water in the swale would be as much as 2.6-feet-deep and 21-feet-wide during the 100-year storm event. Fencing the swale would not be appropriate as it would preclude public access to the shoreline and would not be aesthetically pleasing.

The purpose of the drainage swale would be to collect urban runoff. Thus, a wet, low-lying area would be created by implementation of the swale. Tidal inundation of the southern 400 feet of the swale, as well as the concentration of urban runoff in the swale may result in the creation of emergent wetlands. The french drain structure at the bottom of the swale will help to transport nuisance water from landscape irrigation from the swale to the bay but the wet area could still result in creation of wetland areas. Creation of wetlands in the swale, while desirable from a wildlife habitat standpoint, would not be consistent with the City's development plans for the bayfront. If wetland vegetation were to become established in the drainage swale, the U.S. Army Corps of Engineers could assert its jurisdiction over the swale area and require a Section 404 permit for swale maintenance. This impact is considered potentially significant because if swale maintenance were precluded, alternative drainage facilities would not be available to prevent storm water from backing up and potentially flooding development sites. In addition, if the swale became a wetland area, coastal access across the swale would be precluded. Undergrounding this drainage feature, as described under the Project Alternative, would mitigate all identified potentially significant adverse impacts associated with the swale.

4.2.1e Consistency with Adjacent Land Uses and Policies

The proposed revisions to acreage assignments within the various land use designations would not result in significant land use impacts. The basic land use configurations were retained, so no incompatibilities between adjacent uses are anticipated. The area adjacent to the west side of I-5 between "F" and "G" Streets would be changed from office park to industrial business park designation. The industrial business park use is more compatible with industrial uses to the south and planned industrial business park use to the west and would provide a transition to the highway commercial use to the north.

The proposed land use revisions are not expected to have any impacts on the plans for the development of adjacent or nearby properties under the jurisdiction of the San Diego Unified Port District, National City, San Diego County, or the City of San Diego that are not described in the FEIR.

Although the proposed project includes several reallocations of land uses, none of them would reduce public uses of the bayfront. The reduction of highway commercial uses by approximately 5 acres is not considered significant because the City of Chula Vista is providing visitor serving uses along the "E" Street corridor east and west of I-5. There are currently 438 motel rooms available within one-quarter mile east of I-5 at the "E" Street intersection.

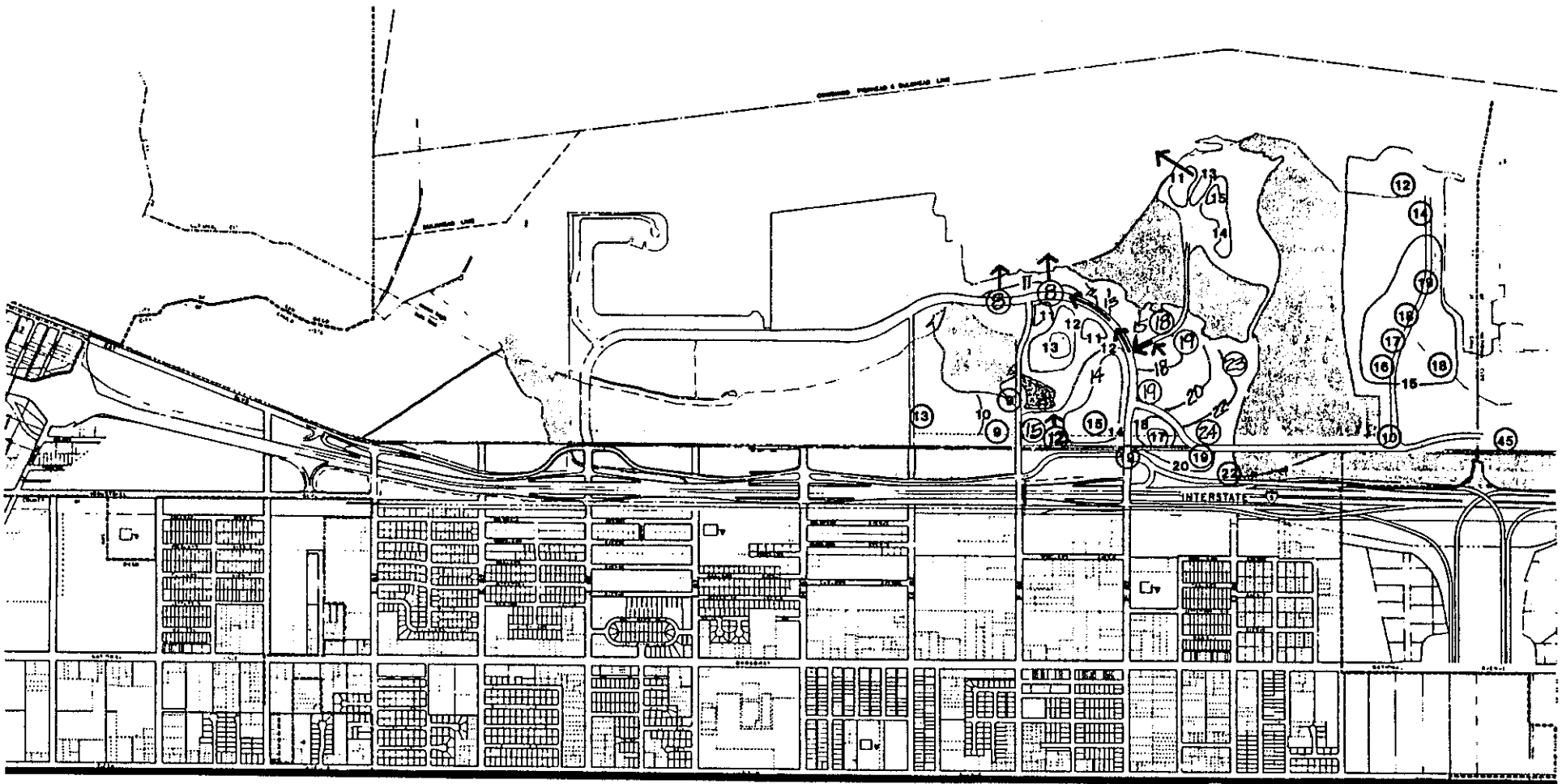
4.2.1f Transfer of FAR

The proposed project includes a provision allowing a transfer of development rights from the office park area south of Marina Parkway to the office park area north of Marina Parkway. The transfer would allow a floor area ratio (FAR) of .65 on portions of the office park area north of Marina Parkway and reduce the FAR on parcels of equal size south of Marina Parkway to .35 to maintain the existing overall FAR of .5. This intensification of use north of Marina Parkway has the potential to result in a bulky appearance unless special design considerations are required. These measures consist of requiring a 50-foot landscaped setback along street frontages, varied roof heights, and faceted and stepped building frontages.

4.2.2 Project Alternative

4.2.2a Drainage Alternative

Under Project Alternative 1, a 5:1 slope would replace the proposed drainage swale adjacent to the buffers for Sweetwater Marsh, Vener Marsh, and Vener Pond (see Map 5b). This would prevent water from development sites from draining into wetland areas. Underground drainage facilities would be provided within the development sites, eliminating the potential for creating emergent wetlands in open swales. In addition, coastal access and recreational opportunities would not be impeded by the gentle slope or the underground drainage facilities. Underground drainage facilities would also be more aesthetically pleasing than the proposed above-ground swale. According to the applicant's engineer, Project Alternative 1 would require importation of an additional 300,000 cubic



—18— Contour Line

(16) Spot Elevation

← Drainage Direction

MAP 56

CHULA VISTA

LOCAL COASTAL PROGRAM

ALTERNATIVE GRADING CONCEPT FOR IMPORTED FILL

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yards of fill and additional storm drainage facilities over the proposed project. These requirements would increase the cost of project implementation. Increased importation of fill would result in increased air emissions during fill deposition. This is, however, a short-term construction related impact that is not considered significant.

Under Project Alternative 2, a ±1.5 foot berm would be located between inlets to the underground drainage pipe located in the same area as the proposed drainage swale) and the buffers for Sweetwater Marsh, Vener Pond, and Vener Marsh to prevent urban runoff from entering these areas (see Map 5c). This alternative would require importation of approximately the same amount of fill as the proposed project. The impacts of Project Alternative 2 would be the same as described under Project Alternative 1.

4.2.2b Other Impacts

Provision of underground drainage facilities would eliminate the adverse impacts associated with the drainage swale. One acre of open space adjacent to Vener Marsh would also be lost under the Project Alternatives due to inaccurate measurements used in assigning land use acreages in the adopted Specific Plan. The impacts discussed in Sections 4.2.1e and 4.2.1f would be the same under the Project Alternatives.

4.3 Mitigation

4.3.1 Mitigation Measures Included in the Proposed Project

The following mitigation measures as well as the mitigation measures in the FEIR (p. 64) on the Specific Plan are incorporated into the proposed project.

4.3.1a Relocation of Park Acreage

To maintain a 3-acre enhancement site at the southeast corner of Vener Marsh, 1 acre of parkland would be lost. If more than 99 acres of developable land is available within the Midbayfront at the time of subdivision, then the first additional acre will be required as a parkland dedication to compensate for the acre of parkland lost for Vener Marsh enhancement. Otherwise, this will be considered an acceptable tradeoff.

4.3.1b Provision of Pedestrian Safety Measures

An overcrossing would provide for safe and convenient access from the shoreline to the linear park within the residential area. The applicant must investigate provision of an overpass in this location. If an overpass is found to be feasible, the applicant must fund construction.

4.3.1c Coastal Access

In addition to the possible provision of a pedestrian overpass over Marina Parkway, pedestrian access to the coastline must be provided at the Lagoon Drive/Marina Parkway and Gunpowder Point Drive/Marina Parkway intersections.

The design of the drainage swale provides for side slopes of 3:1 and 4:1 and the channel is proposed to be partly grass lined with a french drain in the bottom. These features will allow the channel to be integrated into an overall park design allowing both informal pedestrian activity as well as the development of formal pedestrian and bicycle trails to ensure coastal access. These coastal access improvements must be provided at the applicant's expense. The location of formal bicycle and pedestrian access will be determined during grading and improvement plan review.

4.3.1d Funding of Swale Maintenance Using Open Space and Maintenance District Funds

Because the bayfront will be a very visible visitor-serving area, a high level of maintenance would be required to keep the drainage swale aesthetically acceptable. Funds from the Bayfront Open Space and Maintenance District could be used for swale maintenance, but this would utilize funding designated in the Specific Plan for Sweetwater Marsh/upland habitat maintenance.

4.3.2 Mitigation Measures Not Included in the Proposed Project

The following mitigation measures must be incorporated into the proposed project to reduce all impacts to a less-than-significant level.

4.3.2a Require Provision of One Additional Acre of Usable Open Space

To compensate for the loss of 1 acre of usable open space resulting from the relocation of the planned park north of "E" Street to the area within the I-5 on/off-ramp, an additional acre of usable open space must be provided adjacent to the open space area surrounding the desiltation basin and adjacent to the residential area.

4.3.2b Require Provision of .2 Additional Acre of Usable Open Space

To replace the park acreage that would be inundated by tidal action, .2 acre of usable parkland must be provided adjacent to the open space surrounding the desiltation basin and adjacent to the residential area.

4.3.2c Consider Requiring Provision of 1 Acre of Usable Open Space

If access and recreational goals are found to be inconsistent with periodic inundation of the drainage swale, then the applicant should be required to provide 1 acre of usable open space elsewhere in the Midbayfront.

4.3.2d Implement One of the Project Alternatives

The long-term maintenance costs and aesthetic concerns associated with the drainage swale would not be experienced under the Project Alternatives. In addition, the potential for creating emergent wetlands in the drainage swale would also be eliminated by implementation of the Project Alternatives. Approximately 300,000 cubic yards of imported fill would, however, be required over the proposed project under Alternative 1. The increased truck traffic required to import the additional fill would result in very minor short-term construction-related degradation of air quality, but this impact is considered less-than-significant. Under Project Alternative 2 the amount of imported fill required would, however, be approximately the same as required for the proposed project.

4.3.2e Include Special Design Considerations

To reduce the potential impacts of transferring the allowable floor area ratio to increase the development potential of specific areas, the following design considerations shall be required:

- A 50-foot landscaped setback must be provided along street frontages.
- The roof heights must be varied to reduce the bulky appearance.
- Faceted and stepped building frontages must be utilized to provide design variability.

4.4 Analysis of Significance

The mitigation measures presented in the FEIR (p. 64) on the Specific Plan combined with those presented above reduce the potential land use impacts to a less-than-significant level.

5.0 BIOLOGICAL RESOURCES

5.1 INTRODUCTION

Approximately 19.0 acres of valuable wetland habitat and 15.6 acres of wetland buffers are included in the adopted plan for the Midbayfront (Sedway Cooke Associates 1984). An extensive mitigation program has been incorporated into the adopted plan to substantially lessen potential impacts on biological resources. Degraded areas of former wetlands adjacent to Vener Pond, Vener Marsh, and the F-G Marsh are planned for restoration to high quality salt marsh or mudflat as mitigation for filling less than one acre of existing wetland elsewhere in the bayfront to achieve circulation improvements. A stormwater detention facility would be constructed in the Midbayfront in the area of the "remnant" marsh to accept urban runoff under the adopted plan. This detention/ desiltation basin would be used to store runoff during peak storm periods, to regulate freshwater flow into the F-G Marsh, and to act as a sediment settling pond. The conceptual grading and drainage plan in the adopted plan also shows a portion of the Midbayfront drainage being discharged into the bay. A specific discharge methodology is not discussed in the adopted Specific Plan, but rather a commitment is made not to degrade the water quality of the existing or restored wetlands.

5.2 PROJECT SETTING

The FEIR on the Bayfront Specific Plan includes a description of the vegetation, wildlife, and sensitive resources in the project area, mostly by reference to earlier studies and reports. The proposed project, considered in this supplemental EIR, includes minor land use changes adjacent to buffer areas whose location and function were described in the adopted plan. The open space area adjacent to Vener Marsh is expanded by the proposed project and the residential land use that was located both east and west of Marina Parkway in the adopted plan is consolidated in the area east of Marina Parkway. This relocation of the residential land use further to the east increases the open space area adjacent to Vener Marsh. This increase in open space lands east of Vener Marsh is offset by a decrease from the adopted plan in open space between office park use and Vener Pond and Sweetwater Marsh (see Map 1 from the adopted plan and Map 1a detailing the proposed LCP amendment). Approximately 11.4 acres of shoreline open space have been added east of Vener Marsh, while approximately 10.1 acres of open space have been deleted east of Vener Pond and south of the Sweetwater Marsh. The specialty retail use planned on four acres within the office park use will be retained under the proposed project.

The adopted Specific Plan includes policies guaranteeing that wetland areas will be protected against water quality degradation, but specific grading and drainage plans were not provided as part of the adopted plan. The proposed project includes specific design measures to ensure that wetland water quality will be maintained (also see Chapter 5.0 Hydrology and Water Quality).

Two assumptions were used regarding the 100-foot buffer area in the adopted Specific Plan. These assumptions were that (1) the buffer areas would be established prior to development; and, (2) the design specifications for the 100-foot buffer in the adopted plan would be implemented. These design specifications included a berm, fence, and dense prickly vegetation of 5 feet in height that would separate all physical and most visual activity of development from adjacent wetlands. The berm, fence, and vegetation screen were planned to be placed at the highest grade in the buffer to take advantage of the elevation to reduce views of the development from the wetland and to keep urban runoff on the development side of the buffer (see Figures 11 and 12). The U.S. Army Corps of Engineers is, however, responsible for implementation of the buffers, but the City will review Corps plans for consistency with the LCP, prior to coastal development permit issuance for buffer implementation. The proposed project includes additional protective measures to ensure that potential impacts on the wetland areas resulting from development will be minimized regardless of timing and design of the 100-foot buffer area.

5.3 POTENTIAL IMPACTS

5.3.1 Proposed Project

Under the proposed project, the environmental management objectives of the adopted Specific Plan will remain unchanged. The potential biological impacts would be similar to those identified in the FEIR on the Chula Vista Bayfront Specific Plan (pp. 42-46) although further analyses of the existing data and studies have eliminated some of the potential concerns and mitigation measures have reduced all of the potential impacts to less than significant levels. In the analysis of the proposed project, several additional potential impacts were, however, identified.

The specialty retail use, which would be allowed on four acres within the office park designation, has the potential to concentrate human activities that may disturb wildlife. Because the open space use was relocated from the area adjacent to Vener Pond to the area adjacent to Vener Marsh, the potential distance between human activities in the office park area and Vener Pond has been reduced. To minimize the potential impacts of this land use change,

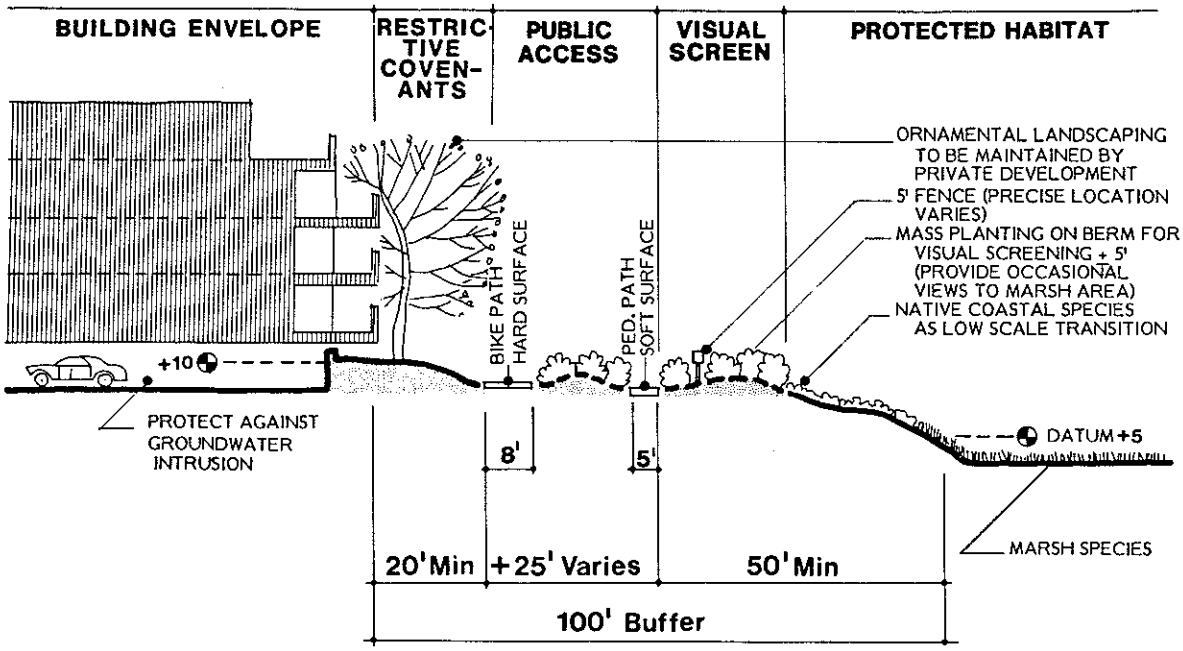


FIGURE 11
SECTION J (Prototypical) Looking South
RESIDENTIAL BUFFER- Mid-Rise MFD

0 10' 20'

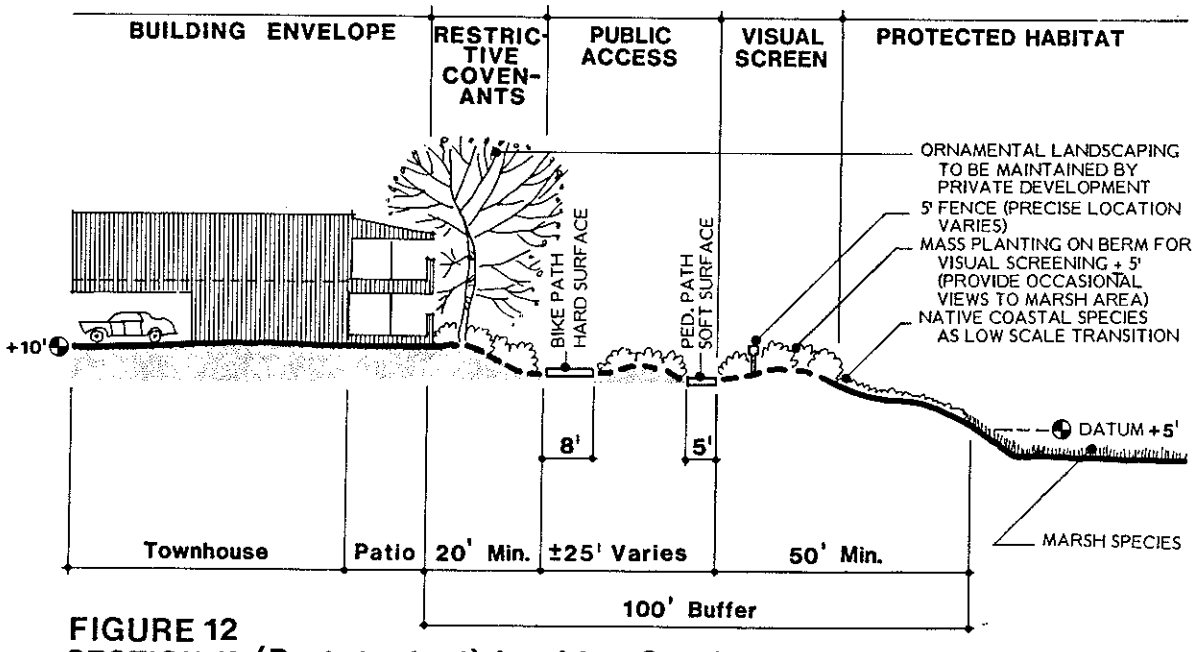


FIGURE 12
SECTION K (Prototypical) Looking South
RESIDENTIAL BUFFER - Townhouse

0 10' 20'

ADOPTED

specialty retail uses which could result in a high level of human activity will not be permitted within 200 feet of the west and north edges of the office park development. This change represents a tradeoff: office park development activities will be closer to the Vener Pond and Sweetwater Marsh 100 foot buffers, whereas, in the earlier adopted plan, residential development was adjacent to the E Street (Vener) Marsh 100-foot buffer. Vener Pond is a tidal pond and mudflat that gets frequent use from wetland species (especially shore birds), whereas E Street (Vener) Marsh is a coastal salt marsh that provides habitat for the state and federally designated endangered light-footed clapper rail.

The proposed project would retain the 1-1.5 acre desiltation basin in the location of the existing perennially wet marsh area north of Lagoon Drive that was included in the adopted plan. This facility would not, hoewver, be required to function as a detention basin as indicated in the adopted plan, as water from this basin would be discharged to San Diego Bay via newly created portions of the F-G Marsh, no downstream flooding impacts could occur. Recontouring the existing perenially wet marsh area north of Lagoon Drive to provide a desiltation basin has the potential to reduce the habitat value of the freshwater marsh. This impact is considered less-than-significant as the ±3.2 acre remnant marsh area that now provides wildlife habitat value would be replaced by a newly created ±3.2 acre freshwater marsh north and east of the existing F-G Marsh in areas that have been filled. Discharge from the desiltation basin would provide the source of freshwater for this newly created marsh. During the dry season, both the newly created freshwater marsh and the desiltation basin would receive dampened tidal action.

Both the desiltation basin and the newly created ±3.2 acre freshwater marsh would receive dampened tidal action during the dry season. This dampened tidal action would compensate for the loss of the seasonal freshwater supply from the reverse osmosis plant at the foot of Lagoon Drive. This seasonal freshwater supply was dropped from consideration following inquiries by the City's enhancement planning consultant regarding the reliability and long-term availability of this water source.

The U.S. Army Corps of Engineers was just beginning to design the 100-foot buffers in February 1986. Buffer design and implementation must, however, be consistent with the City's Local Coastal Program. Because Midbayfront development may precede buffer design and implementation, alternative measures need to be provided for visual screening between human activities and wetland species, as well as, drainage of the outer 50 feet of the buffer. If development occurs before buffer implementation, a 6-foot chain link fence lined with a green plastic material will be provided between development sites and the 100-foot buffer

line. This lined fence will minimize the physical and visual impacts of human activity on marsh species to the maximum extent feasible prior to buffer development. Provision of drainage for the outer 50 feet of the buffer is discussed in subsection 5.2.3a Buffer Drainage (also see Figures 11a, 12a, and 13a).

A potential impact of lighting the development sites and parking lots in the Midbayfront would be to give birds that are normally in the marsh areas that would be illuminated during the first half of the night a false sense of day length (Millam pers. comm.). Birds that use photoperiod as a cue for breeding could be triggered into reproduction at the wrong time of year, which would reduce the chance of offspring survival. Appendix 1 contains a discussion of how photoperiod stimulates the reproductive cycle in birds (Immelmann 1971). It is uncertain whether the amount, or the wavelength of light from the Midbayfront development would trigger breeding behavior, but directing the lights away from the marsh areas and/or providing shields would ensure that impacts were minimized.

5.3.2 Project Alternatives

The Project Alternatives would have the same impacts on biological resources as described under the proposed project.

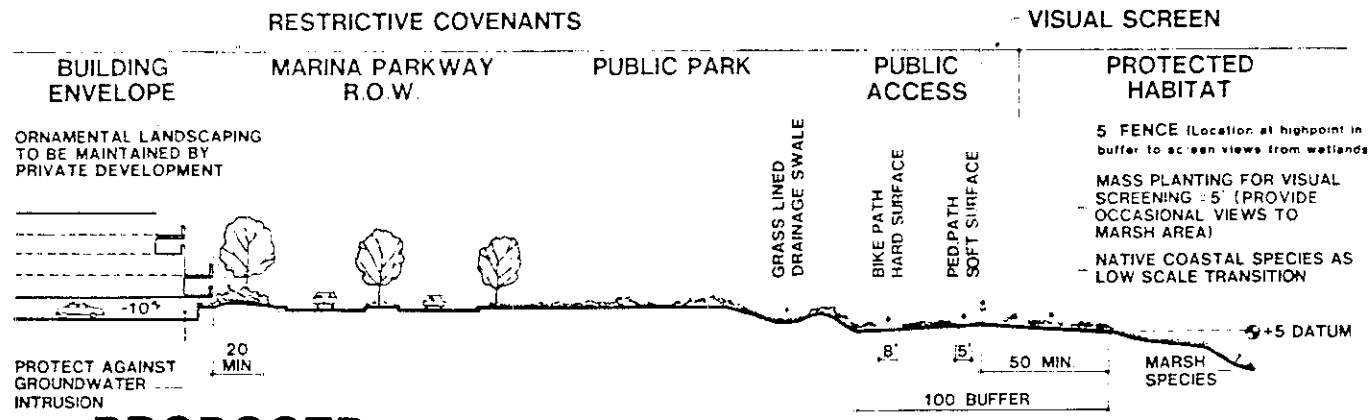
5.4. MITIGATION

5.4.1 Mitigation Measures Included in the Proposed Project

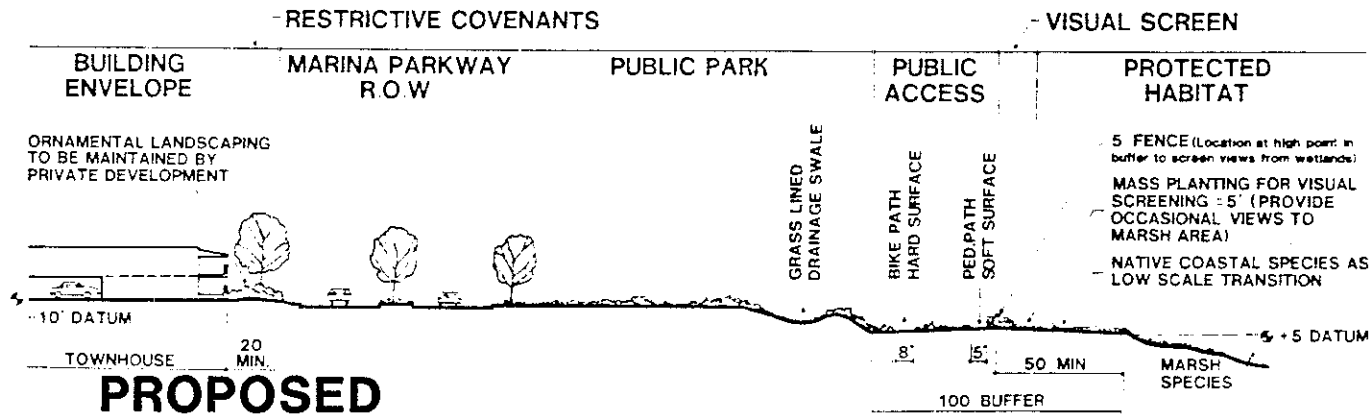
In addition to the mitigation measures in the FEIR (pp. 46-54) on the Specific Plan the following mitigation measures are incorporated into the proposed project:

1) The specialty retail use will be located at least 200 feet from the eastern (upper) boundary of the 100-foot buffer adjacent to Vener Pond and Sweetwater Marsh (see Map 1a).

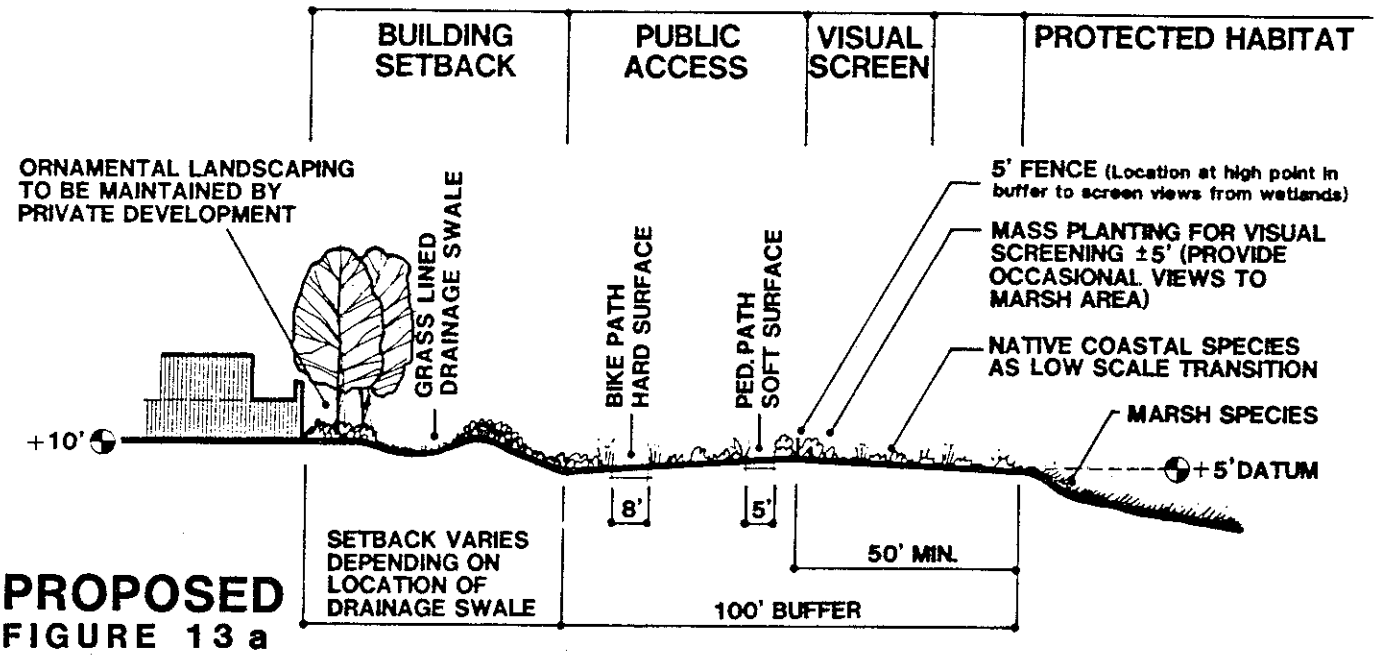
2) The applicant and the City should work with the U.S. Army Corps of Engineers to achieve buffer installation prior to project implementation. If development occurs prior to implementation of the 100-foot buffer between: 1) Midbayfront residential development and open space adjacent to Vener Marsh, 2) Midbayfront office park development and adjacent Vener Pond and Sweetwater Marsh, a 6-foot chain link fence will be installed. This fence will be lined with a green plastic material that is resistant to degradation from ultraviolet light to screen human activities from wetland species. The fence and screening will be maintained until installation of the buffer by the U. S. Army Corps of Engineers.



PROPOSED
FIGURE 11a
SECTION J
RESIDENTIAL BUFFER - MID-RISE MFD



PROPOSED
FIGURE 12a
SECTION K
RESIDENTIAL BUFFER - TOWNHOUSE



PROPOSED
FIGURE 13 a
SECTION L
OFFICE PARK BUFFER

3) Direct street and parking lot lights away from marsh areas and/or provide shields to minimize possible impacts on bird breeding behavior. After the lights are installed they may need to be adjusted to direct light away from the marsh area. If the lights are not adjustable, shields must be provided.

4) A 1-1.5 acre desiltation basin will be provided north of Lagoon Drive. Urban runoff will flow through this basin prior to discharge to the newly created ±3.2 acre freshwater marsh adjacent to the F-G Marsh to minimize sedimentation in the newly created freshwater marsh.

5) A ±3.2 freshwater marsh will be created north and east of the F-G Marsh in areas that have been filled to compensate for the loss of the freshwater marsh habitat north of Lagoon Drive.

6) During the dry season both the newly created ±3.2 acre freshwater marsh and the desiltation basin will receive dampened tidal action. This will compensate for the loss of seasonal freshwater inflow from the reverse osmosis plant at the foot of Lagoon Drive.

5.4.2 Mitigation Measures Not Included in the Proposed Project

1) Provide a grease trap for filtering urban runoff prior to discharge via the newly created ±3.2 acre freshwater marsh to San Diego Bay.

5.5 ANALYSIS OF SIGNIFICANCE

The mitigation measures presented in the FEIR (pp. 46-54) on the Specific Plan combined with those presented above reduce the potential impacts on biological resources to a less-than-significant level.

6.0 HYDROLOGY AND WATER QUALITY

6.1. PROJECT SETTING

6.1.1 Bayfront Specific Plan Guidelines

The Bayfront Specific Plan provides direction and requirements for development which is intended to maintain the biological resource value of the wetland areas by preventing storm runoff, dry weather flows from landscape irrigation, and accidental liquid spillage from entering the marsh areas. The particular language in the existing Specific Plan is as follows:

Section 19.87.07 - Grading and Drainage

The project shall import earth to ensure building pads above the 100-year flood level (about elevation 10) and above higher high-tide level. The grading concept for imported fill is shown in Map 5, Planned Landform: Grading/Filling and Drainage.

Special care shall be taken at the marshes to reduce problems of silting and oil or chemical leakage. Some diversion of flood water is necessary and desilting/retention basins may be required. A major detention basin shall be built in the Midbayfront to accept surface drainage and provide for desilting, and oil and chemical entrapment.

Section 19.91.04a - Stormwater Collection System

An all-gravity system should be used with provisions for intercepting the drainage from various points in the area. Building pads shall be placed above the 100-year flood level (approximately elevation 10) and above higher high tide level. Gravity pipe or street flow shall be at a minimum slope of six inches per one hundred feet (0.5% slope). Desilting/retention basin(s) shall be required at particular junctures, and a major detention basin shall be constructed in the Midbayfront to accept surface drainage and to provide for desilting and oil and chemical entrapment. The major orientation, however, shall be to San Diego Bay.

Section 19.91.04c - Grading and Erosion Control

Grading shall be accomplished so that drainage shall not enter saltwater marshes and lagoons that are preserved as wildlife refuges. Minimum grade elevation shall be 7.6 feet above mean sea level. Gutter elevations shall be

established at sufficient height above mean sea level to allow for anticipated head losses throughout the drainage system. Sedimentation control shall be accomplished at key locations surrounding Gunpowder Point and in the Midbayfront.

6.1.2 Final EIR Analysis

The Final EIR for the Bayfront Specific Plan concluded that development in the area would have certain potential impacts: increased storm-water flows due to the construction of impervious surfaces, alteration of the chemical content of runoff due to the change from the existing fallow agricultural land to urban uses, and changes in the drainage pattern including the potential introduction of year-round "freshwater" input to the F-G Marsh area from a nearby soft water manufacturing operation. The report also concluded that these impacts would be mitigated through various design measures incorporated into the Specific Plan. Two particular mitigation measures applicable in the Midbayfront area were (1) construction of the major detention basin to control peak flows and reduce sediment input to the F-G Marsh and (2) use of the potential freshwater input from the soft water plant as an enhancement measure intended to improve the water quality and habitat value of the F-G Marsh. Additional mitigation measures described included various drainage controls in other subareas and general recommendations regarding street cleaning and maintenance to control the pollutant contributions from storm and dry weather runoff (City of Chula Vista 1985:88-91).

6.1.3 Proposed Project

The proposed drainage design follows the original concept presented in Map 5 of the Specific Plan utilizing two principal discharge points to avoid allowing runoff from developed areas to enter the salt marsh areas directly. Runoff from urban areas would, however, drain into the remnant marsh which would act as a desiltation basin. To minimize the need for fill material and to lessen diversion of natural drainage, however, there are technically three separate discharge points into San Diego Bay, in addition to the indirect discharge through the major desiltation basin and the F-G Marsh (see Map 5a). A drainage swale and two subsurface storm drain systems collecting water from portions of Marina Parkway, Lagoon Drive (F Street extension), and a 5.5-acre portion of the residential development area would be provided. These additional discharges would be relatively minor (with peaks of 17.7 and 8.5 cfs) and are the result of more detailed engineering study rather than an alteration in the original drainage criteria.

6.1.4 Project Alternatives

Under the Project Alternatives, runoff from the Midbayfront would be directed to both San Diego Bay and the desiltation basin.

The Project Alternatives include three options for discharge from the desiltation basin. Under Option 1, discharge from the desiltation basin would be handled the same way as described under the proposed project. Under Option 2, the water from the desiltation basin would be discharged directly to San Diego Bay. This would require pumping to transport the water from the desiltation basin uphill to a bay outfall. Option 3 provides for the pumping of water from the desiltation basin to the City's existing "central basin" storm drainage system east of I-5. The connection point would be just east of I-5 at "F" Street. This option would also require pumping of stormwater.

6.2 POTENTIAL IMPACTS

6.2.1 Proposed Project

The proposed changes which could affect the hydrologic conclusions noted under Bayfront Specific Plan Guidelines and Final EIR Analysis include changing the previously planned alignment of Tidelands Avenue (now called Marina Parkway) by shifting it westerly in the Midbayfront subarea; alterations in the proposed final grades to reduce the total amount of imported fill required while maintaining adequate flood protection; the provision of more detail regarding the ultimate drainage design and location of runoff discharge in particular, and the design of a partially grass-lined swale with a french drain in the bottom, proposed along the western and northern edges of the Midbayfront to intercept runoff and channel it directly into San Diego Bay. Map 5 shows the adopted grading/filling and drainage plan for the Midbayfront. Preliminary environmental review of the proposed changes identified additional information necessary to ensure that the original conclusions regarding the mitigation of hydrologic impacts would remain valid. The following paragraphs describe potential hydrology and water quality impacts that may result from the proposed project that were not discussed in the Final EIR on the Bayfront Specific Plan.

6.2.1a Flood Protection

Studies prepared by Rick Engineering (1986a, 1986b) determined the anticipated peak flows from a 100-year storm. These peak flows were used to design the drainage swale. Rick Engineering (1986b) also calculated the maximum depth in the drainage swale under conditions of peak runoff from a 100-year storm and a higher high-tide level of +4.9 feet. This analysis concluded that the channel design would contain all of the runoff and tidal water with a freeboard of approximately 1 foot in the swale.

Finally, the preliminary grading plan accompanying the Rick Engineering drainage studies would allow all building pads to be above the 100-year flood elevation in accordance with the Specific Plan while minimizing the amount of imported fill required. This is consistent with the Specific Plan objective "[M]minimize the import of soil to that necessary for the protection of developable areas from flooding during concurrent storm and high-tide conditions.

6.2.1b Siltation

Buffer Drainage

Although design and implementation of the wetland buffer areas adjacent to Vener Pond, Vener Marsh, and Sweetwater Marsh is the responsibility of the U.S. Army Corps of Engineers subject to City review for consistency with the Local Coastal Program, provisions have been included in the revised grading and drainage plan to handle runoff from the 50 feet of the buffer that adjoins development areas. Because development of the bicycle trails and pedestrian paths could potentially result in siltation of the wetlands, a provision has been made for runoff from these areas to drain away from marsh areas (see Figures 11a and 12a). This is consistent with Specific Plan policy stating that "[S] pecial care shall be taken at marshes to reduce problems of silting and oil or chemical leakage".

Construction Activities

Grading and other construction activities have the potential to result in erosion and subsequent siltation of wetland areas unless measures are taken

to ensure silt laden drainage does not reach wetland areas. Preventive measures must include sandbagging, or installing a silt fence around the perimeter of areas to be graded prior to grading. This sandbagging or silt fencing must be maintained to prevent siltation problems until landscaping can be installed.

Post Grading

Following grading of construction sites the potential for erosion to occur exists unless the sites are promptly landscaped. The Specific Plan includes requirements for site revegetation following grading which are presented in this section under Mitigation Measures.

6.2.1c Pollutant Content of Urban Runoff

Because of the biological significance of adjacent wetlands, the potential impacts related to the pollutant content of urban runoff need to be addressed. Table 1 summarizes some typical loading factors, in terms of annual pollutant weights released from equal areas of agricultural vs. urban land. These values were derived from projections of pollutant loading in San Diego Bay prepared as part of the Areawide Water Quality Management Plan, published by the Comprehensive Planning Organization (CPO 1978). The information in Table 1 illustrates the fact that in changing from agricultural to urban land uses, there is a change in the composition of runoff, with some pollutant concentrations decreasing while others increase.

The most significant concern with urban runoff from a water quality standpoint is the potential increases in heavy metal concentrations and their effects on biological habitat. Development of the Midbayfront and other bayfront subareas in Chula Vista could contribute an additional increment of this type of urban pollution to the adjacent wetlands. To the extent that the proposed changes in the Specific Plan for the Midbayfront decrease the area of development directly adjacent to wetlands, by increasing the area and frontage of the shoreline park and open space,their potential impacts would be somewhat less than development under the adopted plan. Nevertheless, because of the sensitivity of the biological habitat involved,

TABLE 1

COMPARISON OF TYPICAL POLLUTANT CONCENTRATIONS FROM EQUAL AREAS OF URBAN VS. AGRICULTURAL LAND (tons/year-acre)

Component	Agricultural	Urban
Total suspended solids	0.897	0.397
Total dissolved solids	0.117	0.0832
Biological oxygen demand	5.38×10^{-3}	8.13×10^{-3}
Orthophosphates	4.49×10^{-4}	1.31×10^{-4}
Total nitrogen	4.04×10^{-3}	1.33×10^{-3}
Lead	8.02×10^{-6}	190×10^{-6}
Chromium	8.02×10^{-6}	101×10^{-6}
Copper	2.41×10^{-5}	3.81×10^{-5}
Zinc	8.83×10^{-5}	17.7×10^{-5}

SOURCE: Derived from CPO 1978: Table IV-1.

the potential urban runoff impacts are significant. This impact has been recognized in previous studies and the intent of the proposed drainage design consistent with provisions in the Specific Plan is to minimize the effects of pollution from runoff.

Under the proposed project a 1-1.5 acre desiltation basin would be constructed in the location of the existing freshwater marsh. To compensate for the loss of freshwater marsh habitat, approximately 3.2 acres of freshwater marsh habitat would be provided just north and east of the F-G Marsh and south of Lagoon Drive in the area that has been filled. Urban runoff from the Midbayfront is, however, the only source of freshwater available for this ±3.2 acre marsh. Prior to discharge of urban runoff from the desiltation basin to the newly created freshwater marsh, silt would be settled out. No provision has been made under the proposed project regarding removal of grease and oil from the urban runoff prior to discharge into the newly created freshwater marsh adjacent to the F-G Marsh.

6.2.2 Project Alternatives

The impacts on hydrology and water quality discussed under the proposed project would be the same under the Project Alternatives. Three options for discharge from the freshwater marsh are considered under the Project Alternatives. Discharge of storm drainage to the newly created freshwater marsh as described under the Proposed Project would not require pumping and is not expected to result in habitat degradation providing a mechanism for removing grease and oil is provided. The remaining discharge options, to San Diego Bay or to the City's "central basin" system, would require pumping. Pumping of storm water is not a common practice as ongoing pump maintenance and energy costs are incurred. To construct a storm drainage outfall to San Diego Bay, a Section 404 permit would be required from the U.S. Army Corps of Engineers. Utilization of the City's existing "central basin" system for storm drainage discharge would not require a Section 404 permit as the drainage outfall is already in place. Under all the options, a Section 404 permit would be required for modifications to the freshwater marsh (desiltation basin).

6.3 Mitigation

6.3.1 Mitigation Measures Included in the Proposed Project

6.3.1a Flood Protection

The design provides runoff control and flood protection consistent with applicable standards. The actual drainage facilities must be designed to adequately direct, store, and discharge 100-year 6-hour storm flows. Further mitigation may be required as specifications in the final grading and improvement plans, which must be reviewed and approved by the City of Chula Vista, and through identification of maintenance procedures.

6.3.1b Siltation

Buffer Drainage

To prevent siltation in wetland areas resulting from construction of the bicycle and pedestrian paths in the outer 50 feet of the buffer areas, provisions will be included in the revised grading and drainage plan to handle runoff from the portion of the buffer that adjoins the development area.

Construction Activities

Final grading and improvement plans must specify the construction of temporary desilting basins at the collection points for the drainage system in order to minimize the potential for siltation during construction and until landscape vegetation becomes permanently established. Erosion control must be accomplished prior to the commencement of grading and must include sandbagging, silt fences, or similar treatment to minimize sediment input into the drainage swale and all wetland areas adjacent to the Midbayfront subarea during construction. These erosion control measures must be maintained until landscaping is established.

Post Grading

Consistent with the Specific Plan regulations, all areas disturbed by grading shall be planted within 60 days of the initial disturbance and prior to November 1 with temporary or permanent (in the case of finished slopes) erosion control methods. Such planting shall be accomplished under the supervision of a licensed landscape architect and shall consist of seeding, mulching, fertilization and irrigation adequate to provide 90 percent coverage within 90

days. Planting shall be repeated if the required level of coverage is not established. This requirement shall apply to all disturbed soils, including stockpiles.

6.3.1c Pollutant Content of Urban Runoff

The principal mechanism to control the concentrations of urban pollutants in runoff is establishment of an aggressive maintenance program to control the accumulation of pollutants in parking areas, streets, curbs and gutters and within the drainage system. Most chemical pollutants of concern in runoff water are found absorbed on the surface of fine sediment particles. Permanent sediment basins, such as the basin proposed for the "remnant" marsh area, are fairly efficient at trapping and retaining large sediment particles including rocks, gravel, and sand. In terms of their absorptive capacity, however, it is the much finer sediment particles that carry the largest fraction of chemical pollutants. Thus, among the more effective strategies to control chemical pollutants in urban runoff is to control the accumulation of fine sediments and remove them before they are washed into the storm drain system by rain or irrigation water.

Normal municipal street sweeping practices remove about 50 percent of the particulates which accumulate on streets. The efficiency of removal is greater for larger-sized particles and litter material than it is for very fine particle sizes. Efficiency can be increased by ensuring that operators are properly trained, using optimal sweep speeds, and increasing the number of passes over an area. Accomplishing two passes over an area increases the efficiency of removal to about 70 percent. Vacuum type sweepers are usually more efficient, especially in removing fine particles, but their effectiveness decreases significantly if the streets are wet (Amy et al. 1974:IV-6ff).

In view of the potential impacts of urban runoff on the waters of San Diego Bay and the newly created marsh adjacent to the F-G Marsh, the following items should be incorporated into long-term maintenance procedures:

1. Maintenance of turf and landscaped areas in a manner which will minimize erosion, runoff of irrigation water, and flushing of sediment material into the drainage system. Drought tolerant and/or perennial

species should be used to the maximum extent feasible to minimize the need for watering, fertilization, and herbicide application. Drip irrigation systems should be included in landscaping plans as they maximize water conservation while minimizing nuisance runoff.

2. Regular, scheduled cleaning and/or repair of the permanent detention basin and other drainage facilities. The sediment which is removed should be hauled to an appropriate disposal area.

3. Regular, scheduled sweeping of all street, curb and gutter, and public parking areas with an emphasis on collection of sediment and dust material as well as litter removal.

The Specific Plan (Section 19.88.5) provides for the establishment of the Bayfront Conservancy Trust, which will be the principal organization responsible for maintenance of the wetland habitat areas in the bayfront. A Bayfront Open Space and Maintenance Assessment District would also be established as one of the major funding sources for these activities. The City is also in the process of preparing a detailed habitat enhancement program for the wetland areas within the bayfront. The traditional municipal services of street sweeping, drainage, and landscape maintenance should be coordinated with the activities of the Bayfront Conservancy Trust to ensure the management practices within the bayfront drainage basins do not result in degradation of the adjacent wetlands. Landscaping and maintenance plans should be developed in close consultation with the Bayfront Conservancy Trust.

6.3.2 Mitigation Measures Not Incorporated Into the Proposed Project

6.3.2a Pollutant Content of Urban Runoff

To maintain the water quality in the newly created freshwater marsh, drainage should flow through a grease trap prior to entering the freshwater marsh. The proposed desiltation basin with the inclusion of a grease trap would provide water of acceptable quality to the freshwater marsh.

6.4 Analysis of Significance

The mitigation measures presented in the FEIR (pp. 90-91) on the Specific Plan combined with those presented above in both Sections 6.3.1 and 6.3.2 would reduce the potential impacts on water resources to a less-than-significant level.

7.0 TRANSPORTATION AND CIRCULATION

7.1 INTRODUCTION

A traffic study for the Chula Vista Bayfront Specific Plan was prepared by Federhart and Associates in October 1984. The discussion relating to transportation and circulation in the Final EIR for the Bayfront Specific Plan was taken from the Federhart report, which is included as Appendix C of the Final EIR. The traffic analysis for the Chula Vista Bayfront Redevelopment Plan, prepared by Robert Conradt in July 1983, was also used in the preparation of the Final EIR.

Urban Systems Associates, Inc. (USA, Inc.) has prepared a traffic analysis, dated April 25, 1986, to supplement the previously written traffic studies and to document traffic impact analyses not covered in previous traffic reports. Changes to the transportation and circulation system brought about by refinement of land use assumptions and a realignment of the proposed street systems are also included. Higher traffic volumes resulted from a more accurate quantification of build-out. The development densities under the revised project are the same as under the adopted plan. In addition, trips generated by coastal related and coastal dependent uses, including parks, open space, the Nature Interpretive Center, marinas, marine related commercial activities, and the Gunpowder Point hotel, were more carefully accounted for (see Tables 2 and 3 of the traffic study).

7.2 PROJECT SETTING

The existing circulation system, access, and land use within the bayfront area has not changed significantly from the time the Final EIR was prepared. Any needed reference to the existing transportation and circulation conditions may be obtained from the Final EIR or the Federhart Study.

7.3 POTENTIAL IMPACTS

7.3.1 Proposed Project

The traffic generated from the proposed land uses was determined using SANDAGs recommended Traffic Generation Rates. The total traffic generated by all the bayfront development including SDG&E, Rohr, and a new marina, plus the existing land uses is estimated by USA, Inc. to be 73,275 average daily trips. Of the new trips generated by the bayfront development, 33,367 trips can be attributed to the development of the Midbayfront area by the principal landowner. The Federhart Study attributed 25,710 trips to the Midbayfront area. The difference between these two totals, 7,657, is the amount of new trips generated by the refinement of land use assumptions within the Midbayfront area. The increased traffic generation from the Midbayfront area has been included in the estimated average daily traffic for the year 2005 shown in Figure 1 of the USA, Inc. traffic report.

The following paragraphs discuss the proposed revisions to the adopted plan and assess the impacts resulting from each revision.

7.3.1a Marina Parkway Realignment

One change to the planned circulation system is the realignment of Tidelands Avenue, renamed Marina Parkway, to the northwest in a 1,000 foot radius that will align with "E" Street. The new Marina Parkway will connect the "E" Street bridge to the portion of Tidelands Avenue to the south on lands under the jurisdiction of the San Diego Unified Port District using a gentle arc. The remaining section of Tidelands Avenue that connects the "D" Street Fill with the Midbayfront subarea deadends at Marina Parkway at a 90 degree angle. In the adopted plan, "E" Street, the primary arterial deadended at Tidelands Avenue, which resulted in a major roadway deadending into a minor roadway when the opposite is preferred from a traffic engineering standpoint (see Map 3 for the planned roadway configuration and Map 3a for the revised roadway configuration).

7.3.1b Marina Parkway Section

In the Specific Plan, Tidelands Avenue was illustrated with a 6-lane cross section within a 120-foot right-of-way, pedestrian and bicycle paths were separated from the roadway by landscaping (landscaping was also provided on the side of these paths not adjacent to the roadway), and a planted median was provided (see Figure A). Both the Federhart study and the USA, Inc. study show that the projected traffic volumes only require a 4-lane roadway. The revised section for Tidelands Avenue, renamed Marina Parkway, provides 4 lanes, a planted median, bicycle lanes on the roadway, pedestrian paths adjacent to the roadway (separated by a curb), and a 5-foot landscape strip on the side of the pedestrian path away from the roadway (see Figure Aa). These changes are consistent with the form and appearance requirements in the Specific Plan and are adequate to handle the projected traffic, so no adverse impacts are anticipated.

The section of Marina Parkway between the I-5 bridge and the Tidelands Avenue intersection would be retained as a 6-lane prime arterial as the projected traffic volumes for this portion of the roadway are higher than for the remainder of Marina Parkway.

ROADWAY DESIGN

FOR SECTION LOCATION SEE MAP 3-CIRCULATION MAP

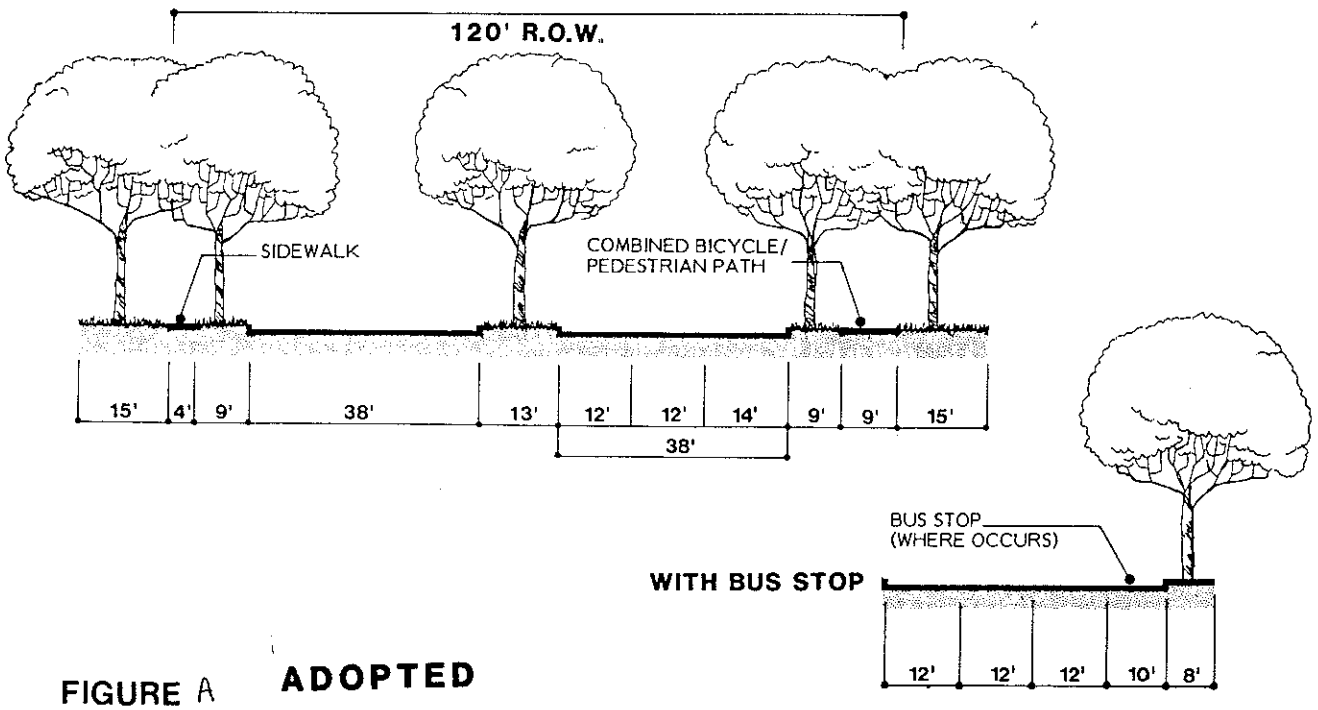


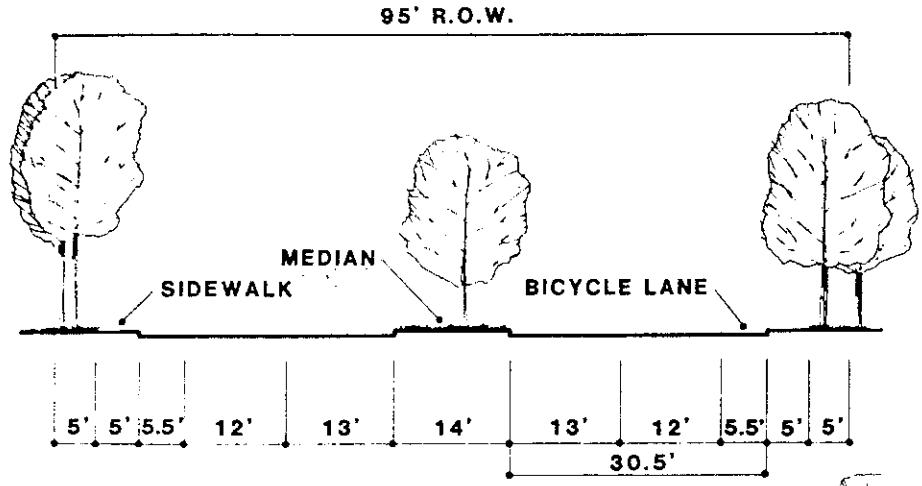
FIGURE A **ADOPTED**

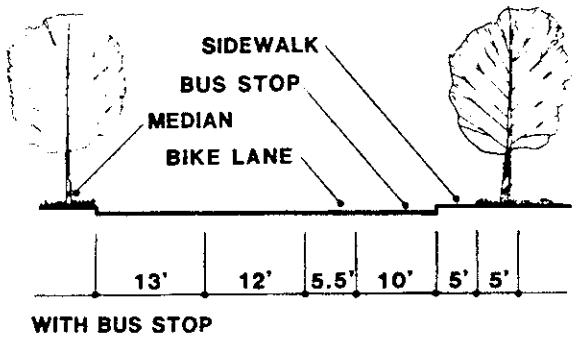
SECTION A (Prototypical) Looking South

TIDELANDS AVENUE - 3 Lane Segment

ROADWAY DESIGN

FOR SECTION LOCATION SEE MAP 3- CIRCULATION MAP





WITH BUS STOP

PROPOSED

FIGURE Aa

SECTION A

MARINA PARKWAY (Prototypical)

7.3.1c Lagoon Drive Section

In the adopted plan, "F" Street extension included a 100-foot right-of-way with two travel lanes in each direction, a left turn lane, a sidewalk adjacent to the roadway (separated by a curb), a separate bike path, and landscaping (see Figure 5). The proposed revisions to the "F" Street extension, renamed Lagoon Drive, include a right-of-way reduction to the 95-foot roadway section described above for Marina Parkway (see Figure 5a). The provision of a landscaped median would be positive from an aesthetic standpoint because it would provide visual continuity with Marina Parkway, the other major bayfront thoroughfare. These changes will result in a roadway that is adequate to handle the anticipated traffic, so no adverse impacts are anticipated.

7.3.1d Freeway Ramps and "E" Street Bridge

The traffic analysis in the FEIR on the Specific Plan states that CalTrans did not favor the proposed southbound I-5 on-ramp from Bay Boulevard. The revised plan includes the relocation of the I-5 southbound on-ramp to a location east of Bay Boulevard in the northwest quadrant of the "E" Street/I-5 interchange. Currently, CalTrans is in the plan approval stage for the on/off-ramp configuration proposed in the revised plan (see Figure 7a). Relocation of the I-5 freeway southbound on-and off-ramps and construction of a loop ramp in the northwest quadrant of the interchange will eliminate the westbound to southbound turn conflict now existing and will lengthen the storage capacity of the turn lanes for the eastbound to northbound turn move.

Relocating the southbound I-5 off-ramp to align with Bay Boulevard would allow the restriping of the existing "E" Street overpass of I-5 to provide for a total of 6 travel lanes to include two through lanes in each direction and dual left turn lanes at the "E" Street/I-5 northbound on-ramp.

Peak hour Intersection Capacity Utilization (ICU) calculations for the "E" Street/I-5 freeway ramp intersections, show operation at level of service "D" for both of the ramp intersections using the City of Chula Vista's ICU criteria. This is calculated using intersection lane capacities of

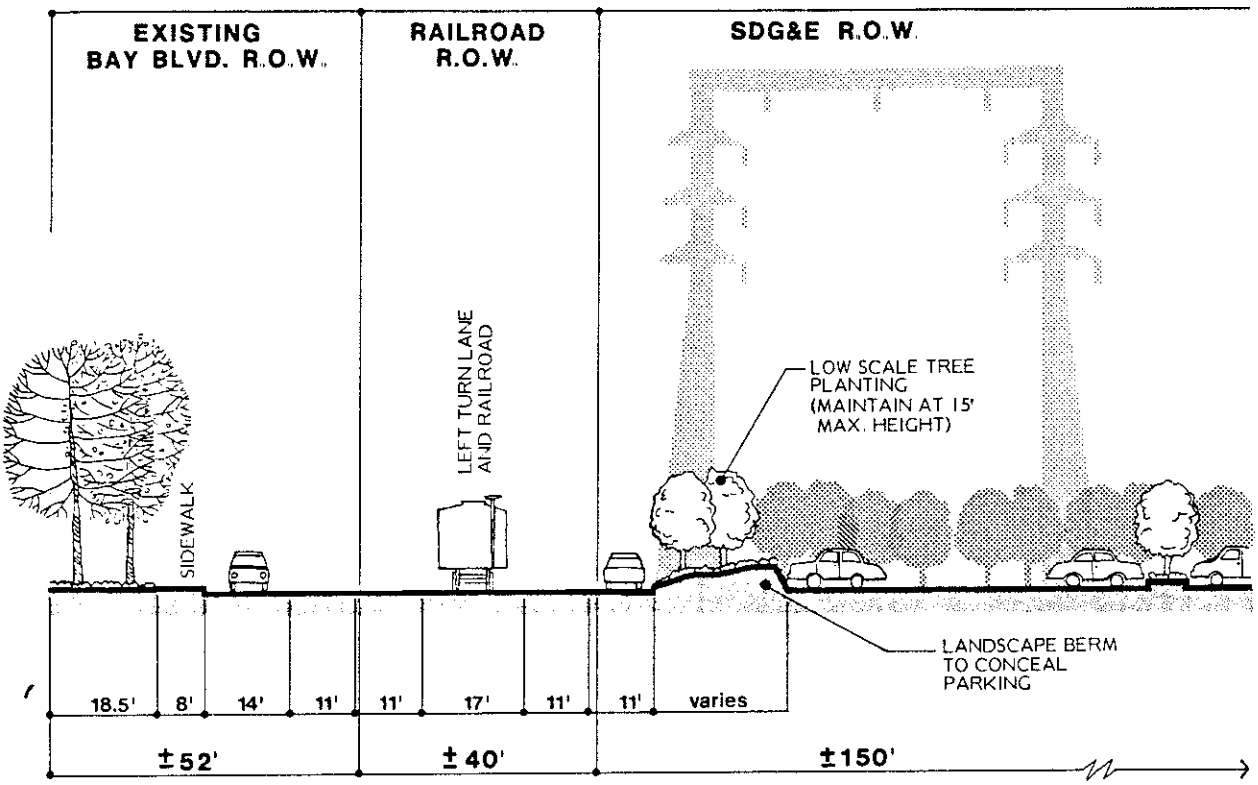


FIGURE 4
SECTION D (Prototypical) Looking South
BAY BLVD. FRONTAGE

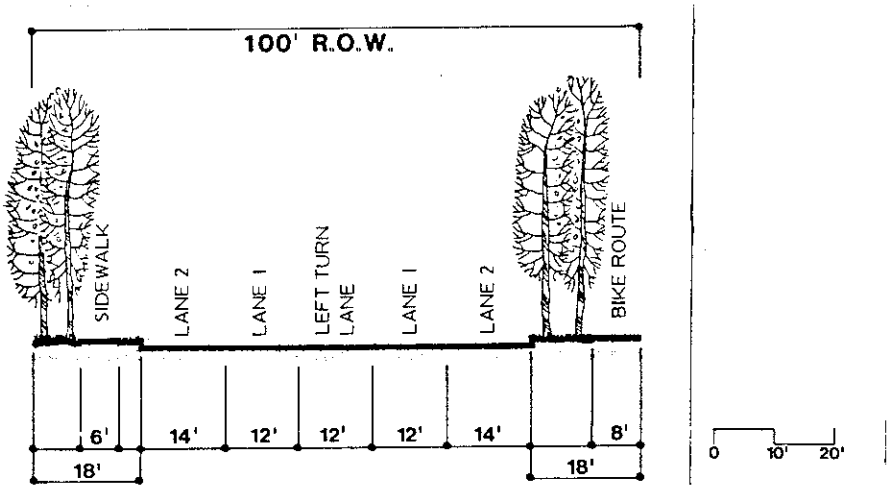
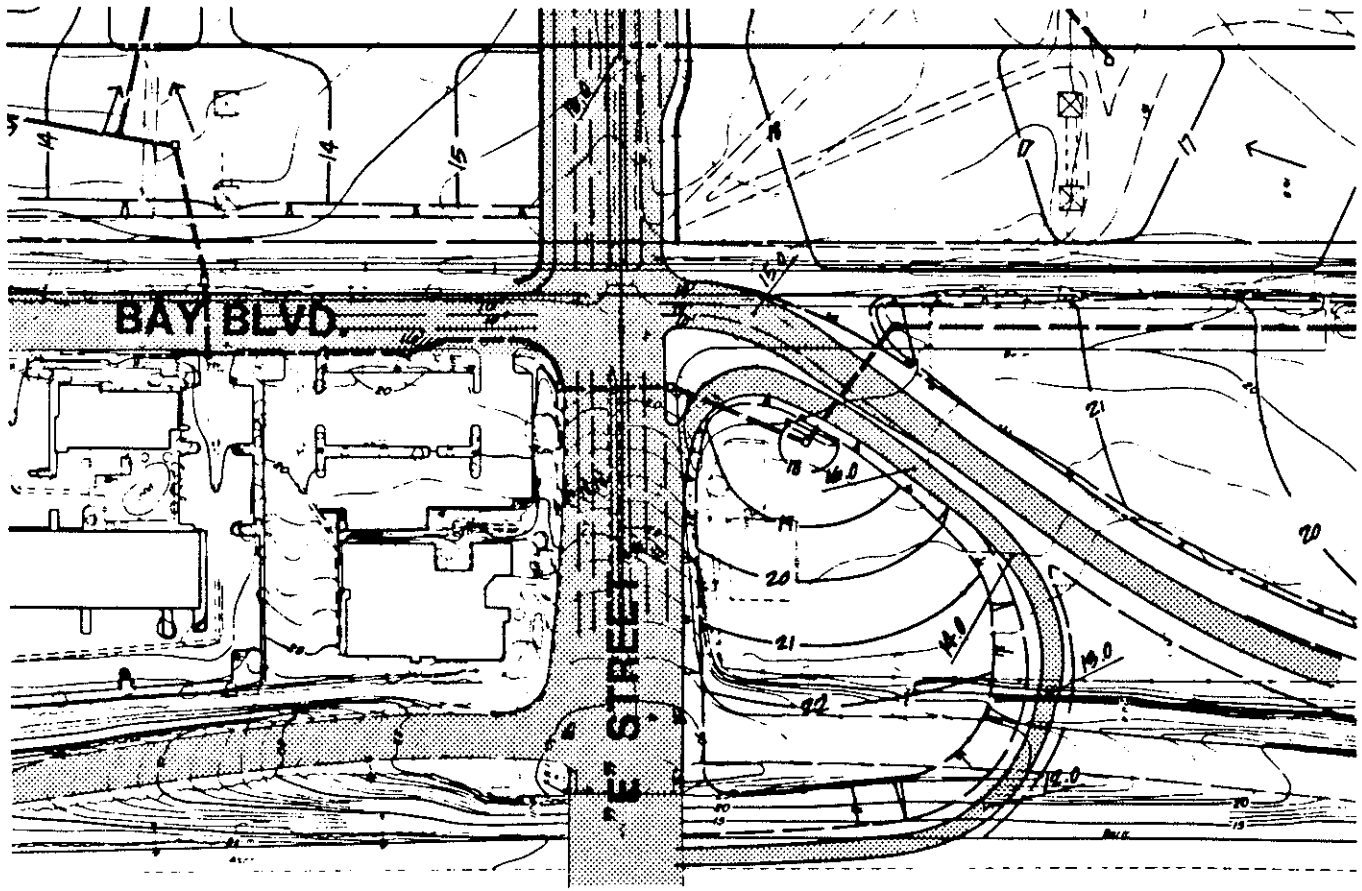


FIGURE 5
SECTION E (Prototypical) Looking West
F STREET EXTENSION - With Bike Lane

ADOPTED



PROPOSED

FIGURE 7a
E STREET OFF-RAMP CONFIGURATION

1300 vehicles per lane per hour of green (VPLPHG) traffic light for turn lanes and 1500 VPLPHG for through lanes. The traffic consultant preparing the analysis, USA, Inc., felt these lane capacities were conservative based on data available for the southern California region to support assumed lane capacities of 1500 VPLPHG for turns and 1700 VPLPHG for through lanes. Alternative level of service calculations using these criteria show a level of service "C" at the "E" Street/I-5 ramp intersections (see Appendices G and H of the traffic study).

The major change from the adopted plan is that the widening of the "E" Street bridge is not proposed. Widening of the bridge would provide additional capacities at the ramp intersections that are projected to be congested.

According to USA, Inc. "[D]ue to the high expense involved in rebuilding existing freeway interchanges, LOS "D" should be an acceptable alternative guideline for estimating needed improvements. The moderate amount of congestion and delay at this LOS is usually accepted by motorists at freeway interchange locations because interchanges are few in number and are significant access points to the community."

The analysis of potential transportation and circulation impacts in the FEIR states that "... even if traffic volumes at this interchange cause problems in the future, the other access streets to the south of E Street will have substantial excess capacities to permit ingress and egress at less congested points. Since the contemplated circulation system will allow freedom of movement between all access points, regular users of the Bayfront area will adjust in order to avoid any short-time congestion." The potential also exists to reduce trip generation through the promotion of transit use (e.g., the "E" Street Trolley Station, Chula Vista Transit, ridesharing, and flex-time). USAs calculations do not reflect trip reduction due to transit availability.

In summary, the proposed circulation revisions would result in congestion at the "E" Street/I-5 interchange. This is considered a potentially significant adverse impact, but the potential to widen the bridge when congestion reaches LOS D. The widening of the "E" Street bridge from the proposed 6-lane configuration to the 7-9 lanes must be undertaken when congestion reaches LOS D, as determined by the City's Traffic Engineer.

7.3.1e Bay Boulevard

In the traffic analysis for the adopted plan, railroad abandonment was assumed west of Bay Boulevard, allowing for right-of-way expansion (see Figure 4). In the traffic analysis for the revised project, the roadway width was assumed to be constrained by the railroad right-of-way to the west because railroad abandonment is not foreseen in the near future (see Figure 4a). Bay Boulevard between E and F Streets was calculated by USA, Inc. to be overcapacity due to the right-of-way constraint. This is not seen as a significant adverse impact because of the limited area that is projected to operate overcapacity. The potential also exists for extending Bay Boulevard into the railroad right-of-way at a later date if abandonment can be accomplished.

7.3.1f Transit

The project revisions will only result in minor modifications to bicycle and pedestrian traffic patterns (see Map 3 from the adopted plan and Map 3a proposed revisions). The FEIR found that no adverse impacts are expected from the pedestrian/bicycle system, a second trolley stop in the bayfront, future bus service to interconnect the bayfront and the Trolley Station or other vehicular modes (private jitneys) to serve the concentrated employment centers or the hotel area. The pedestrian and vehicular access to the planned "E" Street Trolley Station would remain unchanged. The pedestrian walkway on the "E" Street/I-5 overcrossing would be separated from the vehicular traffic with bollards to provide pedestrian safety (see Figure 3a).

In addition, trips generated by the new "E" Street Trolley Station east of the bridge also have the potential to add to the "E" Street congestion. MTDB has reviewed the potential for additional traffic congestion. They recently evaluated headway times (4 trains per hour versus 6 trains per hour) and concluded that by adding one car to the existing three car trains, no change in headway was needed. Ultimately, ridership increase could dictate the need for additional trains. MTDB is also reviewing a proposed fail-safe system which would eliminate the need for the trolley line crossing arm to be lowered when passengers are loading at "E" Street or the other stations adjacent to road crossings. Success of such a system would reduce the arm "downtown" by 50% thus reducing backup traffic conditions on the public street.

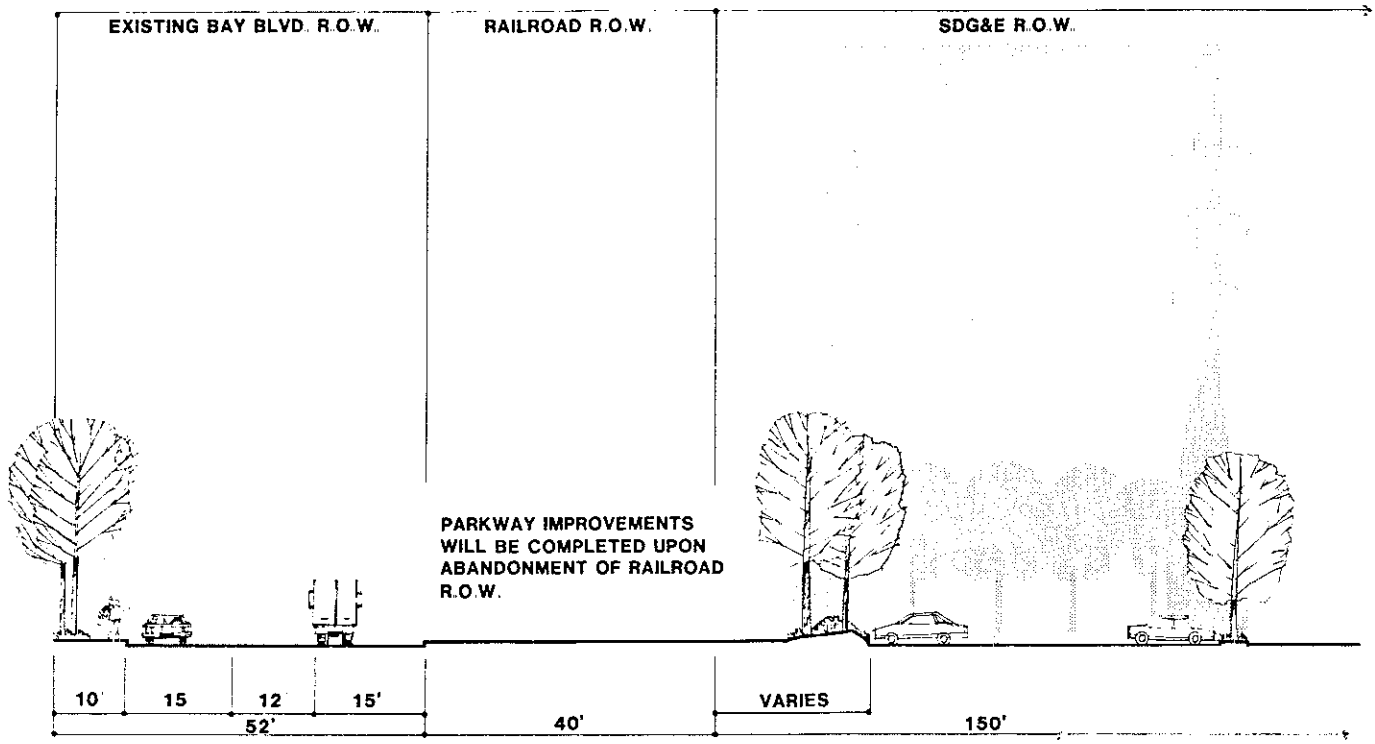


FIGURE 5a
SECTION D
BAY BOULEVARD FRONTAGE (Prototypical)

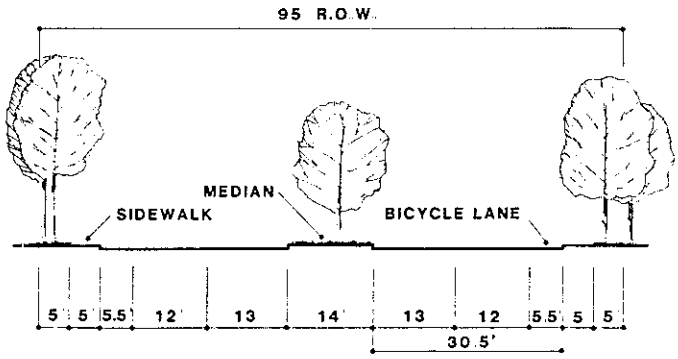
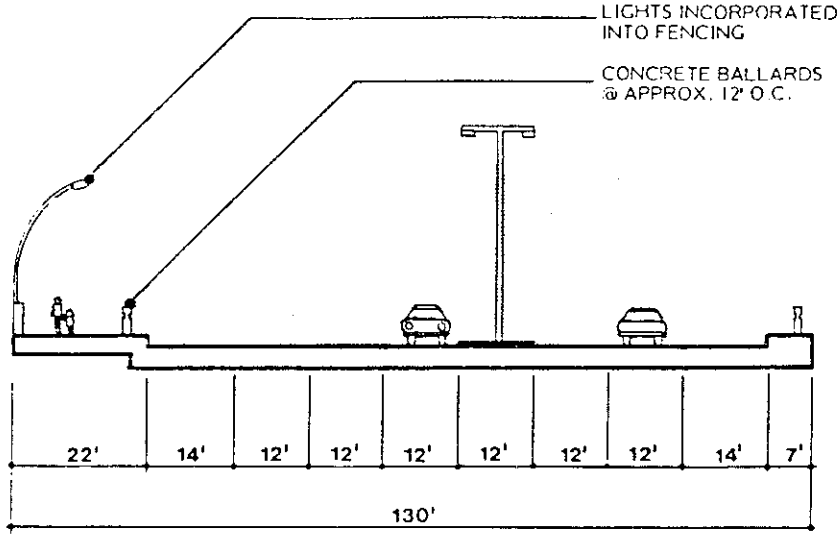
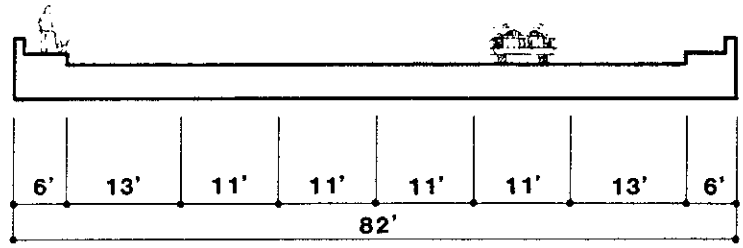


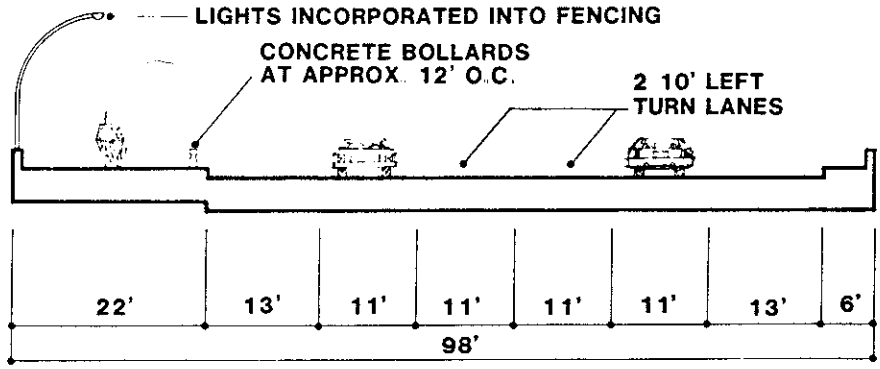
FIGURE 4a
SECTION E
LAGOON DRIVE WITH BIKE LANE (Prototypical)



WIDENED BRIDGE **(WHEN LOS REACHES D)**



EXISTING FREEWAY BRIDGE



EXISTING BRIDGE WITH WIDENED PEDESTRIAN WALKWAY **(INTERIM)**

PROPOSED

FIGURE 3a

SECTION C (Prototypical)

FREEWAY BRIDGE AT E STREET

The proposed roadway sections illustrated in Figures Aa, 3a, 4a and 5a, will provide provide pedestrian and bicycle access throughout the bayfront. Bus stops will be provided consistent with the example shown on Figure Aa.

Because the proposed configuration of Bay Boulevard will not encroach on the railroad right-of-way impacts on freight operations are not anticipated. Provision of vehicular crossings over the railroad right-of-way is currently being pursued through the Public Utilities Commission and other required agencies.

7.3.2 Project Alternatives

The potential transportation and circulation impacts would be the same as described under the proposed project because the transportation and circulation systems would be identical.

7.4 MITIGATION

7.4.1 Mitigation Measures Included in the Proposed Project

Based on the projected traffic volumes shown in Figure 1 of the USA Inc. traffic study, the following improvements need to be incorporated into the proposed project to mitigate the impacts discussed above.

7.4.1a Marina Parkway Realignment

The new alignment for Marina Parkway is an improvement over the alignment in the adopted plan, so no mitigation is required.

7.4.1b Marina Parkway Section

Marina Parkway south of the Tidelands Avenue intersection can be reduced to 4 lanes as this will provide adequate capacity. The Marina Parkway section between Bay Boulevard and Tidelands Avenue will, however, remain 6 lanes as specified in the adopted plan.

7.4.1c Lagoon Drive Section

The 95-foot section proposed for Lagoon Drive will provide adequate capacity for the projected traffic.

7.4.1d Freeway Ramps

1) Exclusive "free" right turn lanes need to be provided at the freeway ramps for the following turning movements:

   I-5 N/B off to E/B "E" Street (possible acquisition of R-O-W)

   I-5 S/B off to W/B "E" Street

   I-5 N/B on from W/B "E" Street

   I-5 S/B on from W/B "E" Street

   I-5 S/B on from E/B "E" Street

2) "E" Street directly east of the I-5 northbound on/off ramps needs to be 6 lanes with a raised median. Right-of-way acquisition will be needed.

3) The southbound I-5 off-ramp needs to be realigned with Bay Boulevard to the south.

4) A loop road on-ramp needs to be constructed in the northwest interchange quadrant for the westbound to southbound turn move.

5) The I-5 N/B off-ramp to W/B "E" Street needs to have dual left turn lanes.

6) The "E" Street/I-5 overpass, 72-feet wide, needs to be striped for two lanes in each direction plus dual left turn lanes for the eastbound to northbound I-5 turning movement.

7.4.1e Bay Boulevard

1) Bay Boulevard south of "E" Street will be 2 lanes with a continuous left turn lane. (Railroad abandonment will be pursued to avoid having the segment between "E" and "F" Streets operate over capacity at build-out).

7.4.1f Transit

1) The following transit elements described in the Bayfront Specific Plan (p. 24) should be implemented: bus service should be provided along Marina Parkway, "E" Street, Lagoon Drive, and Bay Boulevard; public or private jitney service should supplement this service; and these services should connect to the Bayfront ("E" Street) Trolley Station and interconnect with the rest of Chula Vista's transit service.

7.4.2 Mitigation Measures Not Included in the Proposed Project

When congestion reaches LOS D at the "E" Street/I-5 ramps, as determined by the City' Traffic Engineer. Additional traffic lanes must be added to the "E" Street bridge.

7.4.3 Other Recommended Mitigation

In addition to the specific recommendations for the Midbayfront area listed above, the following measures are also recommended:

1) The completion of State Route 54 as an east-west freeway with freeway-to-freeway connections is assumed in the trip assignments used in this study.

2) A direct connection to Tidelands Avenue from I-5/SR-54 is recommended to accommodate traffic generation from the "D" Street Fill area for the intensity of development possible from the planned uses.

3) Also, staggered work hours for major businesses should be required to avoid peak hour conflicts.

7.5 ANALYSIS of SIGNIFICANCE

Since the overall circulation system will have the capacity to support the proposed land uses along with the existing development (provided the aforementioned mitigation measures are implemented), the potential impacts will be adequately mitigated over the years of development.

8.0 PERSONS AND AGENCIES CONSULTED

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Jo Anne Sorenson
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SGPA Planning and Architecture, San Diego

Jeff Howard

University of California, Davis

Jim Millam, Asst. Professor Avian Sciences

9.0 REFERENCES

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1986b Drainage Study for Chula Vista Midbayfront, Job Number 9420A, February 19.

Sedway Cooke Associates
1983 Chula Vista Bayfront Land Use Plan, City of Chula Vista, Community Development Department.

1984 Chula Vista Bayfront Specific Plan, City of Chula Vista, Community Development Department.

10.0 REPORT PREPARATION

This EIR has been prepared by the City of Chula Vista and with the assistance of the following consultants:

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Sam Kab

Douglas D. Reid
Environmental Review Coordinator
City of Chula Vista

Prepared by: Robin Putnam

WPC 2469H

11. COMMENTS AND RESPONSES

Planning

August 21, 1986
File # YE-016

TO: Doug Reid, Environmental Review Coordinator

FROM: Roger Daoust, Senior Civil Engineer RM

SUBJECT: Review of a Draft EIR 86-1, Changes in the Land Use and Circulation Elements of the Bayfront Specific Plan, West of I-5 and North of "G" Street

The Engineering Department has reviewed the subject document and submits the following comments:

Summary Table, Page 3e:

1a The mitigation measure stating, "The S/B I-5 on-ramp needs to be realigned with Bay Boulevard to the south", should be revised to state, "The S/B I-5 off-ramp needs to be realigned with Bay Boulevard to the south".

Section 7.3.1e, Bay Boulevard, Page 43:

1b Correct the first two sentences of section by changing the direction from east to west in both instances.

Section 6.1.4, Page 31:

1c A detailed Hydrologic and Hydraulic Study is required for the Project Alternative presented on pages 11b and 31.

Addtional comments from the Traffic Section may be provided at a later date.

SMN:yc

(B2:EIR86-1)

1a The SEIR has been revised to reflect this information.

1b The SEIR has been revised to reflect this information.

1c If the Project Alternative is pursued, a detailed hydrologic and hydraulic study will be required prior to any grading or subdivision approval.

STATE OF CALIFORNIA—THE RESOURCES AGENCY GEORGE DEUKMEJIAN, *Governor*

CALIFORNIA COASTAL COMMISSION
SAN DIEGO COAST DISTRICT
1333 CAMINO DEL RIO SOUTH SUITE 125
SAN DIEGO CA 92108-3520
(619) 297-9740

August 27, 1986

Mr. Paul Desrouchers
City of Chula Vista
276 Fourth Avenue
Chula Vista, CA 92010

Subject: Supplemental Draft Supplemental Environmental Impact Report for Amendments to the Chula Vista Bayfront Specific Plan.

Dear Mr. Desrouchers:

Thank you for the opportunity to comment on the City of Chula Vista's draft Supplemental Environmental Impact Report (SEIR) on the proposed changes to Bayfront Specific Plan's Midbayfront area. As you know, the area is subject to the City of Chula Vista's certified Bayfront Local Coastal Program, and, as such, the majority of our comments will be based upon the policies of
2a the certified LCP. In addition, however, it appears from the information contained in the SEIR that one or more amendments to the certified LCP will be necessary to implement the preferred
2b alternative identified in the SEIR. Since Local Coastal Program amendments are subject to review under the standards contained in the policies of Chapter 3 of the California Coastal Act of 1976, potential inconsistencies with these policies will also be addressed.

We would like to offer the following comments on the SEIR for the midbayfront area:

2c 1. Loss of Park Land. The potential for the loss of two acres of land identified as parkland in the certified LCP for the area is proposed, one acre from the realignment of Tidelands Avenue and one acre from the relocation of the planned park north of "E" Street to the area within the I-5 on/off ramp. We do not feel that the retention of the three acre enhancement site in the southeast corner of Vener Marsh is adequate mitigation or, as stated in the SEIR, an acceptable exchange of uses. The City, in its certified LCP, is committed to this three acre enhancement as an integral part of its environmental management plan for the City's Bayfront. As such, we feel that the loss of the one

2a Section 3.4 of the SEIR, Approvals Required, explains the process for amending the Local Coastal Program.

2b Comment noted. No response required.

2c The realignment of Tidelands Avenue did not result in the loss of one acre of parkland adjacent to Vener Marsh. The loss of park acreage is due to the fact that the acreage assigned to the Vener Marsh enhancement site in the certified Local Coastal Program was not consistent with the graphic representation. Because the Midbayfront only includes a finite number of acres, tradeoffs are required when inaccuracies are discovered. If during the subdivision map stage more than 99 acres of developable land, as indicated in tne Land Use table on page 10, is available, then the first additional acre will be required as a parkland dedication to compensate for the acre of parkland lost for Vener Marsh enhancement.

acre of parkland is a significant impact for which the
2d retention of the three acre enhancement site is neither a suitable exchange nor adequate mitigation. In addition, we concur with the draft supplemental SEIR that the relocation of one acre of open space to the area of the "E" Street on/off-ramp constitutes a significant impact. In order for these two impacts to be adequately mitigated, two acres of
2e usable open space/parkland should be provided. The specific sites for such mitigation should also be identified.

2f 2. Drainage Swale. We concur with the City's determination that the normal operations of the proposed drainage swale could result in significant visual impacts. The use of the funds from the Bayfront Open Space and Maintenance District, however, were designated in the LCP for maintenance of marsh and upland habitat areas, and were considered as mitigation for other actions proposed to occur within the City's Bayfront. The use of these funds for the maintenance of a drainage structure is inappropriate, and could potentially result in unmitigated impacts to environmentally sensitive habitat areas for which the expenditure of these funds was originally proposed. As mitigation for the impacts resulting from the drainage structure, alternative funding sources for maintenance should be identified.

2g In addition, we concur with the City's determination that the normal operation of the drainage swale could result adverse impacts on coastal access. The approximately one-acre mitigation site proposed in the draft SEIR should be identified.

2h 3. Loss of Specialty Retail Acreage. As it is not clear from the draft SEIR precisely how much of the total office park use would be devoted to specialty retail uses, we do not feel that we have adequate information at this time to determine the extent of the impact of the City's reduction in Specialty Retail acreage. The City's certified Land Use Plan (LUP) already allows for four acres of specialty retail integrated with the office park use, and it is not clear if this four acre allowance will be increased to eight acres to compensate for the loss of other Specialty Retail areas. The loss of Specialty Retail areas could result in the loss of visitor serving commercial type uses not included in the "Permitted Uses" section of the Specific Plan (Section 19.84.07). Visitor serving commercial uses would be considered a higher priority land use under Chapter 3 policies than would office park uses.

2d No response is required for the reiteration of adverse impacts identified in the SEIR circulated for public review.

2e The SEIR has been revised (p. 14) to indicate a specific site for replacement of park acreage. This site is adjacent to the open space area surrounding the desiltation basin and adjacent to the residential area.

2f Two alternative sources for swale maintenance are currently being investigated by the City. They are: (1) Require the property owner to fund ongoing maintenance of the swale; and, (2) Formation of a separate assessment district to fund public works projects.

2g The SEIR (p.16) states that foot bridges would provide adequate mitigation for coastal access impacts resulting from implementation of the swale. The discussion in the SEIR (p.21) relating to the requirement for provision of additional acreage states that "If access and recreation goals are found to be inconsistent with periodic inundation of the drainage swale, then the applicant should be required to provide 1 acre of usable open space elsewhere in the Midbayfront". The requirement of this acre would be based on a policy decision by the City Council. The SEIR only suggests consideration of the requirement for additional acreage.

2h As indicated on the Land Use table on page 10 of the SEIR, 4.0 acres of specialty retail use would be included within the office park designation. This is consistent with the specialty retail acreage provided in the City's certified Land Use Plan. The reduction in the acreage of specialty retail use referred to on p. 14 of the SEIR is based on a comparison between the specialty retail acreage allocated in the FEIR (85-1) and the proposed project. The proposed project rather than the FEIR, reflects the specialty retail acreage allocated in the certified Land Use Plan.

2i Finally, we would like to take the opportunity to remind the City that several of the actions proposed in the SEIR would require an amendment to the City's certified Local Coastal Program. If you have any questions concerning this letter, please contact Paul Webb at the District Office.

Sincerely,

Charles Damm

Charles Damm
Assistant District Director

(0942L)

2i See response to comment 2a.

ORVILLE P. BALL
& ASSOCIATES
LAKES, PONDS, STREAMS
DESIGN/REHABILITATION
MANAGEMENT/ENVIRONMENTAL ANALYSIS

August 26, 1986

Mr. Paul G. Desrochers
Director, Community Development
City of Chula Vista
276 Fourth Avenue
Chula Vista, California 92010

Dear Mr. Desrochers:

Our consulting group has been retained by Mr. Charles R. LeMenager, Chula Vista Investment Company, to provide a focused environmental overview of certain aspects of the proposed amendment to the Midbay Area of the Local Coastal Plan. We have historically provided environmental assessments of many of the coastal lagoons and associated marsh ecosystems in San Diego County.

The first issue involves the drainage swale which roughly borders the proposed park area contained in the Unit 9 portion of the development. Certain concerns were expressed in this regard in the recently issued, but updated "Environmental Impact" (EIR) by the City of Chula Vista (Section 4.2.1.d., pages 16-18).

The second issue deals with the proposed one-acre detention basin (Unit 10 location) designed to collect general runoff from a specific portion of the adjacent development. Our focus here is water quality, construction factors, and operational feasibility.

We have been provided with information documents which have been reviewed. In addition, an orientation meeting was held with Mr. LeMenager and Rick Engineering staff on Monday, August 18, 1986.

8755 VISTA DEL VERDE EL CAJON CALIFORNIA 92021 (619) 443-4045

DRAINAGE SWALE

The approximate 12.8 acres have been designated as a public park facility containing a grass cover with landscape amenities. The drainage swale, north to south orientation, will extend from elevation 8.8 feet to 3.0 feet (MSL) at the point of discharge to the south. Soils immediately underlying the park area and swale are alluvial permeable sands and mud. Groundwater elevation is about 2.5 feet MSL and is assumed to be brackish or saline. The c100 year flood flow has been calculated at 62 CFS at the northern extreme of the swale increasing to 69 CFS at the southern exit point. Normal storm events would certainly produce negligible flow rates based upon the limited extent of the contributing watershed.

Some of the concerns expressed by the Chula Vista EIR are as follows:

3a 1. "During and following storm events, park use would be impeded by runoff and wet soil conditions."

3b 2. "The southern portion of the swale, approximately 400 feet, would be subject to (periodic-OPB) tidal inundation which would preclude the use of this area for any use other than visual open space."

3c 3. The loss of 8,700 square feet of usable park land within the swale impacted by tidal inundation and another 49,000 square feet due to "storm events" is considered to be a significant impact on the park use objectives including visual aesthetics. Mitigation measures are suggested or implied.

3d 4. The EIR determined that the swale would act as an "attractive nuisance" and would become a "liability problem for the City."

3e 5. The continuous presence of water within the swale itself and immediate subsurface soils from tidal exchange, rainfall-runoff, and residual urban flows "may result in the creation of emergent wetlands." (Add park irrigation as a source of swale water - OPB.) This would complicate and reduce the usable park area.

3f 6. "Undergrounding this drainage feature would mitigate all identified potentially significant adverse impacts associated with the swale."

These are reasonable environmental concerns. We will now explore appropriate application to this project and will provide mitigating recommendations.

3a No response is required for the reiteration of adverse impacts identified in the SEIR circulated for public review.

3b See response to comment 3a.

3c This summary of the information presented in the SEIR is inaccurate. On page 16, the SEIR states that "At a minimum, implementation of the drainage swale would result in the loss of 8,700 square feet (approximately .2 acre) of usable parkland (estimated by applicant's engineer). This impact is considered potentially significant. To reduce this impact to a less-than-significant level, one-half .2 acre of usable parkland must be provided elsewhere in the Midbayfront. During and following storm events, up to another 49,000 square feet (approximately 1 acre) of the 11.4 acre bayside park would be unusable (estimated by applicant's engineer)." This impact may be considered significant depending on park and open space goals.

The mitigation for these impacts is clearly stated on p. 21 of the SEIR under Mitigation Measures Not Included in the Proposed Project in Sections 4.3.2b and 4.3.2c.

3d This summary of the information presented in the SEIR is inaccurate. On page 17 the SEIR states that "Because the swale would be an open drainage feature, it would act as an 'attractive nuisance' and has the potential to become a liability problem for the City".

3e This summary of the information presented in the SEIR is inaccurate. On page 17 the SEIR discusses the potential impacts associated with the creation of an emergent wetland. These potential impacts are (1) inability to maintain the swale, as a Section 404 permit could be required from the Corps of Engineers, resulting in the potential flooding of development sites due to the lack of availability of drainage facilities; and (2) reduction of coastal access across the swale as it could be a wetland thus precluding access.

3f The use of quotation marks around this statement is misleading, as a clause was deleted and elipses were not included. The SEIR states on p. 18 that "Undergrounding this drainage feature, as described under the Project Alternative, would mitigate all identified potentially significant adverse impacts associated with the swale".

The regular tidal exchange into the lower 400 feet of the drainage channel will indeed negatively affect the park property. This portion of the swale will be subject to daily flooding by saline water from San Diego Bay. Maintenance of a grass cover in the flooded section would not be possible. Floating debris would regularly enter the property and create unsightly conditions. Consequently, maintenance costs would be increased. Environmental conditions would only support a limited salt marsh-marine flora of questionable quality as would be the case for marine-brackish water fauna.

3g The ingress of tidal waters into the portion of the swale can be controlled by the construction of a one-way flap gate system at the exit point (elevation 3.0 feet) from the project lands. The height of the gate system must be sufficient to retain even a wave-surcharged spring flood tide level and constructed of impervious material to prevent inflow seepage and erosion. The one-way flap gate assembly would permit the outflow of accumulated rainfall or urban runoff water within the swale. This type of gate will obviously prevent the passage of tidal waters into the park property.

3h Most park areas where grass covers prevail suffer short term declines in public use during and shortly after periods of rain. Water quickly seeps into the subsoils, the sun and wind dry the grass, and recreational activities resume.

This sequence will be true for the Chula Vista Bayfront park area. The EIR statement that ponding and water saturated soils within the swale from tidal exchange and rainfall-urban runoff will cause a measurable reduction in usable park area and public participation must be critically addressed.

3i We have offered recommendations for dealing with the tidal inundation factor.

The amount of rainfall and runoff (seasonally) anticipated for the area is approximately ten inches and is normally spread through a four-five month winter-spring period. The watershed is limited. A combination of the flap gate operation and normal percolation should not allow standing pools of water along the swale or saturated surface soils at any time during most rainfall seasons. Remember, park areas are not used by the public during and immediately following periods of rainfall.

3j However, it is possible that an unusually severe frontal storm system (suggest 10-100 year intensity) in combination with high tides could render the effectiveness of the flap gate insufficient to quickly discharge resulting storm runoff from the swale. Some temporary ponding could occur during a period when park use is not a factor. Therefore, we suggest the installation of a rock lined subsurface drain (as a French drain) lined with filter

3g Inclusion of the tidal flap gate would be preferred over the open swale subject to tidal inundation included in the proposed project. The tidal flap gate would, however, require ongoing maintenance as the floating debris could get caught in the mechanism and cause a malfunction. Other maintenance problems, such as rusty hinges, would also be anticipated. As a result we cannot concur with the statement that "This type of gate will obviously prevent the passage of tidal waters into the park property."

3h The .35 slope proposed for the drainage swale is very slight. This would result in slow discharge rates and the pooling and puddling of drainage water. At the proposed grades, vegetation or other obstructions could result in pooling and puddling of drainage.

3i Comment noted. Saturated surface soils may exist at the lower reaches of the swale as the ground water table is only .5 feet below the surface of the swale, thus reducing the potential for percolation of drainage water into the subsurface soils. Also, see response to comment 3g.

3j Although a french drain would expedite drainage when the flap gate is not working, it does take time for drainage to seep into the perforations in the french drain. This would result in the creation of a wet spot during the winter season. In addition, the perforations and/or the filter fabric will tend to clog with time requiring periodic maintenance.

fabric along the center line of the swale. The drain would be grass covered and, therefore, not visually apparent. This will enhance percolation and prevent periods of possible ponding. Most of the ponding under these unusual conditions should occur at the lowermost portion of the swale. In order to absolutely prevent the accumulation of water and saturated soils, we recommend the construction of a concrete sump immediately south of (adjacent to) the proposed flap gate.

3k Connection to the French drain is essential. Within this vault, the installation and operation of a float actuated sump pump discharging on the tidal side of the gate would alleviate any unanticipated collection of water in the swale. Considering the various recommendations set forth herein to accommodate swale drainage and the percolation capacity of the park area subsoils, there is no reasonable expectation for the development of a fresh water or marine marsh habitat at any location. Water saturated surface soils cannot persist. Contemplated loss of parklands for public use will not occur. A backup system to insure compliance has been described.

DETENTION POND

The proposed one-acre detention pond (Unit 10) is presently designed to collect rainfall and urban generated drainage from the approximately 45-acre contributing watershed. During the wet season, only fresh water runoff would enter the pond and tidal flushing would be controlled by a suitable downstream gate structure. During the dry portion of the year when fresh water inflows are minimal, the tidal gates would be lifted and the detention basin would be flushed with saline tidal water each day.

3l This plan and design concepts are contained in the May-June Progress Report, "Restoration and Enchancement Plans for Disturbed Wetland and Upland Sites in the Bayfront Land Use Plan-Alternative IV, City of Chula Vista, California." This report was generated from a July 14, 1986, meeting of the Technical Advisory Committee and further defined in your letter of August 12, 1986, to Colonel Fred Butler, Corps of Engineers. We note with interest and professional respect the design participation of Wetlands Research Associates of San Francisco and the contributions from the Coastal Commission, U.S. Fish and Wildlife Service, Corps of Engineers, Port of San Diego, CalTrans, California Fish and Game, City of Chula Vista, and State Coastal Conservancy. A copy of the conceptual Alternative Plan IV is enclosed as approved by your Technical Advisory Committee.

The pond basin will be initiated at an elevation of about 9.0 feet MSL and the sump depth will be situated at a depth of -3.0 feet MSL. Slopes will vary from 4:1 to 3:1. The contributing watershed (approximately 45 acres) will contain light industrial, medium density housing, office complex systems, and a park area immediately surrounding the pond itself. Generated water volumes

3k A float actuated sump pump would also require ongoing maintenance that would not be required of a gravity discharge underground system. The system described utilizes a tide gate, a french drain, and a sump pump. While this system is not fail-safe it could provide adequate drainage for the site. This system has the disadvantage of requiring ongoing maintenance. In addition, pumping of stormwater is not a generally desired practice due to ongoing energy usage and associated costs.

3l The information regarding enhancement of the F-G Marsh and siltation basin that was prepared by Wetlands Research Associates has been incorporated into the Final Supplemental EIR. Under this plan drainage will flow from the desiltation basin north of Lagoon Drive into the newly created ±3.2 acre freshwater marsh (adjacent to the F-G Marsh) via a culvert under Lagoon Drive. From the freshwater marsh water will flow through a channel to a newly created ±2.5 acre salt marsh (adjacent to the northwest corner of the F-G Marsh). From the salt marsh area the water will be discharged to San Diego Bay.

will enter the pond by means of collector culverts and sheet flow drainage. Water leaves the pond via culvert and will be conveyed southward into the nearby salt water marsh (F-G Street marsh).

3m One environmental-engineering factor not previously cited is the location of the saline-brackish groundwater level at about 2.5 feet MSL. Without an impermeable pond sealer the groundwater will permanently stabilize in the pond at that level (2.5 feet). There may be virtue in a continuous tidal flushing of the detention basin rather than the proposed annual cycle of a fresh water-salt water storage pattern. This would eliminate the imposition of environmental extremes which are detrimental to the maintenance of stable ecosystems either fresh or salt water oriented.

The EIR offers several statements concerning the water quality aspects of the detention pond:

3n

> "The most significant concern with urban runoff from a water quality standpoint is the potential (underline is ours) increases in heavy metal concentrations and their effects on biological habitat." A Table (Table 1, page 33) is presented in support of this statement, but quantification was not attempted. The data contained in Table 1 may also be inappropriate for the Bayfront development.

3o We offer these reflections. Urban areas produce a much reduced sedimentation and mineralization loading than agricultural areas a presently exists. Chemical species of nitrogen and phosphorus are plant nutrients and should be viewed as desirable for marsh flora. Copper and zinc are micronutrients and essential for plant growth. Most heavy metals will precipitate from solution and form chemically inactive forms in the benthic muds.

3p The possibility of measurable heavy metal generation from (specifically) the Bayfront urban complex is not considered a possibility and certainly has not been demonstrated. If continuous tidal flushing is incorporated into the detention pond operational design, then the factors of dilution and flushing become mitigating factors. Moreover, tidal estuaries typically have an absorptive and dispersal capability with regard to urban source chemical constituents.

3q

> "The principal mechanism to control the concentration of urban pollutants in runoff is establishment of an aggressive maintenance program to control the accumulation of pollutants in parking areas, streets, curbs and gutters and within the drainage system" (EIR, Section 6.3.1C, page 36). General specifications for this

3m Comment noted. The enhancement plan for the F-G Marsh and freshwater marsh prepared by Wetlands Research Associates would maintain the salt water inflow from the tidal action at a lower level than the freshwater levels to reduce the potential for the salt water to impact freshwater marsh vegetation that will become established at the margins of the freshwater facilities. The seasonal freshwater habitat would be maintained in an attempt to retain the existing habitat diversity in the Chula Vista Bayfront.

3n The SEIR did not attempt to quantify increases in heavy metals due to Bayfront urbanization. The data contained in Table 1 are generalized and as such may not be appropriate for bayfront development. The table does, however, provide a comparison of typical pollutant concentrations from equal areas of urban and agricultural land.

3o Under some limited circumstances, nitrogen and phosphorous may be beneficial to some marsh species. In general, nitrogen and phosphorous levels above levels in the natural environment are, however, considered detrimental to the functioning of wetlands. The fact that heavy metals will precipitate from solution and form chemically inactive forms in the benthic muds would be a potentially significant adverse impact as water and shorebirds feed on animals residing in the benthic muds. Deposition of heavy metals in this area could result in uptake by these species. The required sedimentation basins at inlet structures, the major desiltation basin in the Midbayfront, and the proposed street maintenance program are, however, expected to greatly reduce deposition of heavy metals in the areas where wildlife species feed.

3p The enhancement plan presented in response to comment 3m, as well as, the aggressive street maintenance program presented on p. 37 of the SEIR are expected to mitigate the potential for concentration of heavy metals to a less-than-significant level.

3q No response is required for the reiteration of mitigation measures included in the SEIR.

important recommendation are contained on page 37 of the EIR.

3r Considering the size and nature of this portion of the Bayfront development and the factors herein discussed, we conclude that the combination of urban-rainfall drainage into the detention basin with or without continuous tidal flushing will not produce a measurable negative environmental impact on the viability of the F-G Street marsh. In fact, any measurable impact may be positive. Therefore, physical, chemical, and/or biological treatment of generated fresh water inflows for water quality modification is unnecessary.

The Technical Advisory Committee of the City of Chula Vista should be congratulated on the time and creative input directed at environmental protection-enhancement of the affected tidal marshes.

3s There remains, however, some minor technical differences between the Alternative IV design and operational scheme of the City of Chula Vista, those of the Chula Vista Investment Company, and the recommendations contained in this letter. I'm sure that a brief conference of consultants representing all interests can quickly resolve these differences.

Orville P. Ball (cs)

Orville P. Ball & Associates

OPB:cs

3r Comment noted. Response to comment 3m describes the pathway that urban drainage will follow through the marsh system. No adverse impacts on the existing F-G Marsh system are anticipated, as urban runoff would not flow through the existing F-G Marsh.

3s Many of these technical differences have been resolved. The City's enhancement planning consultant will continue to work with the applicant's engineers to ensure that an environmentally sound drainage plan for the Midbayfront is implemented.

F-G STREET AND FRESHWATER MARSHES

Alternative IV

LEGEND

Salt Marsh

High.....

Middle.....

Low.....

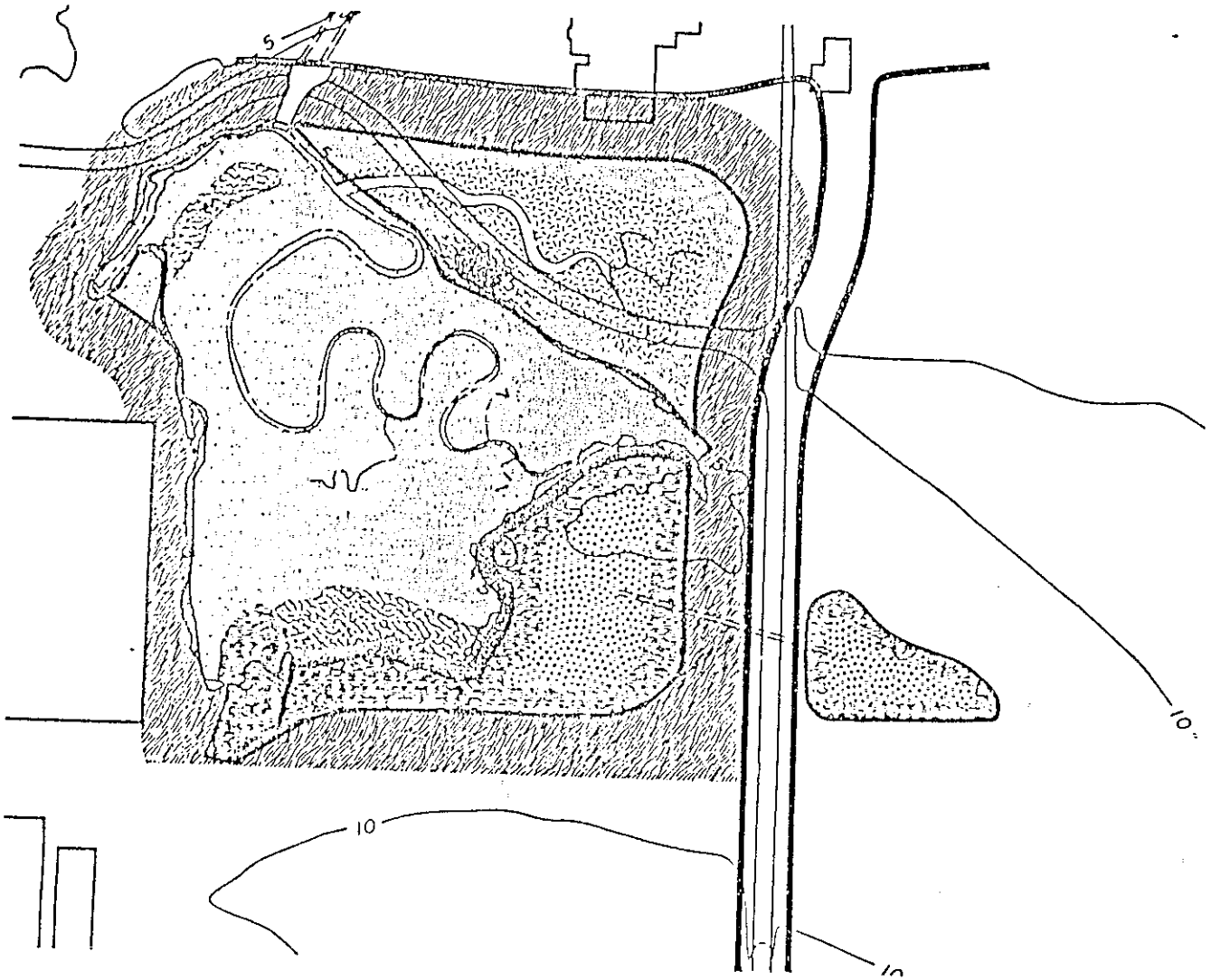
Freshwater Marsh.....

Seasonally Flooded.....

Islands/Upland.....

Buffer.....

Culvert.....



EXTRACT FROM THE PLANNING COMMISSION MEETING OF AUGUST 27, 1986

PUBLIC HEARING: EIR-86-1 - AMENDMENTS TO THE CHULA VISTA BAYFRONT SPECIFIC PLAN, SUPPLEMENTAL DRAFT ENVIRONMENTAL IMPACT REPORT

Chuck LeMenager, P.O. Box 8086, Rancho Santa Fe, representing the Chula Vista Investment Company.

Mr. Chairman and Members of the Planning Commission, we have a presentation to make and we'll try to keep it down to 15 minutes. I'll just speak as the Executive Vice President of the Company and let the experts speak to the issues.

We would like to briefly address some of the conclusions and the recommendations written in this Supplemental EIR which relate mainly to the grading and the drainage section. And, as I said, to assist me, we have two experts in the field. We have Lyle Gabrielson, who is not only a professional civil engineer but President of Rick Engineering, one of the largest firms in San Diego County; and Orville Ball of Orville Ball and Associates, consultants in design, rehabilitation management, and environmental analysis of water systems. They will discuss in more detail the proposed plan and how we feel it will work without causing any negative environmental impacts but, in fact, will actually enhance the plan in that it is going to improve the views and require a lot less importation
4a of fill. Also, for the sake of putting it on the record, because that is what we are here for tonight at the hearing to make this a record, we don't really agree with the conclusions that were reached on the park recommendation in that by putting a park in the middle of that cloverleaf we are going to be losing park land. We feel that it is a matter of definition of what constitues a park. We feel that the public is going to enjoy that park whether it is a park you can get out and throw Frisbees in or not - it's still a park and we think we should get credit for that. So without any further discussion and to try to keep this down to 15 minutes, I'm going to introduce Lyle Gabrielson.

4b Mr. Chairman and Members of the Commission, my name is Lyle Gabrielson with Rick Engineering, 5620 Friars Road. The major discussion of staff, as you can tell, is based upon grading and how we are going to handle the drainage out of this project. If I can have Robin put those two overlays up that indicate the alternative and the "drain swale" I think it would be helpful in describing the differences. The original plan envisioned an importation of about 1 million yards at the elevation had of the Office/Professional area - about elevation 23. We devised a plan which lowered that substantially down to approximately elevation 15 and in a corner down to about 13 or 12. This was in order to relate the
4c entire development to the bay as a bayfront project. In developing this scheme we considered underground drainage and found that in order to maintain cover, allow the discharge into the bay to be flood free at high tide, we had to raise the elevations up substantially creating, in effect, a barrier between the bay and the marshes and the developed area - about 15 feet - this would be a fill bank, planted or whatever, but as you rode through the bay you would see your first entrance into Chula Vista - a large fill bank, planted or whatever
4d it could be. By lowering this down, we get this into a scheme where we are at approximately 5 feet of fill going down to the edge of the buffer. The scheme for the drain swale (and I hate the term but I don't know how else to call it) - we are not talking about the L.A. Flood Control Channel - we are not talking about the drain swale that they create in the backyard of your home, which is

4a Comment noted. As stated in the SEIR (p. 14), "The planned park north of "E" Street and east of the SDG&E right-of-way would be relocated to the area within the modified I-5 on/off ramp in the northwest corner of I-5/"E" Street intersection under the proposed project. In this location, the acreage could only function as visual open space because no recreational access would be available. As a result, one acre of usable open space would be lost".

4b Comment noted. No response is required for reiteration of the project description for the Proposed Project.

4c This is not an accurate description of the Project Alternative. The portion of the Midbayfront that will include bay and marsh views at build-out of the project is the area west of Marina Parkway. Unobstructed views of San Diego Bay and Vener Marsh would occur in this area under both the Proposed Project and the Project Alternative. The highest elevation in the park area would be 15 feet under the Project Alternative versus 13 feet under the Proposed Project. The fill bank referred to would be a slight slope with a maximum grade of 5:1.

4d This is a restatement of the basic configuration of the drainage swale presented on p. 17 of the SEIR. It should be noted that while the dimensions presented are slightly different, both sets of information were provided by the applicant's engineer.

a depression of about 5/10ths of a foot. We are talking about a swale which at the outlet of the bay will carry approximately 60 cfb. This will be 3 foot wide at the bottom, approximately, it will be 2 foot deep and because we are

4e laying the slopes way back, it will be about 19 foot wide. This is what it will look like during a 100-year storm. Now this is the period of time when it has been raining continuously for at least a week and we have a major storm come in and hit us and you have rainfall and the streets are flooded. You drive through Chula Vista and you know what is like to drive through a major storm, you've got water going out of the curb and in the driving lane. This is not the time when you take your bicycle to the bayfront area and try and ride your

4f bicycle in the park. It is also not a time when you play Frisbee. And what we have been trying to explain is that to forego our proposal and come to the alternative proposal increases the elevation of the perimeter along the bluff approximately 5 to 8 feet, creating again this large barrier to the development from the bay, from the marshes, and, in effect, still discharges about the same amount of water through a closed system.

4g I've drawn a couple of diagrams here to try and present what this is going to look like. These are two cross-sections, the scale is distorted because 2-foot and 100-foot horizontal wouldn't show up very much. But at the upper reaches through the park, this is approximately half-way between the access to Gunpowder Point and the outlet into the bay, you have a rolling area park and the drain

4h swale. The drain swale is basically a mobile area like it is in any park; you have parks designed in this City as detention basins in order to offset peak

4i flows from your 100-year storms. And during a 100-year storm, you will have 2 feet of water and it will look like it is depicted here with water in it. Any other storm of lesser significance, your 10-, your 5-, your 1-year storms, which are your normal storms you would receive through the year, you won't have water flowing in any kind of measurable flows which will impede access to the buffer areas. There is not a need for bridging, there is not a need to put concrete pipes in. We are also putting a French-drain system so that the nuisance water which will flow off these areas from the landscape irrigation will percolate into a sub-surface drainage system to be taken through the park

4j into a pump and pumped back into the storm drain system. So our analysis of, or review of the summary table disagrees with the number of points which were raised beginning on page 3.B under Land Use. It specifically states that coastal access would be impeded due to the location of the drainage swale. We don't believe this to be a fact. It will be impeded during a 100-year storm in that somebody will have to step in a puddle 2-foot deep. We don't believe that there will be that many people using the park during a 100-year storm.

4k "The drainage swale would require a high level of maintenance because the bayfront would be a highly visible, visitor-serving area." Well, it's going basically to be grass - just like the rest of the park. It will be mowed or treated as you would treat any park lands.

4l "The periodic inundation of the drainage swale would be found inconsistant with access and recreational goals." We don't believe that there is any impediment, and certainly not periodic, unless you consider once every 100 years periodic.

4m And finally, the last one which we were unable to work out the details with staff. "Tidal inundation of the southerly 400 feet..." The southerly 400 feet is from the bay back up along that first arrow, approximately 400 feet. This is due to the fact that the discharge point of the drain swale is at elevation 3,

4e Comment noted. In the SEIR (p. 16) the concern is expressed that "During and following storm events, park use would be impeded by runoff and wet soils conditions". The question of whether parks are used during the 100-year storm only partially addresses the concern expressed in the SEIR. Following storm events park use would also be impeded by wet soils conditions for a period of time.

4f This estimate of the increases in elevation adjacent to the marsh areas is inaccurate. The Project Alternative would increase the elevation adjacent to Vener Marsh by a maximum of 2 feet over the Proposed Project. The elevation adjacent to Vener Pond would be increased by a maximum of 4 feet in the areas of greatest elevation variation between the Project Alternative and Proposed Project. The "berm" would not act as a barrier, but rather would protect the wetlands from urban runoff and provide increased usable open space in the park due to the gentle (5:1 maximum) slopes required.

4g The diagrams provided by Mr. Gabrielson show an attractively landscaped park with a drainage swale incorporated into the park area. Due to soils conditions adjacent to Vener Marsh and the proximity of the park to the wetlands, it is not likely that large trees will be included in the park landscaping.

4h Comment noted. There are many parks in Chula Vista that act as detention basins. The policy question remains whether it is desirable to plan for periodic inundation of parklands in a highly visible, visitor serving area like the Bayfront.

4i Comment noted. It should be noted that during storms of lesser magnitude than the 100-year storm the velocity of the discharge will be decreased and as a result water may remain in the swale for a longer period of time. The french drain was included in the Proposed Project discussed in the SEIR. See response to comment 3j for a discussion of the french drain.

4j Comment noted. See response to comment 4e.

4k Comment noted. The requirement for a higher level of maintenance was discussed in the SEIR (p. 17) as the drainage swale would be a wet, low spot that would foster vegetative growth. The type of vegetation that would predominate in the swale area may not be grass, as this area is lower than the surrounding parkland and thus more subject to the impact of the high brackish-salt water ground table adjacent to the Bay. This would encourage the growth of salt tolerant plant species as opposed to grasses normally planted in a park.

4l This is an inaccurate summary of the statement in the SEIR. On page 3a the SEIR states that "Periodic inundation of the drainage swale may be found to be inconsistent with access and recreation goals". The SEIR stated that this assessment of consistency with goals was a policy decision. The SEIR did not make a conclusion regarding consistency.

4m Comment noted. See response to comment 3g.

whereas your highest tide recorded around here is about 4.9 or 5, which is what we designed as the limits of the tidal areas for the EPA deed for the Corps of Engineers. What we have devised is a flap-gate which is used in a lot of flood control channels in the City of San Diego and is used throughout other developments where you have waters flowing two ways. This flap-gate situation would exist at the point of discharge into the bay. What it amounts to, and we're creative, we didn't make it out of concrete and steel, we used a little timber, used a little innovation in making it fit into a park-like setting. It amounts to a timber flap-gate where, when you have flood flows, the flows close the backside of the gate causing the gate to swing out discharging the flows. When you have high tide coming in against the gate, it seals the gate preventing the tidal action moving up into the channel and thus preventing the creation of the tidelands marsh....

Commissioner Cannon: What happens when you have them both going at once?

4n When you have them both going at one time, then you have the inundation of the park area until such time as it reaches an elevation that it would open up the gates and discharge.

Commissioner Cannon: Well, if the gate is being pushed against by an incoming tide, what happens? The gate stays closed and does it become a dam?

4o The gate says closed and it becomes a dam until the water surface behind the gate reaches an elevation higher than the tide in which case it will force the gate open and discharge water. It will be a much slower process than if the tide was at low tide. You can't have both situations happen. But it will still discharge water. With those comments on the potential impacts addressed in the EIR, I would like to turn the discussion over to Orville Ball and I'll stand ready after our presentation to answer questions.

Chairman: Thank you, Mr. Gabrielson. Mr. Ball.

Mr. Chairman and Members of the Planning Commission, my name is Orville Ball and I head up a group of environmental scientists with headquarters in El Cajon and recently the Executive Vice President of the Chula Vista Investment Company asked us to look at the Revised Environmental Impact Report and to address only issues that seem to be discussed here in some detail.

The first issue was the drainage swale which has been discussed and the concerns, and I think very proper concerns, that were included in the Revised Environmental Impact Report prepared by the City of Chula Vista.

4p The second issue that we looked at was the 1-acre, roughly, detention basin located in Unit 10 of the proposed development. This has been called, I believe, a fresh-water marsh or a fresh-water pond or something of that nature, and the Environmental Impact Report expressed concern with regard to the acceptance of the urban drainage whether it is from rainfall run-off and the urban drainage generated from dry-weather flows, which is characteristic of urban developments.

4q And so, Mr. Gabrielson has already indicated and we have discussed the drainage swale and the concern that park use would be impeded by run-off and wet-soil conditions and the mitigation measures that we had discussed with Rick Engineering and the Chula Vista Investment Company people. We concur that having provided the swale, the terminus of the swale with the one-way tidal flap-gate and providing

4n Comment noted. No response is required.

4o Comment noted. No response is required.

4p Comment noted. See response to comment 31.

4q See response to comment 3k.

a grass-covered sub-surface, French drain along the length of the swale, and also providing a terminal, that is at the point of the flap-gate, a terminal vault system and within that vault system would be contained a float-actuated, submersible pump. At such time, and you brought up a very good point, at such point that you are battling the incoming tide with any degree of high generation runoff, should it occur, that the accumulation of water would be prevented by the actuation of the sump pump to pump the water over and downstream from that point. The combination here which amounts to, as NASA would say, a back-up system to a back-up system, seemed to us to be very reasonable and Mr. Gabrielson has presented that.

4r The second issue that we addressed is the retention basin that the EIR suggested could be impacted by the chemical contaminants from the urban runoff. And we have been involved in a number of such cases and our view, our overview of the concern, while it is - I think the EIR suggested it was a significant concern with urban runoff from a water quality standpoint, is a potential increase in heavy metal concentrations and their effect on biological habitats. We took a look at the amount of water generated in a normal, in a 5-, 10-, and 100-year flood within the 45 acres of tributary to that detention pond and we were persuaded

4s very strongly that no water quality problem exists here. We note that the EIR probably touches on the most effective way of preventing the petroleum products, the fertilizers, the trash and the dust and dirt that accumulate in urban areas, and I quote, "The principle mechanism to control concentration of urban pollutants is the establishment of an aggressive maintenance program to control the accumulation of pollutants in parking areas, streets, curbs and gutters, and within the

4t drainage system." I think that is a very appropriate recommendation. And, we concluded in our report, that the looking and viewing the nature of the watershed and our experience that - and we also suggested that the, as I understand it, that the pond would be essentially a fresh-water pond accepting the rainfall and the runoff until such time in the late spring when fresh water literally dries up and in order to prevent and I think the word was "stagnation", that downstream a tidal gate of some nature would be lifted and for the balance of the dry weather season, the marsh would be - or the fresh-water detention pond would be flooded periodically with tidal flows that would enter. And we have some questions with regard to that - viability versus what may be more feasible - and that would be a continual tidal flushing of that fresh-water, so called fresh-water detention basin and the permission of continual flushing in there would then not only disperse but dilute any generation of undesirable pollutants out into the marsh area. We feel that would be a feasible approach.

4u There are also a few technical differences - consultants always have technical differences with other consultants. We think that there are few that we address here that diverge in a small way with your very excellent technical advisory committee that provided you some guidance and the consultants of the City of Escondido. And we are suggesting that the Escondido representatives; the developer, Chula Vista Investment Company; and Rick Engineering all get our heads together and I think these minor issues can be very easily and satisfactorily resolved. I will be glad to answer any questions you might have.

Chairman: Any questions for Mr. Ball. Thank you, sir.

4r Comment noted. See response to comment 3p.

4s No response is required for reiteration of mitigation measures presented in the SEIR circulated for public review.

4t Comment noted. See response to comment 3m.

4u Comment noted. See response to comment 3s.