

**REDDING RIVERFRONT SPECIFIC PLAN**

**DRAFT  
ENVIRONMENTAL IMPACT REPORT**

State of California  
Clearinghouse Number  
88032203

COPY

Prepared For  
**The City of Redding**

by

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## 1.0 INTRODUCTION, PURPOSE AND PROJECT DESCRIPTION

### 1.1 INTRODUCTION AND PURPOSE

A Program Environmental Impact Report has been selected as the most appropriate type of EIR to assess the potential impacts and mitigations of the Redding Riverfront Specific Plan. Section 15168 of the CEQA Guidelines defines a Program EIR as,

An EIR which may be prepared on a series of actions that can be characterized as one large project and are related either:

- (1) Geographically,
- (2) A logical part in the chain of contemplated actions,
- (3) In connection with issuance of rules, regulations, plans, or other general criteria to govern the conduct of a continuing program, or
- (4) As individual activities carried out under the same authorizing statutory or regulatory authority and having generally similar environmental effects which can be mitigated in similar ways."

The advantages listed of the Program EIR are that it can:

- (1) Provide an occasion for a more exhaustive consideration of the effects and alternatives than would be practical in an EIR on an individual action,
- (2) Ensures consideration of cumulative impacts that might be slighted in a case by case analysis,
- (3) Avoid duplicative reconsideration of basic policy considerations,
- (4) Allow the Lead Agency to consider broad policy alternatives and program wide mitigation measures at an early time when the agency has greater flexibility to deal with basic problems or cumulative impacts; and . . . reduce paperwork.

A Program EIR is also helpful in dealing with subsequent activities if it deals with the effects of the program as specifically and comprehensively as possible. With a good and detailed analysis of the program, many subsequent activities could be found to be within the scope of the project described in the program EIR, and no further environmental documents would be required.

## 1.2 PROJECT LOCATION

The Specific Plan Area comprises approximately 500 acres along the Sacramento River in the center of the City of Redding. The Riverfront is strategically located between the downtown retail core on the west and the I-5/Hilltop Drive commercial corridor on the east. The riverfront stretches from the Convention Center (Civic Auditorium) in the north to Parkview Avenue, just below the Cypress Avenue Bridge, in the south (Figure 1).

## 1.3 PROJECT SITE CHARACTERISTICS

State Highway 299 crosses the Sacramento River and divides the Planning Area into distinct sub-areas, Turtle Bay to the north and Park Marina Drive to the south (Figure 2).

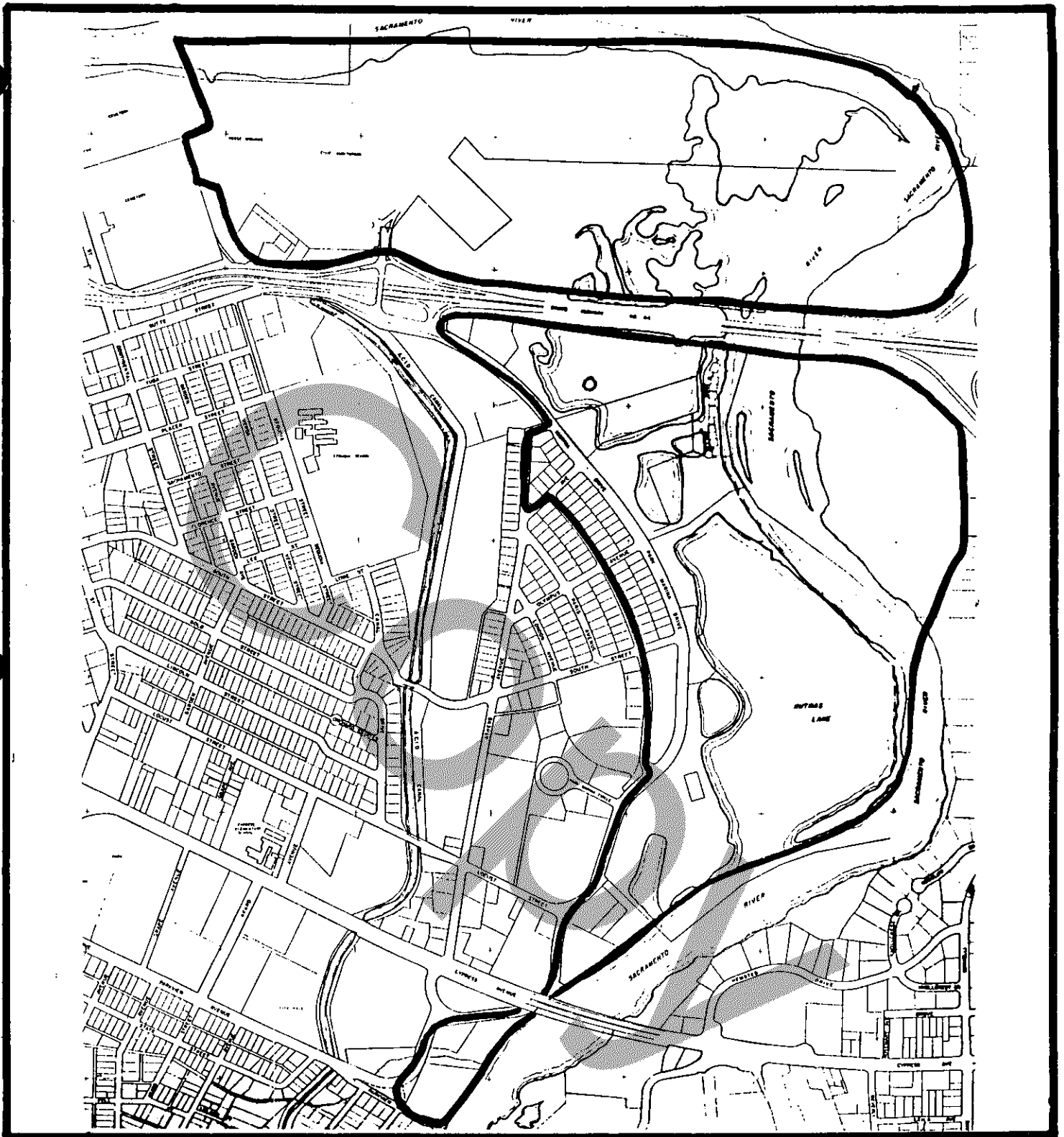
### TURTLE BAY

Turtle Bay includes the Turtle Bay Regional Park and is comprised of Turtle Bay West with 140 acres and Turtle Bay East with 65 acres, as well as, a number of civic facilities which include the Posse Grounds, Redding Convention Center, and the Redding Visitors Bureau.

The sub-area also includes the "Monolith," a remnant of the engineering structures built in the 1930's to transport river gravel to the Shasta Dam construction site. Turtle Bay encompasses much of the riparian habitat in the Plan Area which has established itself over the original gravel excavation area. Turtle Bay also provides some of the most accessible riverfront.

The riparian areas of Turtle Bay East and West and the river itself are used for nature study and recreation. Fishing, boat launching, boating, hiking, photography, equestrian use, and related activities occur in Turtle Bay West. The Posse Grounds are used for rodeo events, horse shows and the like. The Convention Center/Civic Auditorium is used for events and conventions which attract thousands of visitors per year. Nearby buildings contain a variety of offices including the KRCR television station. A skating rink offers active commercial recreation. A boat ramp, picnic area and outdoor stage are located behind the Civic Auditorium along the River.

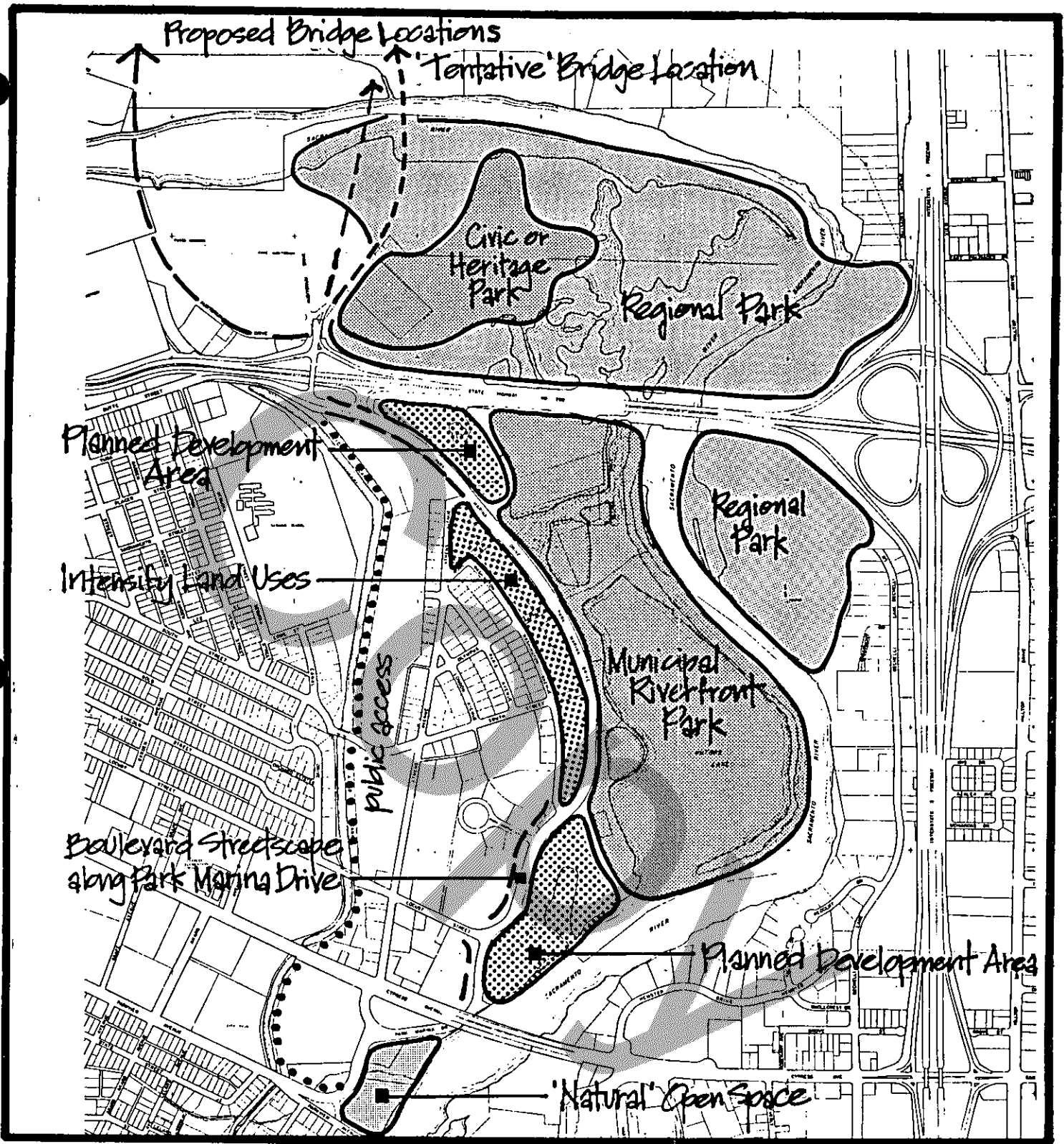
Turtle Bay East includes two parcels, one north and one south of the Highway 299 bridge. Both are undeveloped, although the southern area has an existing access road built jointly by the State Wildlife Conservation Board and the City. Informal trails and gravel roads lace the site. Limited picnic use, fishing, and hiking occurs in Turtle Bay East. The entire area is owned by the City.



**REDDING RIVERFRONT  
SPECIFIC PLAN AREA**

**FIGURE**

**1**



# REDDING RIVERFRONT Specific Plan

## LAND USE CONCEPT

The Planning Collaborative, Inc.  
PLANNING and URBAN DESIGN

Supported by:  
PAGE ENGINEERING'S  
ECONOMIC DEVELOPMENT ASSOCIATES

### FIGURE

# 2



## PARK MARINA DRIVE

Park Marina Drive is primarily urbanized and includes a mix of commercial and residential land uses, vacant parcels, recreational uses and a number of remnant lakes and ponds. It is directly accessible from the Redding Central Business District via Butte Street, South Street, Highway 299/44 and Cypress Avenue. It is bordered on the west by a single-family residential neighborhood and two shopping centers which are the Park Marina Village Shopping Center, located on the north side near the State Highway 299 off-ramp and the Village Plaza/Park Plaza, near the corner of Park Marina Drive and Locust Street. Office, retail commercial, and recreational uses are located along Park Marina Drive. South of the Cypress Avenue Bridge vacant lands border the River.

According to the Specific Plan on pages 4 and 18,

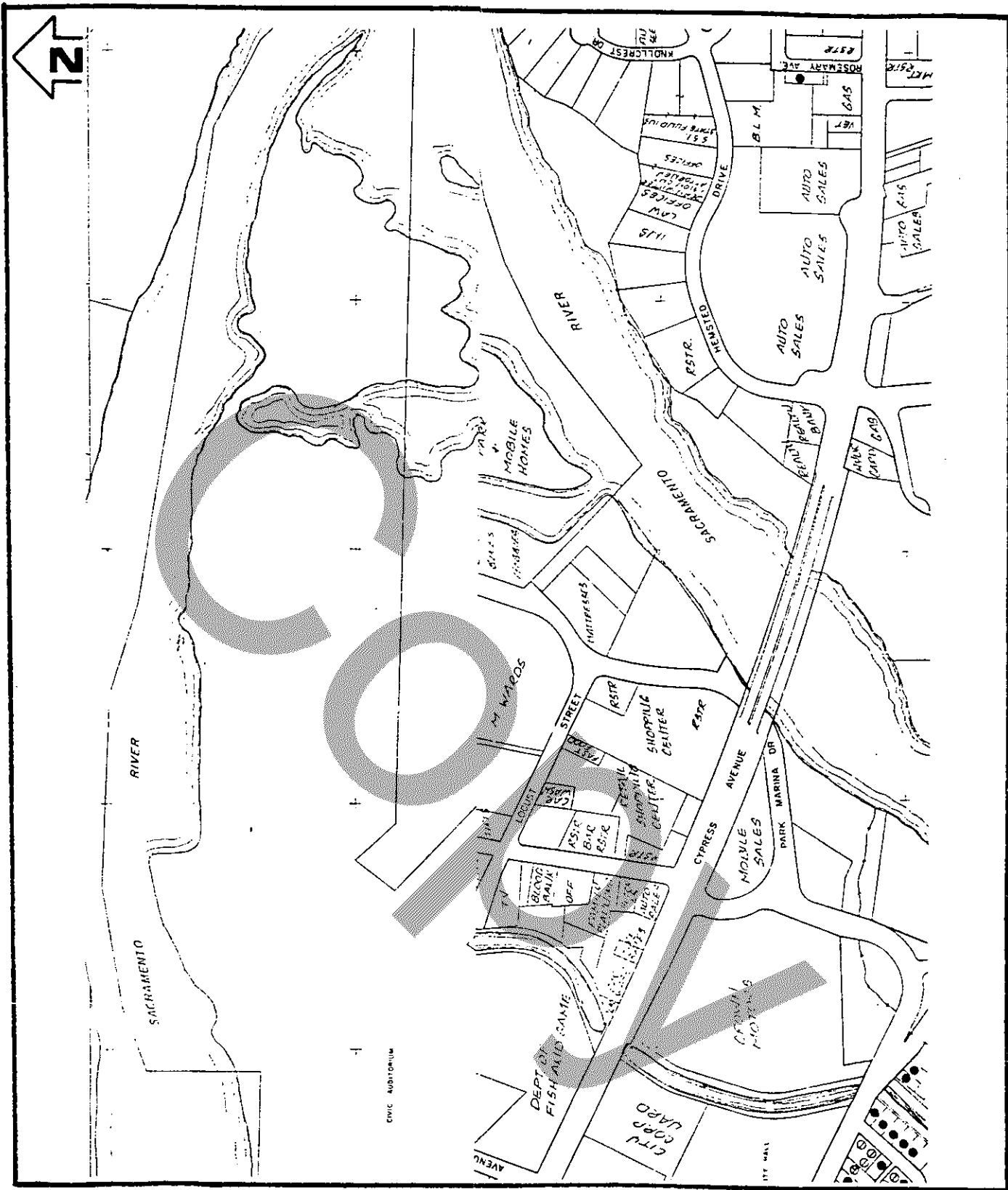
Along Park Marina Drive the river edge is less accessible, but the opportunities no less valuable. Existing commercial development is generally oriented toward the roadway and away from the River, with the land along the river edge steep, overgrown, or used for service access. Residential uses along Park Marina Drive take advantage of views to the water but access to the river's edge is limited. Parking areas and vacant lots further reduce the riverfront character of this area. The lands along Park Marina Drive are primarily in private ownership, except for the road right-of-way and a two acre unimproved open space at the southern end of Parkview Avenue. The privately-owned land has a complex history, but there are relatively few owners and (separate) parcels at present. This makes land assembly and comprehensive planning efforts possible.

Figure 3 identifies the existing land uses, buildings, and other urban features of the Plan Area. The Specific Plan on page 4 states, "as a whole, the Planning Area is perhaps best described as underused. The Turtle Bay Regional Park has been only marginally improved for public use, yet still attracts those interested in hiking, horseback riding, boating, nature study, and fishing."

### 1.4 PROJECT CHARACTERISTICS

#### LAND USE CONCEPT PLAN

According to the Specific Plan the land use concept plan is designed to maximize the natural resource, visual and recreational values of the Sacramento River and encourage quality development in selected areas. The Plan is envisioned as occurring over a period of 20 years or longer dependent on several factors. These factors include the availability of public and private funding for the proposed museum complex facilities; the improvement of



EXISTING LAND USES

FIGURE

3



the Park Marina Drive area for the proposed Riverfront Parkway; and private development and investment for the proposed Redding Landing development (These issues are discussed in Sections 2.4 Issues to be Resolved and 3.8 Land Use Considerations).

The Redding Riverfront Specific Plan states that the purpose of the Plan is to reintroduce the City to the river by:

- (1) creating a long-term vision for 500 acres of public and private land and water along the Sacramento River;
- (2) establishing goals, objectives and policies that guide public and private development and conservation within the Plan Area; and
- (3) identifying a range of implementation strategies and techniques to transform the vision for the riverfront into a reality.

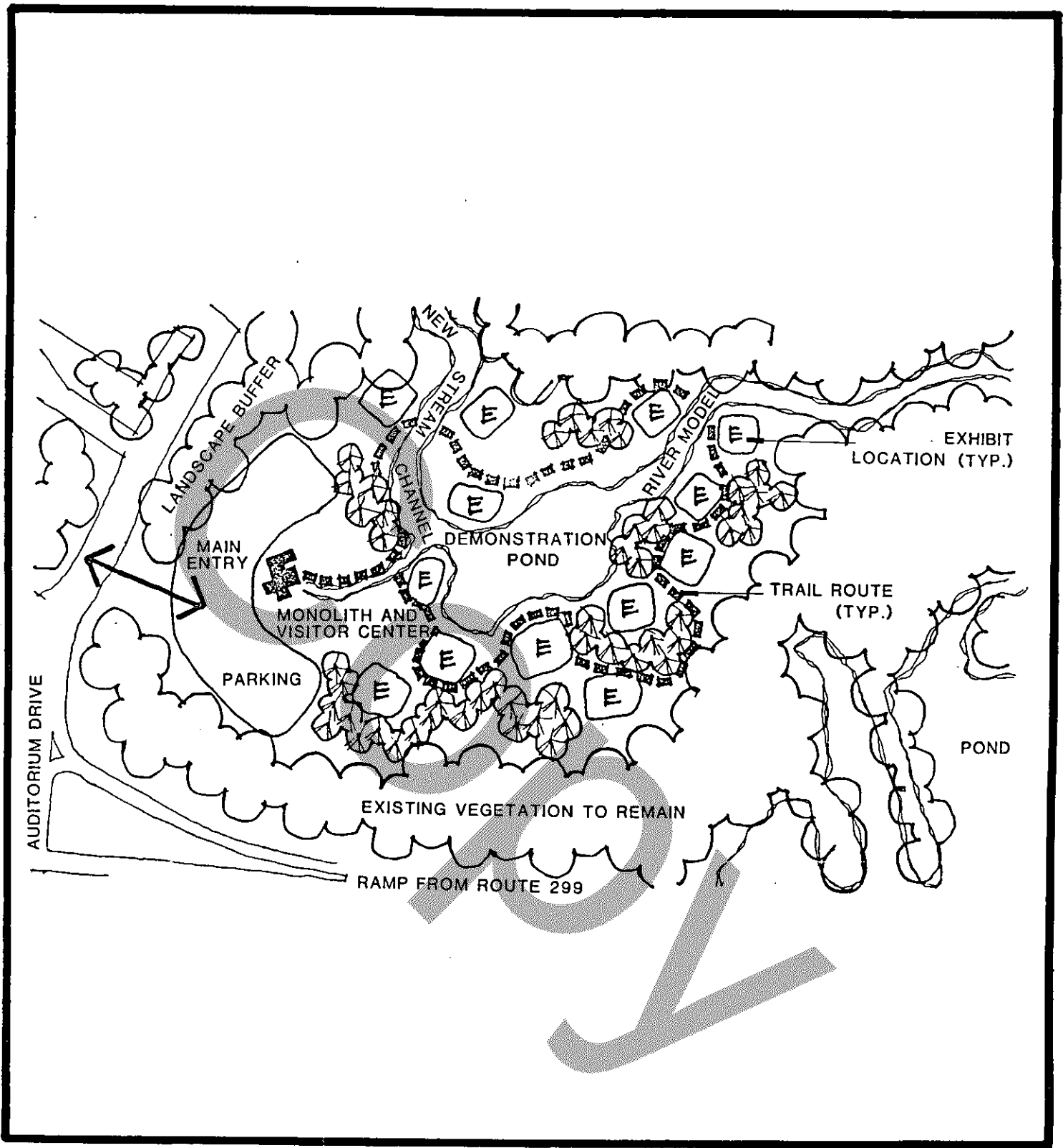
#### TURTLE BAY

At Turtle Bay, the Plan proposes a museum complex for a 15-20 acre site and a nature preserve or "Wild Area" for the remaining 120 acres (Figure 4). The museum complex is envisioned as a regional cultural, educational, recreational, and entertainment "CERE" facility bringing together these elements as an integrated indoor/outdoor park. The park program expresses the indigenous resources of the Shasta-Trinity area including: the natural and cultural history of the River; fishing and fisheries; gold mining, logging and timber use; riparian and marsh ecology; historic settlement, ranching and craftsmanship, and other concepts embodied in the region.

#### Turtle Bay Museum Complex

According to the Specific Plan on page 6,

Turtle Bay River Museum . . . complex is not an amusement park, but it does entertain; nor is it passive open space since there are areas to walk, picnic and recreate. It is an integrated series of living museum exhibits, "hands-on" activity areas, educational displays and recreation spaces designed around a central actively-used lake and stream system. It serves as the central focus of intensive recreation activity from which visitors can walk into the natural landscape of the riparian vegetation, or along boardwalks near the marshes or gravel beds. At the north edge of the area is an active (existing) picnic area along the river with small-boat launch and tie-up facilities and trails to both nature areas and the developed areas.



**TURTLE BAY  
 MUSEUM COMPLEX  
 ILLUSTRATIVE PLAN**

**FIGURE  
 4**

The Specific Plan on page 14 identifies a number of exhibits and features that have been suggested for the museum complex. These are not the only programs possible, but they offer a starting point in visualizing the park program. Included are a natural science museum and botanical garden, a Sacramento River model, a timber and logging museum and demonstration area; a fish center and a regional indian museum including a native american village and early historical settlement exhibits.

The proposed facilities for the museum complex are planned to be developed immediately following the Specific Plan and Environmental Impact Report approval. This is due to the high level of interaction and participation between the Redding Museum and Art Center, the Carter House Science Museum and the National Logging and the Timber and Logging Products Museum.

#### **Auditorium Drive Area**

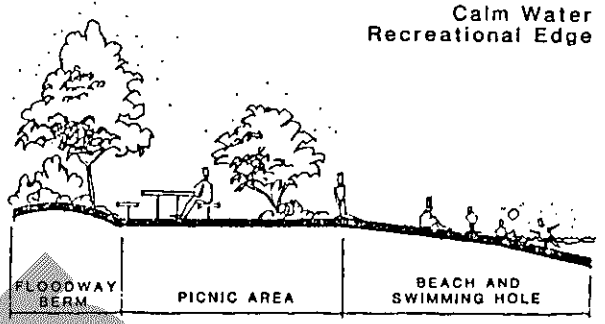
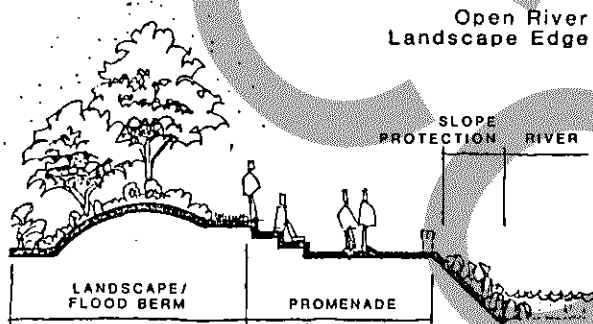
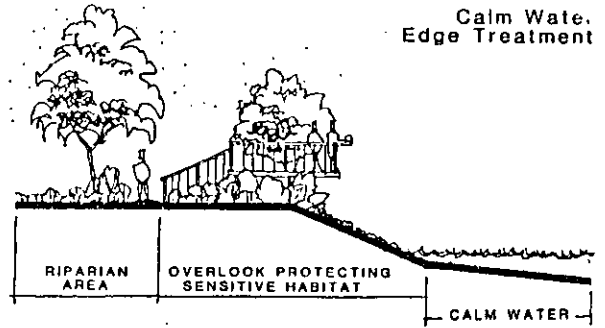
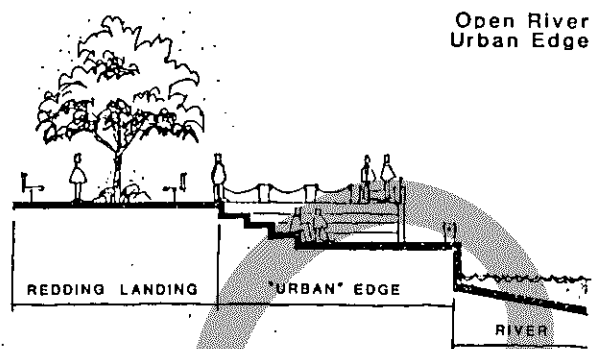
The Auditorium Drive Area encompasses the Convention Center and the Posse Grounds. Proposed facilities include expansion of the Convention Center to include an Exhibition Hall, development of a "landmark" hotel, and the possible long-term expansion and improvement of the Posse Grounds and arena.

#### **Nature Preserve or "Wild Area"**

The Nature Preserve or "Wild Area" encompasses the majority of Turtle Bay West (120 acres) and all Turtle Bay East (65 acres). It is proposed exclusively for passive recreation and nature study uses. The only improvements will be trails, boardwalks and possibly, observation platforms to view wildlife and the river (river edge improvements are illustrated in Figure 5). The program for this area consists of enhancing the reforestation of the riparian areas and enhancing the spawning beds and other necessary resource management activities. Access to Turtle Bay East is from North Bechelli Lane.

#### **PARK MARINA DRIVE**

The development plan proposed for the Park Marina Drive area is based on a "gateways" concept which proposes that commercial development be concentrated at the north and south ends of a river-oriented parkway (Figure 6). The center of the parkway is devoted to active and passive public recreation uses focused on the river and lakes. The design creates a continuous, "inland" waterway from the river opening at Kutras Lake to the Highway 299 bridge. The Swimming Hole provides a warmer-water beach area where intensive recreation use could occur. The Cape provides trail access to the river for fishing and nature study.



(NOT TO SCALE)

SHORELINE TREATMENT River Edge

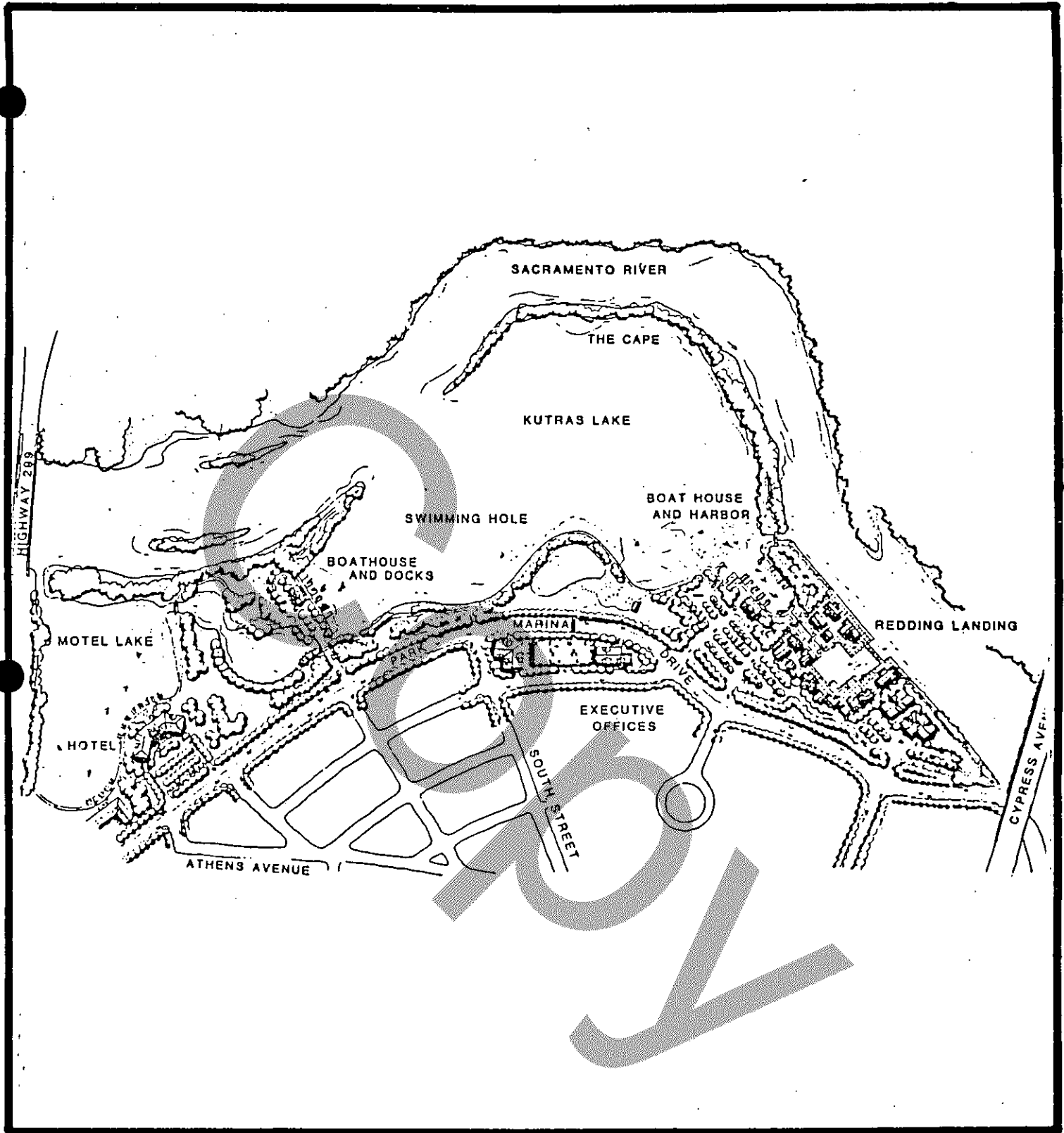
(NOT TO SCALE)

SHORELINE TREATMENT Inland Water Edge

RIVER EDGE TREATMENT

FIGURE

5



**PARK MARINA DRIVE  
ILLUSTRATIVE PLAN**

**FIGURE  
6**

The Specific Plan on pages 7-24 proposes the following uses for the Park Marina Drive Sub-Area:

### **Redding Riverfront Park**

. . . Two types of parkland are proposed. In the level floodplain areas at the river and lake edges, which are already disturbed, built, or graded, formal-active recreation areas can maximize public enjoyment of the riverfront. In riparian woodland areas, gravel bars and other often-inundated lands and water areas passive open space uses and nature study are appropriate. Here, only trails, boardwalks and overlooks are to be developed along with resource management measures to ensure the long-term stability of the environment.

### **North Gateway**

This area is designated to accommodate visitor-serving uses. The existing motel is to be expanded and upgraded and a new motel with a small boat harbor and adjacent facilities be created at the lake edge.

### **South Gateway**

The area is designated as "Redding Landing", a high quality, specialty retail center oriented around an active boat harbor with retail use on the ground floor and office use on the second floor. This commercial center would offer specialty products not readily found in other local shopping centers. The South Gateway to Park Marina Drive has several advantages over the North Gateway for future development. First, there is considerably more vacant land area available. Second, the land is adjacent to a fast-flowing and highly scenic stretch of the Sacramento River. Third, an inlet already exists and provides opportunities for future harbor development. And, fourth, the site has only two existing owners, each occupying relatively large and similar-sized parcels. This area is ideally suited for a specialty retail center, such as San Diego's Sea Port Village. As the Overview of Market Conditions indicates (refer to the Redding Riverfront Specific Plan), a local market for such a center does exist, provided the center is an attractive, river-oriented complex that contains a unique mix of specialty goods. A natural open space park is planned for the City owned parcel at the southern end near Parkview Avenue, with a continuous river edge trail running the length of the riverfront parkway. A bicycle/equestrian trail along the canal completes the riverfront loop.

Park Marina Drive is to be enhanced into a boulevard with street trees, sidewalks, lighting, and other streetscape

detailing, and maintenance of major views to the water. Design policies to guide private and public development are presented in both the Land Use and Community Design chapters of the Specific Plan and are intended to create a unified and attractive architectural and landscape design along the boulevard.

At the heart of these policies is the concept that the location and site design of development along the river should take full advantage of the river/lake amenity. Continuous public access to the water's edge is critical; and private development should be integrated with the public Riverfront Park and active use areas such as the boat harbor. The architectural image should be of the highest quality, unifying the riverfront and subordinate in scale to the natural setting. Site design and layout should contribute to an attractive, pedestrian scale atmosphere. Parking areas, driveways and streets should be amply landscaped to enhance the parkway.

#### Central Office Area

The existing "pitch and putt" golf course is strategically located in the center of the Park Marina Drive sub-area, and as such, has development potential. Although it serves recreational uses today, it is less valuable publicly than the lands immediately adjacent to the river. Also, because it is adjacent to existing office uses, it makes a logical extension of the commercial office zone.

Although identified as one of several "Supporting Areas" in the Plan, the **Park Marina Drive Residential Frontage** is an integral component in linking the various land use, aesthetic, and circulation relationships along Park Marina Drive. The Plan calls for studying future

land use intensification . . . Two options are available. One would require rezoning residential densities from 3.5 units per acre to higher densities (up to 16-24 du/acre) to encourage property owners to participate in future land assembly. . .

A second option would allow a two to three story garden office on the Park Marina Drive frontage if parcels can be assembled and the privacy and character of adjacent single family homes can be preserved. . . The office buildings should be stepped down on the west side to be compatible with the adjacent housing; and should be designed to retain view corridors to the river and avoid a "wall" of structures.

The development of the riverfront parkway and "gateway" areas will require the relocation of existing residents and land uses within the proposed riverfront area (discussed in Section 2.4 Issues to be Resolved and 3.8 Land Use Considerations). The Specific Plan also proposes that the existing golf course uses be relocated to a new site within the Planning Area. Structured parking, shared between the riverfront park and offices, is also proposed. As mentioned, future intensification of residential use is planned along Park Marina Drive when land owners desire it. The development of the Park Marina Sub-Area is envisioned to occur in a time-frame of approximately 20 years. This is a long-term Plan which will be highly influenced by the extensive amount of private development, rehabilitation and reconstruction proposed in the Specific Plan for the Park Marina Drive Sub-Area.

COPY



## 2.0 SUMMARY OF POTENTIAL EFFECTS

### 2.1 POTENTIAL SIGNIFICANT EFFECTS

#### 2.1.1 IMPACT MATRICES AND SUMMARY MITIGATION MEASURES

A set of matrices were prepared to analyze the potential significant impacts with and without mitigation measures associated with the implementation of the Redding Riverfront Specific Plan.

Matrices 1 and 2 assess the potential short-term and long-term impacts with and without mitigations of the Proposed Project (Specific Plan), respectively. Matrix 3 provides a comparison of potential short-term impacts between the Proposed Project, the No Project/Existing Trends Alternative and a Modified Project Alternative. The Modified Alternative is the same as the Proposed Project except that it proposes a higher office square footage for the golf course site (120,000 square feet) and does not propose a motel site in the Park Marina Drive area. Matrix 4 assesses the potential long-term impacts of these alternatives.

#### **Methodology**

The methodology for the matrices was advanced by Earl D. Nelson and Associates when they prepared alternative studies for area plans in Lassen County in 1982. The matrices are an adaptation of the processes developed by Ian L. McHarg for environmental evaluations using mapping overlays and matrices. This approach, although modified for this particular project, is an excellent tool for environmental analysis.

The list of land use areas shown in TABLE 1 on the following page divide the Plan Area into nine sub-areas/projects. Impacts were focused on environmental issues comprised of vegetation, wildlife, construction impacts, flooding, the connection of the lakes, archaeology/historical/cultural sites, rehabilitation and redevelopment, the river trail system, traffic, and aesthetics.

For each cell in the matrices the question was asked, "To what extent will the proposed land uses in this category, if developed in the plan area, result in this impact?" The impact was considered high to very high if the proposed use could result in an irreversible adverse impact (such as the bridge location in relation to the viewshed). For some impact types, such as the reduction or loss of spawning gravel areas, potential impacts were considered moderate to moderately high even though they obviously would take place only if they were to occur in certain locations. Impacts were considered moderate where the severity of the impact was not great but enough to be of concern. No impact ratings occurred in the Matrix when the object of the impact (e.g. connection of the lakes) is not present in another sub-area. Also taken into consideration in assessing the potential impacts were

the ease and effectiveness of mitigation, values held by local government and the community, the goals, objectives and policies of the City of Redding General Plan and the Specific Plan.

TABLE 1

REDDING RIVERFRONT SUB-AREAS/PROJECTS

Turtle Bay

- (1) Museum Complex and "Wild Area" (HP)
- (2) Civic Auditorium and Posse Grounds (CA)
- (3) Bridge Location (BL)
- (4) Turtle Bay East (TBE)

Park Marina Drive

- (5) North Gateway (NG)
- (6) Riverfront Parkway (RP)
- (7) South Gateway/Redding Landing (SG)
- (8) "Pitch and putt" golf course/Office Center (GC)
- (9) Residential Area - west side of Park Marina Drive (RA)

A list of mitigation measures was compiled from several environmental documents on projects throughout Northern California and the Lake Tahoe area. The measures were grouped together under the respective land use areas and constitute a pool of measures which were drawn upon in appropriate combinations to mitigate impacts where possible. In every case the assessment in the matrices was made for the potential impacts which could be expected to occur. These impacts may not necessarily occur or can be moderated with a conscientious application of mitigation measures.

Impacts after application of mitigation measures are presented side by side for comparison with the "No Mitigation" assessment. The section in which the impacts and mitigation measures are fully discussed is provided for further reference. At this Program EIR level, an impact may occasionally change only slightly in its rating even though mitigation is provided. Mitigation may be applied to reduce the level of impact, however, the impact may remain significant requiring either a "statement of overriding considerations" or further studies to properly address and mitigate the potential impacts (e.g. connection of the lakes).

The comparisons provided in the matrices illustrate which impacts can be reduced. As such, these tools are useful as a guide in determining which projects warrant environmental clearance if the appropriate mitigation measures are provided. This by no means is a substitute for actual environmental review on a given project where further study is determined to be necessary (e.g. the bridge location or connection of the lakes projects).

PROPOSED SPECIFIC PLAN

MATRIX 1 - Potential Short-Term Negative Impacts

Impact Level	Land Use Area										Mitigation			
	HP	CA	BL	TBE	NG	RP	SG	GC	RA	LM	NM	LM	NM	
10 - Very High Impact														
9 - High to Very High Impact														
8 - High Impact														
7 - Moderately High to High Impact														
6 - Moderately High Impact														
5 - Moderate to Mod. High Impact														
4 - Moderate Impact														
3 - Low to Moderate Impact														
2 - Low Impact														
1 - Very Low Impact														
	Reference Section	HP	CA	BL	TBE	NG	RP	SG	GC	RA	LM	NM	LM	NM
Loss of wildlife diversity	3.1, 12.0	4 9 0 1	5 9	3 5 9	3 5 3	3 5 3	4 8	4 8	2 5 0	5 0 0	4 8	4 8	4 8	4 8
Loss of wildlife populations	3.1, 12.0	3 8 1 2	4 8	2 5 4	2 5 2	2 5 2	3 7	3 7	1 5 1	1 5 1	3 7	3 7	3 7	3 7
Spawning and rearing areas	3.1, 12.0	2 4 0 0	5 10	2 4 0	2 4 0	2 4 0	3 8	3 8	0 0 0	0 0 0	3 8	3 8	3 8	3 8
Loss of vegetation diversity	3.1, 12.0	4 8 1 0	5 9	3 6 3	3 6 3	3 6 3	4 8	4 8	4 4 4	4 4 4	4 8	4 8	4 8	4 8
Loss of vegetation populations	3.1, 12.0	4 8 1 1	5 10	3 5 3	3 5 3	3 5 3	4 9	4 9	3 3 3	3 3 3	4 9	4 9	4 9	4 9
Construction Impacts														
Erosion	3.3, 12.0	4 8 3 6	5 10	3 6 3	3 6 3	3 6 3	4 8	4 8	4 7 2	4 7 2	4 8	4 8	4 8	4 8
Sedimentation	3.3, 12.0	4 8 3 6	5 10	3 6 3	3 6 3	3 6 3	4 8	4 8	4 7 2	4 7 2	4 8	4 8	4 8	4 8
Turbidity	3.3, 12.0	3 8 2 6	5 10	2 6 2	2 6 2	2 6 2	3 8	3 8	3 7 2	3 7 2	3 8	3 8	3 8	3 8
Urban runoff	3.3, 12.0	4 8 3 7	5 10	2 6 2	2 6 2	2 6 2	4 7	4 7	5 8 3	5 8 3	4 7	4 7	4 7	4 7
Grading	3.3, 12.0	4 8 3 7	5 10	2 6 2	2 6 2	2 6 2	4 8	4 8	4 7 2	4 7 2	4 8	4 8	4 8	4 8
Dredging	3.3, 12.0	0 0 0 0	5 10	0 0 0	0 0 0	0 0 0	6 10	6 10	0 0 0	0 0 0	6 10	6 10	6 10	6 10
Petroleum products	3.3, 12.0	2 5 2 4	5 8	2 4 4	2 4 4	2 4 4	4 8	4 8	3 6 2	3 6 2	4 8	4 8	4 8	4 8
Noise	3.5	5 8 3 6	5 9	5 8 2	5 8 2	5 8 2	5 8	5 8	5 8 2	5 8 2	5 8	5 8	5 8	5 8
Dust	2.3, 3.7	3 8 2 6	5 8	5 8 2	5 8 2	5 8 2	4 8	4 8	4 8 2	4 8 2	4 8	4 8	4 8	4 8
Flooding	3.2	3 5 1 3	5 6	5 10	5 10	5 10	4 5	4 5	4 8 0	4 8 0	4 5	4 5	4 5	4 5
Connection of lakes	2.4, 3.3, 12.0	0 0 0 0	6 10	0 0 0	0 0 0	0 0 0	7 10	7 10	0 0 0	0 0 0	7 10	7 10	7 10	7 10
Disturbance of cultural sites	3.4	2 4 2 4	6 10	5 9 2	5 9 2	5 9 2	2 4	2 4	2 4 1	2 4 1	2 4	2 4	2 4	2 4
Redevelopment affecting existing uses														
Economic	3.8	0 0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	4 4	4 4	6 7 6	6 7 6	4 4	4 4	4 4	4 4
Social	3.8	0 0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	6 10	6 10	8 10 8	8 10 8	6 10	6 10	6 10	6 10
River trail system														
Public access vs. private ownership	3.6	0 0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	7 9	7 9	0 9 0	0 9 0	7 9	7 9	7 9	7 9
Traffic and Circulation														
Level of service	3.9	4 8 4 7	7 8	3 7 5	3 7 5	3 7 5	6 6	6 6	6 7 4	6 7 4	6 6	6 6	6 6	6 6
Traffic hazards	3.9	3 4 3 6	4 8	3 7 2	3 7 2	3 7 2	4 4	4 4	4 5 3	4 5 3	4 4	4 4	4 4	4 4
Noise	3.5	4 5 3 5	6 8	5 7 4	5 7 4	5 7 4	5 4	5 4	4 5 4	4 5 4	5 4	5 4	5 4	5 4
Aesthetics														
Architectural design	3.7	3 6 2 4	8 9	0 0 0	0 0 0	0 0 0	3 5	3 5	2 3 7	2 3 7	8 9	8 9	8 9	8 9
Visual gateways	3.7	2 3 1 2	10 10	2 3 3	2 3 3	2 3 3	4 5	4 5	4 6 8	4 6 8	4 5	4 5	4 5	4 5
Building height	3.7	2 3 4 5	0 0 0	0 0 0	0 0 0	0 0 0	1 5	1 5	4 5 8	4 5 8	1 5	1 5	1 5	1 5
Total		67 127 45 87	104 171	56 110	87 151	92 171	114 191	96 154	59 100					
Average		3 6 2 4	5 8 3 5	3 5 3 6	4 7 4 7	4 7 4 7	3 5 3 6	4 7 4 7	4 7 4 7	3 5 3 6	4 7 4 7	4 7 4 7	4 7 4 7	4 7 4 7

PROPOSED SPECIFIC PLAN

MATRIX 2 - Potential Long-Term Negative Impacts

Impact Level	Land Use Area										Alternatives					
	Reference Section	HP	CA	BL	TBE	NG	RP	SG	GC	RA	LM	NM	LM	NM	LM	NM
10 - Very High Impact																
9 - High to Very High Impact																
8 - High Impact																
7 - Moderately High to High Impact																
6 - Moderately High Impact																
5 - Moderate to Mod. High Impact																
4 - Moderate Impact																
3 - Low to Moderate Impact																
2 - Low Impact																
1 - Very Low Impact																
Loss of wildlife diversity	3.1, 12.0	3 8	0 0	3 7	2 4	2 4	3 6	3 6	1 3	3 6	3 6	1 3	1 3	0 0	0 0	0 0
Loss of wildlife populations	3.1, 12.0	2 7	1 1	3 8	1 4	1 4	2 6	2 6	1 3	2 6	2 6	0 0	1 3	0 0	1 1	1 1
Spawning and rearing areas	3.1, 12.0	1 3	0 0	4 9	1 3	1 3	2 7	2 7	0 0	2 7	2 7	0 0	0 0	0 0	0 0	0 0
Loss of vegetation diversity	3.1, 12.0	3 7	1 0	4 8	2 5	2 5	2 7	2 7	2 2	2 7	2 7	2 2	2 2	1 0	1 0	0 0
Loss of vegetation populations	3.1, 12.0	2 7	1 7	3 8	2 4	2 4	2 6	2 6	2 3	2 6	2 6	2 3	2 3	1 1	1 1	1 1
Construction Impacts																
Erosion	3.3, 12.0	2 7	1 4	3 8	2 5	2 6	3 6	3 6	1 6	3 6	3 6	1 6	1 6	1 3	1 3	3 3
Sedimentation	3.3, 12.0	2 7	1 4	3 8	2 5	2 6	2 6	2 6	1 6	2 6	2 6	1 6	1 6	1 3	1 3	3 3
Turbidity	3.3, 12.0	2 7	1 4	3 8	1 5	2 6	2 6	2 6	2 6	2 6	2 6	1 7	1 7	1 3	1 3	3 3
Urban runoff	3.3, 12.0	2 7	1 6	3 8	0 0	4 9	5 9	5 9	0 0	5 9	5 9	0 0	0 0	0 0	0 0	0 0
Dredging	3.3, 12.0	0 0	0 0	0 0	0 0	4 9	3 6	3 6	3 7	3 6	3 6	0 0	0 0	0 0	0 0	0 0
Flooding	3.2	2 3	1 2	5 6	4 7	1 2	3 6	3 6	0 6	3 6	3 6	0 6	0 6	0 0	0 0	0 0
Connection of Lakes	2.4, 3.3, 12.0	0 0	0 0	0 0	0 0	5 8	5 8	5 8	0 0	5 8	5 8	0 0	0 0	0 0	0 0	0 0
Disturbance of cultural sites	3.4	1 3	1 3	5 5	3 5	1 3	1 3	1 3	0 3	1 3	1 3	0 3	0 3	0 3	0 3	0 3
Redevelopment affecting existing uses																
Economic	3.8	0 0	0 0	0 0	0 0	3 6	3 7	3 7	5 4	3 6	3 7	5 4	5 4	4 5	4 5	5 5
Social	3.8	0 0	0 0	0 0	0 0	2 4	5 6	5 6	7 7	2 4	5 6	7 7	7 7	4 5	4 5	5 5
River trail system																
Public access vs. private ownership	3.6	0 0	0 0	0 0	0 0	5 8	0 0	0 0	5 8	5 8	0 0	5 8	6 7	6 7	0 0	0 0
Traffic and Circulation																
Level of service	3.9	5 9	5 8	7 9	6 7	4 7	4 7	4 7	4 7	4 7	4 7	4 7	4 7	3 8	3 8	3 6
Traffic hazards	3.9	3 6	2 5	5 9	4 8	1 6	2 6	2 6	2 6	2 6	2 6	2 6	2 6	2 7	2 7	2 3
Noise	3.5	5 7	3 6	7 9	6 7	6 7	6 7	6 7	6 7	6 7	6 7	6 7	6 7	6 7	6 7	5 6
Aesthetics																
Architectural design	3.7	2 4	2 2	7 7	0 0	2 3	1 4	4 5	6 8	2 3	4 5	6 8	6 8	3 3	3 3	3 3
Visual gateways	3.7	1 2	1 1	8 9	2 2	3 4	2 3	3 4	7 8	3 4	7 8	4 5	7 8	4 5	4 5	4 5
Building height	3.7	1 2	5 4	0 0	0 0	3 4	1 4	3 4	7 8	3 4	7 8	3 4	7 8	3 3	3 3	3 3
Total		36 88	27 57	70 119	40 72	54 111	55 120	73 136	59 106	35 52	59 106	35 52	59 106	35 52	35 52	35 52
Average		2 5	2 4	4 7	2 4	2 5	3 6	3 6	3 6	2 6	3 6	2 6	3 6	2 6	2 6	2 3

Total  
Average



COMPARISON OF ALTERNATIVES

MATRIX 4 - ALTERNATIVES - Potential Long-Term Impacts with Mitigation Measures

Impact Level	Land Use Area										Alternatives																		
	HP	CA	BL	TBE	NG	RP	SG	GC	RA	HP	CA	BL	TBE	NG	RP	SG	GC	RA											
10 - Very High Impact	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0											
9 - High to Very High Impact	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0											
8 - High Impact	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0											
7 - Moderately High to High Impact	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0											
6 - Moderately High Impact	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0											
5 - Moderate to Mod. High Impact	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0											
4 - Moderate Impact	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0											
3 - Low to Moderate Impact	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0											
2 - Low Impact	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0											
1 - Very Low Impact	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0											
Loss of wildlife diversity	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0											
Loss of wildlife populations	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0											
Spawning and rearing areas	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0											
Loss of vegetation diversity	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0											
Loss of vegetation populations	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0											
Construction Impacts	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0											
Erosion	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0											
Sedimentation	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0											
Turbidity	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0											
Urban runoff	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0											
Dredging	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0											
Flooding	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0											
Connection of lakes	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0											
Disturbance of cultural sites	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0											
Redevelopment affecting existing uses	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0											
Economic	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0											
Social	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0											
River trail system	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0											
Public access vs. private ownership	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0											
Traffic and Circulation	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0											
Level of service	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0											
Traffic hazards	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0											
Noise	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0											
Aesthetics	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0											
Architectural design	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0											
Visual gateways	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0											
Building height	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0	3.1, 12.0											
Total	35	64	46	26	35	31	68	100	76	37	43	44	54	80	71	55	81	70	73	75	86	59	30	86	35	27	46		
Average	2	5	3	2	2	2	4	6	5	2	3	3	2	5	4	3	5	4	3	5	4	3	5	4	3	5	2	4	3

HP = Proposed Plan  
 NP = No Plan/Existing Trends and Policies  
 MP = Modified Plan

HP = Museum Complex  
 CA = Civic Auditorium  
 BL = Bridge Location  
 TBE = Turtle Bay East  
 NG = North Gateway  
 RP = Riverfront Parkway  
 SG = South Gateway  
 GC = Golf Course  
 RA = Residential Area

10 - Very High Impact  
 9 - High to Very High Impact  
 8 - High Impact  
 7 - Moderately High to High Impact  
 6 - Moderately High Impact  
 5 - Moderate to Mod. High Impact  
 4 - Moderate Impact  
 3 - Low to Moderate Impact  
 2 - Low Impact  
 1 - Very Low Impact

The following Table 2 identifies where mitigation measures are required to reduce potential impacts.

**TABLE 2**

**SUMMARY LIST OF MITIGATION MEASURES**

---

**All Areas**

1. Preserve existing vegetation to the greatest extent possible.
2. Comply with storm drainage standards and the grading ordinance.
3. Meet California Regional Water Quality Control Board water quality standards.
4. Assure safety through site and soil investigation.
5. Immediately cease construction if cultural materials are encountered pending inspection of the site by a qualified archaeologist. If sites are significant, provide adequate mitigation measures which include collection, capping, fencing, or avoidance of the site.
6. Noise reduction standards for buildings under Title 25 California Administrative Code shall be followed.
7. Limit construction activity to 7 a.m. to 7 p.m.
8. Control litter through the provision of trash receptacles and diligent maintenance of public use areas.
9. Establish architectural site plan and design review
10. Separate or as part of design review, establish a "view corridor" provision or ordinance.
11. Extend and underground utilities.
12. Review all proposed construction activities to ensure that air quality will not be significantly decreased.
13. Adhere to building codes for energy conservation.
14. Throughout the various areas, construct intersection road improvements, signalization and realignments.

**Heritage Park (HP)**

1. Limit development to the disturbed area.
2. Enforce prohibition of off-road vehicle use.
3. Utilize existing trails.
5. Replace disturbed-displaced vegetation.
6. For the design of the stream system and ponds, execute with the California Department of Fish and Game a 1601 or 1603 stream alteration agreement to minimize potential disturbances to water quality and the fisheries, obtain State Reclamation Board, U.S. Bureau of Reclamation and U.S. Army Corps of Engineers 404 permits.
7. To reduce potential impacts on wildlife, vegetation and fisheries for the spawning overlook, sensitive species

habitats, trail locations, stream system design, and enhancement opportunities within the nature preserve, consult and execute an agreement with the Department of Fish and Game (DFG) for regulatory control.

8. Construction shall be limited to occur between September 15 and October 15 when salmon spawning activity is at its lowest for the stream system and ponds.
9. Construct an appropriate river bank/lake shore edge treatment.
10. Develop and implement a vegetation enhancement program.
11. Design an appropriate foundation/anchoring system for the spawning overlook.
12. Prepare and implement an Erosion Control Plan which addresses grading, vegetation, runoff control, bank slope stabilization, and the stream environment zone.
13. The "Wild Area" (120 acres) is to remain in open space.
14. Construct fencing as necessary to reduce vandalism and to block off-road vehicle use in Turtle Bay West.

#### **Civic Auditorium and Posse Grounds (CA)**

1. For the Auditorium Drive and Highway 44 overcrossing, widen and improve ramps.
2. Perform a Parking Study.
3. Evaluate renovation and expansion of the Posse Grounds Arena.

#### **Bridge Location (BL)**

1. All work shall be done in conformance with responsible state and federal agencies.
2. Replace disturbed-displaced vegetation.
3. To replace displaced riparian vegetation and enhance spawning gravels, consult and execute an agreement with DFG for regulatory control.
4. Construction shall be limited to between September 15 and October 15 when salmon spawning activity is at its lowest for the stream system and ponds.
5. Perform a comprehensive bridge study.
6. As part of the bridge study, have an archaeological survey done by a qualified archaeologist.
7. Reduce to the extent feasible, the amount of piers in the river. Consider the design of a suspension bridge.
8. Revegetate areas along the bridge crossing. In-kind replacement of vegetation at Turtle Bay East will result in a "no net loss" of riparian habitat or value.
9. In coordination with the Department of Fish and Game, and if spawning gravels are impacted, identify, fund and provide spawning gravels enhancement so that "no net loss" of spawning gravels will occur.



### Turtle Bay East (TBE)

1. Enforce prohibition of off-road vehicle use.
2. Utilize existing trails.
3. For the design of the boat launch, execute with the California Department of Fish and Game (DFG) a 1601 or 1603 stream alteration agreement to minimize potential disturbances to water quality and the fisheries.
4. Construction shall be limited to occur between September 15 and October 15 when salmon spawning activity is at its lowest for the stream system and ponds.
5. Develop and implement a vegetation enhancement program.
6. Prior to the construction of any improvements including the boat launch, an archaeological survey by a qualified archaeologist shall be performed.
7. When the boat launch is advanced, consideration should be given to identify and mitigate potential noise impacts. Potential measures include limiting the hours of operation and/or reducing power boat noise by limiting type of craft launched to non-motorized or battery powered.
8. Turtle Bay East is to remain in open space for passive uses except for possibly a golf course. Improvements are limited to the boat launch, roads, parking, and golf course ancillary uses.

### North Gateway (NG)

1. Construct appropriate river bank and/or lake shore edge treatment.
2. Finished floor elevation should be one foot above the 100-year floodplain.
3. Building setbacks should be a minimum of 30 feet adjacent to the moving water of the Sacramento River and 15 feet adjacent to the lakes or ponds.
4. Planning Commission environmental determination should be made for grading or fill within the floodplain.
5. Prepare and implement an Erosion Control Plan.
6. Study water quality, hydrology, and the aquatic habitats as part of the proposal to connect the lakes.
7. When the proposal to connect the lakes is advanced, consideration should be given to identify and mitigate potential noise impacts. Potential mitigations include limiting the hours of operation, establishing speed zones, and limiting the type of craft launched to non-motorized or battery powered.
8. For the Auditorium Drive and Highway 44 overcrossing, widen and improve ramps.
9. Limit driveways and prohibit parking along Park Marina Drive. Construct landscape medians.

### Riverfront Parkway (RP)

1. Execute with the California Department of Fish and Game (DFG) a 1601 Stream Alteration Agreement and obtain State Reclamation Board, U.S. Bureau of Reclamation and U.S. Army Corps of Engineers 404 permits, as necessary.
2. As part of the reconstruction and rehabilitation efforts, increase the amount of vegetation.
3. Construct an appropriate river bank/lake shore edge treatment.
4. For the park facilities, provide an adequate foundation and anchoring system for improvements.
5. Prepare and implement an Erosion Control Plan.
6. Study water quality, hydrology, and the aquatic habitats as part of the proposal to connect the lakes.
7. Meet RWQCB water quality standards if the swimming area is proposed.
8. When the proposal to connect the lakes is advanced, consideration should be given to identify and mitigate potential noise impacts. Potential mitigations include limiting the hours of operation, establishing speed zones, and limiting the type of craft launched to non-motorized or battery powered.
9. Limit driveways and prohibit parking along Park Marina Drive. Construct landscape medians.

### South Gateway/Redding Landing (SG)

1. As part of the harbor development, execute with the California Department of Fish and Game (DFG) a 1601 Stream Alteration Agreement and obtain State Reclamation Board, U.S. Bureau of Reclamation and U.S. Army Corps of Engineers 404 permits, as necessary.
2. Construct an appropriate river bank/lake shore edge treatment.
3. Finished floor elevation should be one foot above the 100-year floodplain.
4. Provide adequate foundation and anchoring system for all improvements.
5. Building setbacks should be a minimum of 30 feet adjacent to the moving water of the Sacramento River and 15 feet adjacent to lakes or ponds.
6. Planning Commission environmental determination should be made for grading or fill within the floodplain.
7. Prepare and implement an Erosion Control Plan.
8. Study water quality, hydrology, and the aquatic habitats as part of the proposal to connect the lakes.
9. When the proposals to connect the lakes and/or to develop the harbor areas are advanced, consideration should be given to identify and mitigate potential noise impacts.

10. Establish an architectural style or characteristics with a unifying theme.
11. Maintain view corridors by allowing buildings only in locations designated in Specific Plan and only to a height and bulk allowed and/or to be determined by architectural design review.
12. Improvements proposed in Specific Plan provide aesthetic, circulation, riverfront and land use mitigations and include: central harbor, river walk/ promenade, restoring or maintaining river edges, harbor bridge, canal, pedestrian street, prestige riverfront office buildings, and distributed parking lots.
13. Limit driveways and prohibit parking along Park Marina Drive. Construct landscape medians.

#### Golf Course/Office Center (GC)

1. Finished floor elevations should be one foot above the 100-year floodplain.
2. Planning Commission environmental determination should be made for grading or fill within the floodplain.
3. The reconstruction of the east side of Park Marina Drive to a parkway provides increased greenery and open space as a tradeoff for the intensified land use of office commercial at the golf-course site.
4. Maintain view corridors by allowing buildings only in locations designated in Specific Plan and only to a height and bulk allowed and/or to be determined by architectural design review.
5. Limit driveways and prohibit parking along Park Marina Drive. Construct landscape medians.

#### Residential Area (RA)

1. The reconstruction of the east side of Park Marina Drive to a parkway provides increased greenery and open space as a tradeoff for the higher density residential along the west side of Park Marina Drive.
2. Limit driveways and prohibit parking along Park Marina Drive. Construct landscape medians.

## 2.1.2 TEXTUAL SUMMARY OF POTENTIAL SIGNIFICANT EFFECTS

The following is a textual summary of the potential significant environmental impacts and mitigation measures associated with the implementation of the proposed project. It should be noted that it is a textual summary of Matrices 1 and 2 and of subjects derived from the main body of this text. Conclusions on the relative significance of impacts were based on the matrices. Sections are referenced to the specific subjects and are listed in parentheses.

### VEGETATION AND WILDLIFE (3.1)

#### **IMPACTS**

Increased access and human activity in the Turtle Bay areas will cause impacts on vegetation, birds and other wildlife. Wildlife species that are not tolerant to increased human activity will be displaced or reduced. Some species will continue to be found at the present level of existence, while others may have an increased population from site alterations.

The alteration or elimination of existing habitats may displace some species of wildlife. Development will cause the disturbance or removal of riparian vegetation. A loss of vegetative species diversity may also occur due to the vegetation enhancement program proposed by the Specific Plan.

Potential impacts on the fisheries can result from construction and development affecting the water quality of the Sacramento River and/or the lakes, ponds and marsh areas within the Plan area. Potential water quality impacts on fish and other wildlife will also result from bank stabilization techniques. Construction impacts include grading and in-water construction.

The introduction of motor boats on the lakes will disturb and dislocate wildlife on the lakes. However, the level of impact is not expected to be significant (Stone, April 1988, pc).

#### **MITIGATION MEASURES**

The museum complex facilities are proposed to be concentrated on the 15-20 acre site surrounding the Monolith which historically has been graded and disturbed. The remaining 120 acres are proposed for passive use including nature trails to the river.

The California Department of Fish and Game has provided a list of recommended mitigation measures to reduce the potential impacts on vegetation and wildlife. (Please refer to Section 3.1.3 MITIGATION MEASURES for a listing of the measures).

A revegetation element (or vegetation enhancement program) should be prepared as part of an erosion control plan for projects advanced within the Plan Area (Please refer to Section 3.3 WATER QUALITY for a discussion of erosion control plans).

### FLOODING (3.2)

#### IMPACTS

Areas prone to flooding either in or along the floodway include most of Turtle Bay West; a portion of Turtle Bay East and Redding Landing development; the "pitch and putt" golf course; and the lake shore and riverbank areas of the Park Marina Drive area. The Redding Landing area is proposed for recreational, office and retail commercial uses. Except for the "pitch and putt" golf course which is proposed for office uses, most of the land area is not subject to flooding. However, reconfiguration of the lagoon shoreline will involve development in the floodplain.

Proposed improvements within the floodplain in the Turtle Bay West area are limited to the proposed boardwalks and "spawning overlook".

Building and/or filling within the floodplain (100-year FEMA flood boundary) may obstruct the flow of flood waters and, therefore, increase flood elevations. However, construction of new buildings or structural embankments with the flood fringe will not have a significant effect on the base flood elevation. This is due to the small loss of flow area since water depths at the flood plain fringe are typically shallow.

A review of the Flood Insurance Study City of Redding, California Shasta County (Federal Emergency Management Agency, January 3, 1985) and the Floodway Flood Boundary and Floodway Map City of Redding, California Shasta County (Federal Emergency Management Agency, July 3, 1985) indicates that the development of the proposed Redding Landing and "pitch and putt" golf course sites, of which portions are within the floodplain, would not increase flood heights. The following section identifies measures for reducing the potential for obstructing flood flows and increasing flow velocities.

#### 3.2.3 MITIGATION MEASURES

Design considerations and design criteria should be considered for all projects proposed within the 100-year floodplain per the FEMA maps. These design criteria include:

Discharge quantities, water velocities and water surface elevations shall be determined as set forth in chapter 18.47

of the City of Redding Zoning Ordinance. Hydraulic analysis of the existing condition and the proposed condition shall be completed to the satisfaction of the City of Redding Public Works Department. This shall include, but not be limited to, water surface elevation changes and velocity changes in the overbank areas at the project site as well as upstream and downstream. It should be noted that the existing FEMA and flood area boundary for the base flood was determined by surveying techniques during a period of 79,000± cfs discharge from Keswick Dam. It is recommended that the parameters of a model of the existing condition be optimized in order to reproduce the measured profile before it is acceptable. At that time, the proposed condition may be modeled using the optimized parameters of the existing conditions.

For any structures proposed within the floodway, such as the spawning overlook, the design of such structures should consider the passage of flood debris through or around the proposed construction. This can be accomplished by either providing sufficient clear span for flood debris to pass and/or by constructing the spawning overlook at an angle to the flow so that flood debris will not catch on the structure and will rather continue around the structure.

The City of Redding Planning Department and Public Works Department shall review and have approval authority of all improvement plans.

Additional measures are included in Section 3.2.3 MITIGATION MEASURES. In addition all projects proposed within floodplain must conform to the City's Floodplain Ordinance (Chapter 18.47).

### WATER QUALITY (3.3)

#### **IMPACTS**

Pollution from surrounding residential and commercial land uses, contained in storm water runoff, impact and degrade the water quality of the lakes, ponds and Sacramento River. Development of the proposed museum complex facilities and the Park Marina Drive area will increase storm water runoff from built and paved areas.

Construction impacts from the uses proposed in the Specific Plan include the potential for increased erosion from grading causing increased turbidity and sedimentation. Bridge construction and bank stabilization techniques have the greatest potential for causing short-term water quality impacts due to construction activities along the river bank.

The release of petroleum products from power boats into the lakes and river inlet harbor from power boats is a potential impact.

The linking of lakes may improve water quality due to improved water circulation, however, it is not known if aquatic life will be affected due to the materials transported from upstream or from lake to lake.

#### **MITIGATION MEASURES**

Proposed projects must comply with the City's storm drainage standards and grading ordinance. Erosion control plans should be required to assess drainage, runoff control, surface water management, slope stabilization implications of a proposed project, including water quality, erosion control, groundwater considerations, revegetation, drainage improvements, and the methods and procedures for construction and scheduling. Where appropriate, a stream environment zone element should also be included.

In-water construction mitigation measures include the use of cofferdams while river bank stabilization and bridge construction occurs. The preferred timing of such projects should be when no fish runs are occurring or when salmon spawning activity is at its lowest.

A comprehensive list of mitigation measures is provided in Section 3.3.3 MITIGATION MEASURES addressing the connection of the lakes, swimming; eutrophication, dredging, runoff collection and conveyance, the use of pretreatment of storm water runoff, maintenance of storm water systems, litter, herbicide, pesticide and fertilizer use.

#### **ARCHAEOLOGY/HISTORICAL/CULTURAL SITES (3.4)**

##### **IMPACTS**

The proposed bridge routes across the Sacramento River have the potential for disturbing an area of known cultural sites. Projects proposed within the Turtle Bay East Area have the limited potential to discover or disturb cultural sites due to previous massive disturbances of the area by man and flooding.

##### **MITIGATION MEASURES**

The preferred bridge route should consider potential impacts on cultural sites. Known sites if impacted by the final alignment should be excavated by a qualified archaeologist. If any prehistoric or historical/cultural materials are encountered during construction in the Plan Area, all work shall cease immediately pending an inspection of the site and materials by a qualified archaeologist. Adequate mitigation measures should be provided if any sites are encountered.

## NOISE (3.5)

### **IMPACTS**

Increased boater access to and from the Plan Area and related power boat activity on the lakes may cause noise impacts to the proposed office and retail commercial uses at Redding Landing. Increased noise levels from power boat activity on the lakes and on the river may also impact the residents of the "bluff" area located east of the Sacramento River across from the Plan Area. The level of impact may vary from 68 decibels to 90 decibels depending on the type and number of boats and the duration. Regardless, these noise levels adversely impact adjacent land uses.

Short term noise impacts from construction will occur as the Plan Area develops. Construction activity will result from the development of the museum complex facilities, proposed recreation areas including boat ramps, rehabilitation and improvements along Park Marina Drive, and the construction of the bridge crossing.

### **MITIGATION MEASURES**

Noise reduction standards for buildings shall be utilized where applicable and when required under the City's Noise Element, Title 25 of the California Administrative Code City, and Federal laws.

Noisy construction activities including heavy equipment operation or pile driving will be limited to 7 a.m. to 7 p.m. on weekdays. When specific projects are advanced to develop the harbor areas, project specific noise studies should be prepared to identify the potential noise impacts which may occur based on the intensity of use proposed for the harbors and the type of crafts which the harbors will accommodate. Potential measures which may be applicable include establishing speed zones on the lakes to reduce power boat noise, limiting the hours of operation and/or reducing power boat noise by limiting the type of craft which can be docked, launched, or operated on the lakes to non-motorized crafts such as row-boats, paddle boats, canoes or rafts. The use of battery powered boats is also acceptable to reduce engine noise.



## OPEN SPACE, PUBLIC ACCESS AND RECREATION (3.6)

### IMPACTS

#### Open Space

The Specific Plan proposes that the area adjacent to the river along the lakes and ponds of Park Marina Drive and between the proposed "North and South Gateways" be improved as a municipal riverfront parkway. Whereas, the creation of open space is not an adverse impact on the natural environment, conversion to open space will impact existing residents and commercial entities who will be displaced. (Please refer to Section 3.8 LAND USE CONSIDERATIONS for discussion on this issue).

#### Public Access and Recreation

Potential adverse impacts from increased public access include litter, vandalism, noise from unauthorized vehicles, trespassing and public liability. Conversely, the increased access provides opportunities for fishing, hiking, horseback riding, bicycling, boat launching and visual access to scenic vistas.

### MITIGATIONS

#### Open Space

The conversion from residential and commercial uses to greenery and open space for the development of the riverfront parkway is proposed as a tradeoff for the intensified land uses proposed for the "Pitch and Putt" golf course site, Redding Landing, and the residential area along Park Marina Drive (please refer to the discussion in Sections 2.4 ISSUES TO BE RESOLVED and 3.8 LAND USE CONSIDERATION).

Turtle Bay East is proposed as open space with passive recreational uses. In Turtle Bay West 120 acres will remain as open space for passive uses.

#### Public Access and Recreation

Measures to decrease potential adverse impacts and to protect the resources of the Plan Area include; enforcing City's ordinances prohibiting motor vehicles in unpaved areas owned by the City to protect terrain and wildlife from damage, enforcing the City's Bird Sanctuary Ordinance 1087 and grading ordinance to protect wildlife in Turtle Bay Regional Park and to protect wildlife habitat in general. Fencing can reduce potential vandalism and serve to block unauthorized vehicle use from entering the Turtle Bay West Area. Litter can be controlled by providing trash receptacles in public areas and through diligent maintenance.

## AESTHETICS, VIEWS AND BUILDING HEIGHTS (3.7)

### IMPACTS

#### Aesthetics

Short-term aesthetic impacts will result from the construction of the proposed museum complex facilities, the bridge crossing, the rehabilitation and improvement of Park Marina Drive including Redding Landing, the construction of boardwalks and overlooks, and the stabilization of bank slopes.

A major adverse aesthetic impact is the conversion of the golf course site to an office building and parking structure. This conversion also has an impact on open space. Increasing the density of the residences along Park Marina Drive from single family to higher densities to allow condominiums or apartments also has the potential to impact aesthetics through the removal of trees and the increase in scale.

#### Views and Building Height

The six-story office building and parking structure proposed for the golf course site could adversely affect the sight lines and solar access for the single-family homes located to the north and northwest of the golf course. The office uses to the west of the golf course would also be affected. Other impacts which must be considered are the precedent such a structure may have, and the encroachment upon the privacy of adjoining residences. These are subjective considerations which must be evaluated in terms of what the community feels its physical appearance should reflect.

### MITIGATIONS

#### Visual and Aesthetic

Various improvements are proposed in the Specific Plan to provide visual attractiveness to the area. These include developing a central harbor and bridge in Redding Landing; a river walk/promenade, maintaining or restoring river edges and a pedestrian street between the active recreation areas and the shopping village in Redding landing; a canal from the small boat harbor to the central harbor, a picnic park, prestige riverfront office buildings, and distributed parking lots to avoid massive parking lots. Architectural style and building massing are also discussed in the Specific Plan.

To mitigate the loss of the aesthetic value of the golf course site, architectural site plan and design review should be required. The requirement should be imposed on all future development within the Plan Area.

To mitigate the loss of the open space the golf course affords, an open space easement or fee title on Kutras Lake should be provided prior to approval of the office building. This form of mitigation is known as a "transfer of development rights" and is less difficult to accomplish when both properties are held under single ownership.

### Views and Building Height

A definitive method of preserving views and aesthetics to be considered is by incorporating into the architectural site plan and design review "View Corridor" guidelines or at minimum, the establishment of a "View Corridor" Ordinance which should go beyond the guidelines established in the Specific Plan. In Addition, when proposals are advanced to build the office buildings and parking structures proposed for the golf course site, additional information shall be provided to assess the visual and viewshed impacts on surrounding uses.

Measures are recommended in the Specific Plan on page 41 for maintaining view corridors which include:

Allow buildings only in locations designated on the Land Use Plan of the Specific Plan and only to the height and bulk allowed; Office areas shall have residential-style and roof lines; A minimum 15-foot street setback shall be required for office areas; All mechanical equipment shall be screened and utilities shall be underground.

Policies and measures included in the Specific Plan on page 47 to establish guidelines for building height include:

The height and bulk of all public and private buildings shall combine to create a unified appearance along the west and east sides of Park Marina Drive; Building heights on the east side of Park Marina Drive shall be a maximum of 36 feet at the eave of the roof; Building heights on the west side shall also be limited to 36 feet, except at the golf course site where a single building of six stories is allowed (72 feet); Narrow "landmark" elements such as tower buildings, spires or other distinctive design features are allowed as part of the hotel or Redding Landing; Building widths and heights shall be varied to avoid a "wall" of structures impairing river/lake views.

The architectural site plan and design review guidelines and/or the "View Corridor" Ordinance should emphasize the establishment of a unifying theme.

## LAND USE CONSIDERATIONS (3.8)

### IMPACTS

#### Turtle Bay

Land use inconsistencies may arise between the Convention Center and Posse Grounds and the museum complex facilities due to the dissimilar uses, parking and traffic.

#### Park Marina Drive

The Specific Plan proposes that the area adjacent to the river along the lakes and ponds of Park Marina Drive be converted to a municipal riverfront parkway and the residential uses along the west side of Park Marina be converted to a higher density. These actions involve the removal of approximately 141 dwelling units and 50 office and retail commercial uses and general plan amendments so that proposed land uses are consistent. The action will adversely impact residents and businesses who do not wish to sell and/or relocate. The higher residential densities and improved commercial uses can result in increased land values for property owners. The existing buildings within the area proposed to be removed or reconstructed are identified and discussed in Section 3.8.2 IMPACTS.

The single family residential area on the west side of Park Marina Drive will be impacted by increased traffic and noise regardless if the Specific Plan is implemented or not because at full buildout, the traffic along Park Marina Drive will be similar. The area immediately west of Washington Avenue will be directly impacted by the higher density residential proposed along Park Marina Drive. The impacts are primarily one of aesthetics, as previously discussed, and traffic generated onto Washington Avenue. Even though noise is often attributed to higher density residential land uses, this is not true since less outdoor activity occurs compared to a single family home.

### MITIGATION MEASURES

The Specific Plan identifies various actions which can be used to implement the Specific Plan which include a Regulatory Approach, a Specific Plan/Redevelopment Plan Approach and a Public/Private Joint Action Program.

The Specific Plan also suggests methods to finance implementation of the Specific Plan by working jointly with the City. Financial sources include the use of general funds, general obligation bonds, state and federal grants, loan guarantees or tax increment financing through redevelopment.

Other potential implementation alternatives identified in the Specific Plan include the exchange or "transfer" of development rights, development and participation agreements, relocation assistance or life estates for non-conforming uses, and eminent domain as a measure of last resort.

To mitigate potential land use incompatibilities brought about by design (which affects circulation, views, aesthetics, open space, building heights and form), development of the higher density residential land uses should be subject to architectural site plan and design review regardless if the City adopts such a regulatory mechanism or not. Through a rezone to U-Unclassified District from the current R-1, the Use Permit mechanism could be used to assure the design review.

Even though the Specific Plan proposed solely the conversion of the residences between Park Marina Drive and Washington Avenue to a higher density, a study of higher density residential and commercial land uses and circulation should be undertaken for the entire area bounded by Park Marina Drive, South Street, the A.C.I.D. canal, and Athens Avenue to the north.

## TRAFFIC AND CIRCULATION (3.9)

### **IMPACTS**

Increased traffic along Auditorium Drive from Convention Center activities, the Posse Grounds, museum complex, the bridge crossing to Rio Drive and Park Marina Drive traffic will increase peak traffic at the Auditorium Drive/Highway 299 on-and off-ramps decreasing the level of service of the ramp intersections and requiring that traffic signals be provided.

Traffic will increase along Park Marina Drive impacting all the existing and future intersections and driveways. Conflicts will arise between residential and commercial destination traffic in the Plan Area. However, traffic impacts will not be greater than those projected for the uses allowed by the current General Plan.

### **MITIGATIONS**

Ramp signals are recommended by the Year 2000 regardless of the proposed uses. Other proposed improvements include intersection improvements, reconstruction of major entry roads as a boulevard entrance to the riverfront with street trees and sidewalk improvements, shared parking, and limiting access to Turtle Bay East.

An in-depth analysis of the necessity of a bridge crossing the Sacramento River should be prepared to determine if a more feasible solution is available.

The intersections of Locust Street and Park Marina Drive and Parkview Avenue and Park Marina Drive should be realigned to a "T" intersection. The intersection of Washington Avenue and Park Marina Drive should be moved northerly. The intersection of Athens Avenue with Park Marina Drive should be closed.

To minimize the impacts on levels of service, primary driveways from the proposed uses on the east side of Park Marina Drive should be aligned with the existing streets on the west side. Secondary driveways should be oriented to the primary driveways and if they are to flow directly onto Park Marina Drive should be spaced a minimum of 100 to 200 feet between each other with left turns prohibited. A landscaped median will assist in restricting the left hand turns from these driveways.

### BRIDGE LOCATION (3.10)

#### **IMPACTS**

Potential impacts include; impacts on wildlife habitat, fisheries, riparian vegetation, river navigation, and construction impacts, scouring around bridge piers, impacts on archaeological sites, increased traffic, and aesthetics and visual impacts.

#### **MITIGATION MEASURES**

Where possible, the areas along the bridge crossing should be revegetated. An erosion control plan should be prepared and submitted, including a vegetation element addressing the vegetation disturbed or lost and identifying where, when and how revegetation is to occur.

Adequate mitigation measures for any archaeological resources which may be encountered, disturbed or destroyed due to the location of the bridge shall be provided.

As part of engineering studies, the City should evaluate designing a bridge structure which will afford passage of flood flows with no or minimal obstruction from piers other than the necessary anchoring systems on both sides of the river. Eliminating piers which are necessary for a conventionally designed bridge will reduce the potential impact on the fisheries.

Construction of a bridge crossing shall require that the contractor meet State Department of Fish and Game requirements so that there will be no detrimental impact on the fisheries. The water quality standards (objectives) of the California Regional Water Quality Control Board shall be met.

A bridge crossing will provide a second access to the Convention Center and relieve traffic congestion related to events occurring at that facility. At ultimate buildout of the City, the bridge in concert with other improvements will relieve congestion on the Market Street connection/bypass to Highway 44.

## 2.2 AREAS OF CONTROVERSY

Review of the Responses to the Notice of Preparation and prior development proposals within the Plan Area indicate concerns over:

- Vegetation, Riparian Habitat, Wildlife and Fisheries
- Flooding
- Water Quality
- Archaeology
- Noise
- Aesthetics
- Visual Impacts and Viewsheds
- Building Height
- Public Access and Open Space
- Residential Density
- Relocation of Existing Residents and Commercial Uses
- Traffic and Circulation
- Bridge Location - Auditorium Drive to Rio Drive

The main issues appear to be potential impacts on riparian habitat and wildlife including fisheries, flooding, water quality and the relocation of existing residents and commercial uses.

## 2.3 EFFECTS NOT CONSIDERED POTENTIALLY SIGNIFICANT

### PUBLIC SERVICES AND UTILITIES

The City of Redding provides police protection. Expanded public access and use will increase the police patrol rate in Turtle Bay West and East. Similarly, increased police patrols will be necessary along Park Marina Drive commensurate with development intensity and as the proposed Riverfront Parkway is developed.

The City also provides fire protection. Expanded use and access will increase the potential for fires. All new public and private development will be required to maintain fire safety equipment commensurate with current City Fire Department standards and the Uniform Fire Code.

The Specific Plan on page 51 states,

At present, the developed portions of the Plan Area are equally served by both City water and sewer. Vacant parcels

can be easily connected (existing and planned water and sewer lines are shown on Figure 23 - Utilities Map of the Specific Plan, p. 55).

The River Museum/museum complex area can be served by extending existing 8 inch water lines and 18 inch sewer lines from the Convention Center to the Monolith site. Existing sewer and 12 inch water lines are located along Park Marina Drive and can be extended to serve the various proposed public and private uses. Storm drain connections will need to be extended to proposed developments. Solid waste pickup is provided by the City of Redding within the Plan Area.

The Specific Plan on page 54 also states, "the City shall not permit new development until infrastructure can be assured including utilities, water, sewer, police, fire, flood protection and streetscape facilities."

#### AIR QUALITY

Grading during construction will generate dust during these operations, therefore, all graded areas will be watered during construction. Increased air emissions from traffic will occur along Park Marina Drive and State Highway 299 through the Plan Area due to growth and visitor traffic to the museum complex facilities and the proposed commercial uses in the Park Marina Drive Area.

#### ENERGY

Due to the size of the Plan Area and the various uses proposed, the project will create a substantial increase in energy consumption when fully developed. Current building codes in California contain improved energy standards for all new construction which reduce energy use to below levels of similar existing uses.

Strict adherence is mandatory and applies to the amounts of insulation, building materials and efficiency of equipment. Energy conservation measures can contribute significantly to the reduction of unnecessary energy consumption. The social and economic benefits associated with energy conservation are reducing the need for new power plants and transmission lines, furthering local self-sufficiency, and a positive affect on local and national inflation. Conventional conservation practices such as monitoring thermostats and turning off lights not in use are "common sense" mitigation measures. Unfortunately, this type of mitigation, even though obvious, is often overlooked.

Solar energy systems such as active solar space heating, active solar combined space and water heating and active solar air conditioning should be considered in the museum complex facilities,



especially as part of the Natural Science Museum. The incorporation of solar energy systems as part of the museum complex facilities will serve to conserve energy and demonstrate to the public how solar systems operate.

#### 2.4 ISSUES TO BE RESOLVED

The following discussion identifies those projects which will require additional information or study. It should be noted that all projects advanced will be reviewed by the City (Lead Agency) to determine if the specific proposal advanced will create any new impacts not assessed in the Program EIR and if additional information or study is necessary. The Lead Agency will determine if the proposed project is within the scope of the Program EIR thereby necessitating the preparation of a Negative Declaration, or whether additional information is necessary which may require an EIR.

#### TURTLE BAY AREAS AND MUSEUM COMPLEX

A use which may require additional information when a specific design proposal is advanced is the "River Model". Conceptually the proposed "River Model" and/or stream system is a closed system utilizing water which is re-circulated. However, if a closed system is not proposed any creation of a new channel to or from the Sacramento River will require additional information to determine whether potential impacts could occur on the water quality of the Sacramento River. In addition any new channel to the Sacramento River requires a 1601 or 1603 agreement from the California Department of Fish and Game, as well as permits from the State Reclamation Board, U.S. Bureau of Reclamation, and U.S. Army Corps of Engineers. Water quality from the discharge of any water area to the Sacramento River is regulated by the California Regional Water Quality Control Board.

When specific design proposals are advanced for the construction of the museum complex facilities, the information provided shall be sufficient to determine whether the proposed facilities design is adequate to provide sufficient parking facilities. Any deficiency in parking facilities resulting in the need for use of the Convention Center parking facilities will have an impact on the Convention Center requiring either an agreement for joint use or the provision of additional space sufficient to accommodate future expansion based on the ultimate size of the facilities. In addition, pedestrian-vehicle conflicts which may arise from the joint use of the Convention Center parking facilities across Auditorium Drive may require a pedestrian overcrossing.

Location of the museum facilities on the Benton Ranch Property needs to be evaluated to allow other uses at Turtle Bay West.

## BRIDGE LOCATION

If a bridge is to cross the Sacramento River, issues requiring further information or study include an in-depth assessment of the impacts on spawning gravel areas from the construction of a bridge if a conventional pier-supported bridge design is advanced. Even though a bridge alignment is advanced as having the least potential environmental impact, specific impacts on riparian vegetation from the construction of the bridge shall be provided when a site specific alignment is proposed to determine the amount of riparian vegetation which will be lost or disturbed and the mitigation measures necessary so that no net loss of riparian vegetation occurs.

## PARK MARINA DRIVE

The proposed uses for the Park Marina Drive sub-area are assessed in this document exclusive of the following issues which will require that additional information be provided to determine project specific impacts:

### **Conversion of the Golf Course to a Six-Story Building and Parking Structure**

When a project is advanced to build the office buildings and parking structures, additional information shall be provided to assess the access, circulation, visual, viewshed and solar access impacts on surrounding uses. Relocation of the golf course to an alternate site shall also be reviewed.

### **Connection of the Lakes and Ponds**

As identified in this document, the Specific Plan proposes that the lakes and ponds be connected. Such a proposal could improve or deteriorate the water quality of the lakes and the Sacramento River. If a proposal to connect the water areas is advanced a study addressing the changes in the water quality, hydrology and aquatic life of the lakes, ponds and Sacramento River should be performed.

### **Harbor Development - Redding Landing and Kutrass Lake**

When specific projects are advanced to develop the harbor areas, project specific noise studies shall be prepared to identify the potential noise impacts which may occur based on the intensity of use proposed and the type of crafts which the harbors will accommodate. Applicable measures include establishing speed zones on the lakes, limiting the hours of operation and/or limiting the type of craft which can be operated on the lakes to non-motorized crafts such as row-boats, canoes or rafts. Battery powered crafts are also acceptable.

### 3.0 EXISTING CONDITIONS, IMPACTS, MITIGATIONS

#### 3.1 VEGETATION AND WILDLIFE

##### 3.1.1 EXISTING CONDITIONS

The entire Plan Area is man-made through a history of intensive excavation and fill operations. As previously described in Section 1.3 Project Site Characteristics the Turtle Bay West site was a gravel excavation site for the building of Shasta Dam. The Park Marina Drive area was also similarly excavated, although the area is now primarily urbanized. Graded and disturbed areas from past gravel extraction activity exist throughout the Plan Area but are most apparent in Turtle Bay East and West where off-road vehicles and hikers have created roads and trails. The riparian vegetation found in Turtle Bay has established itself over the former gravel extraction areas.

According to the Specific Plan, Turtle Bay East is comprised of approximately 55 acres of open oak/grassland which supports several species of birds and mammals and is a valuable visual resource. The Sacramento River Environmental Atlas (prepared for the Upper Sacramento River Task Force by the Resources Agency of the State of California, 1978) and the Sacramento River Riparian Atlas (prepared by the California Department of Fish and Game and the Wildlife Conservation Board, 1988) provide an inventory of the riparian vegetation found along the river and describes the vegetation found within the Specific Plan Area.

According to the inventory, the Turtle Bay West area contains approximately 49 acres of subclimax vegetation (since it lacks full crown density and tree height). The vegetation includes alders, cottonwoods, willows, black walnuts, sycamores and oaks with an understory of box elder, grape, blackberry, poison oak, and perennial grasses. The southeast portion of Turtle Bay West and the riparian areas in Turtle Bay East comprise approximately 34 acres of less mature vegetation with lower tree height and open crown density. The area is comprised mainly of young alders, cottonwoods and willows. Riparian vegetation also covers the peninsula separating Kutras Lake from the river, and the river banks throughout the Plan Area.

The riparian areas of Turtle Bay also provide a diverse habitat for many species of birds and other wildlife. Turtle Bay is a bird sanctuary per City Ordinance 1087. Approximately 174 species and subspecies of birds have been observed in the Turtle Bay/Kutras Lake areas and vicinity (Audubon Society, 1974-80). A complete list of the birds and other wildlife observed in the Plan Area is provided in Section 12.0 Appendix.

In the Redding area there are three species on the threatened and endangered species list for California. These are the Yellow

billed cuckoo (threatened), bald eagle (endangered), and the Peregrine falcon (endangered). The Yellow-billed cuckoo is not found within the Plan Area and the bald eagle and Peregrine falcon are not known to nest within the area. According to the Open Space and Conservation Element on page 20, bald eagles and Peregrine falcons do, however, forage along the Sacramento River.

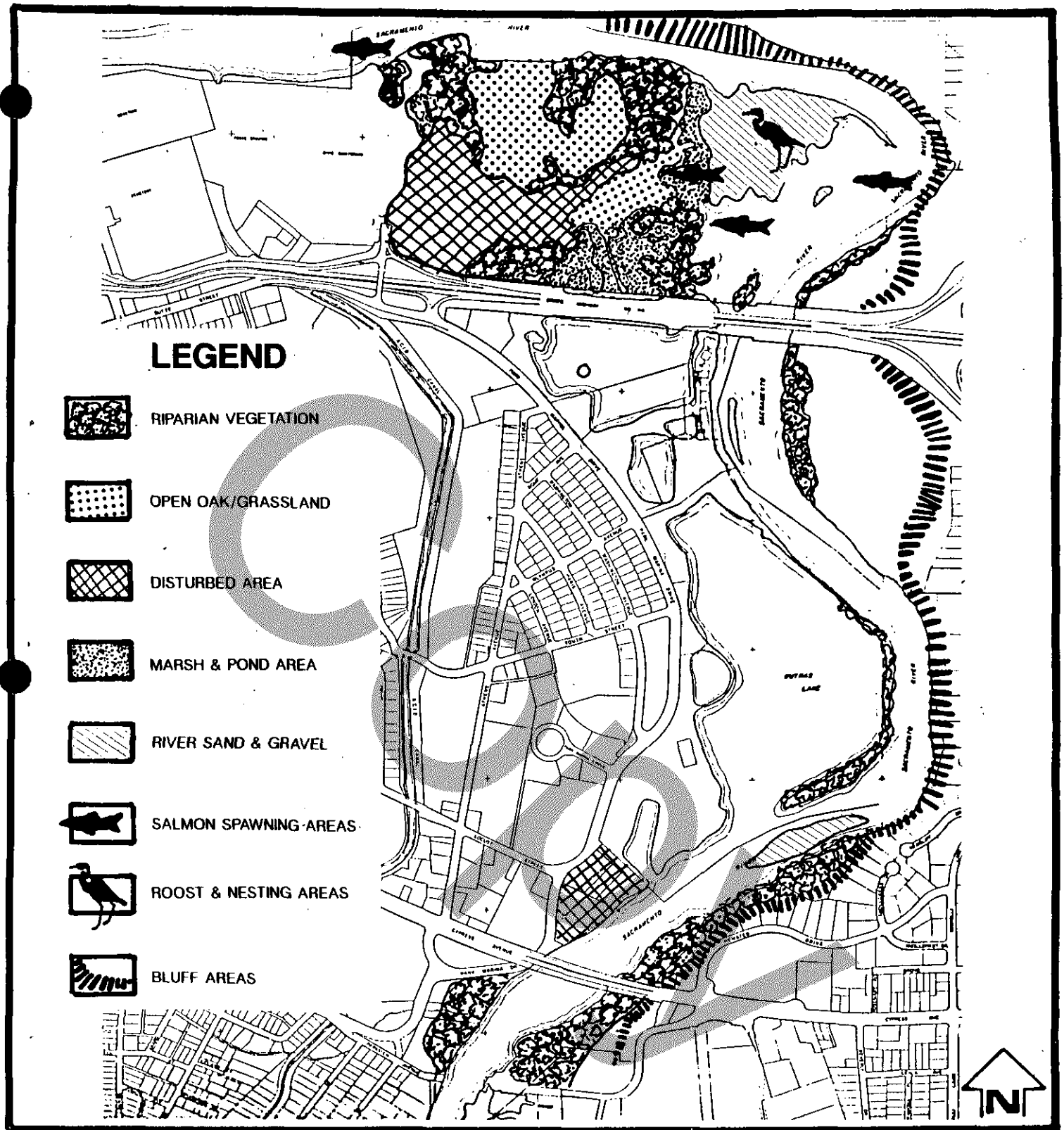
The Plan Area extends along approximately three river miles of the Sacramento River. The shoreline of the river and the lakes and ponds in the Plan Area provide nesting, resting, and feeding habitat for songbird, shorebirds, gulls and waterfowl. The marshes of Turtle Bay West support a rich population of shorebirds and waterfowl. Osprey are known to forage in the water areas of the Plan Area. The California Department of Fish and Game (DFG) currently has plans to place two ospreys nests in Turtle Bay West. According to the DFG, Ospreys with established nests are sometimes adaptive to increases in human activity or they may abandon the nesting site. The DFG has indicated that appropriate nest sites will be selected away from the area proposed for development (Stone, March 16, 1988, pc).

Other important water areas include the marsh habitat adjacent to the river at Motel Lake; as well as, the open water of Motel Lake (Park Marina Village); Kutras Lake; the ponds between the two lakes; and the swimming hole along Park Marina Drive. Although these low-lying areas were originally created by extraction operations, they have become wildlife habitat. According to the Specific Plan on page 38, "Motel Lake, with a 20 foot opening to the river, is habitat for juvenile and adult trout, while Kutras Lake supports a rearing habitat for juvenile salmon" (Figure 7).

### Fisheries

The following information is derived from the Lake Redding Power Project Draft EIR, (December 1986) and consultation with the California Department of Fish and Game which describes the fisheries found in the Sacramento River,

The Sacramento River between Keswick and Red Bluff Diversion Dam supports populations of both anadromous and resident fish species. The former include runs of chinook salmon (Oncorhynchus tshawytscha) and steelhead trout (Salmo gairdneri). An occasional white sturgeon (Acipenser transmontanus) is seen this far up-stream. Resident rainbow trout and brown trout (Salmo trutta), channel catfish (Ictalurus punctatus), riffle sculpin (Cottus gulosus), carp (Cyprinus carpio), and western sucker (Catostomus occidentalis). Stickleback Hardhead (Mylopharodon conocephalus) and squawfish (Ptychocheilus grandis) also exist in the water areas of the Plan Area and are predators to other fish species including salmon.



**NATURAL FEATURES**

**FIGURE**

**7**

State and federal resource agencies, fishermen, and conservationists are principally concerned with the populations of chinook salmon, steelhead trout, and resident rainbow trout in the Plan Area. These species are discussed in depth.

### Chinook Salmon

Salmon migrate up the Sacramento River throughout the entire calendar year. Early scientists (Stone 1874; Rutter 1902) observed this year-round migration pattern and noted that it had two major peaks, one in the fall and another in the spring. Over the years, researchers have further evaluated a changing situation, and currently the year-long migration pattern can best be explained as being composed of four distinct salmon spawning runs. Winter-run chinook salmon are currently a candidate threatened species.

The Lake Redding Power Project Draft EIR (December 1986) recognizes the factors which make the Plan Area and surrounding vicinity critical for salmon spawning. It states,

Gravel recruitment to the Plan Area has been limited since the completion of both Shasta and Keswick Dams. Shasta and Keswick reservoirs serve as large settling (traps) . . . and intercept much of the suspended material and bedload from the upper Sacramento River watershed which effectively prevent the transport of gravel from the upper watershed to areas below the dams. Sediment transport processes downstream from Keswick Dam have continued, however, resulting in the removal of gravels suitable for spawning from the Plan Area (Figure 8 shows the decrease in the sizes of the gravel beds downstream from the Anderson Cottonwood Irrigation District Dam since they were first measured in 1948).

These reservoirs have also reduced water temperature fluctuations by their ability to function as large heat sinks. This results in cooler summer and warmer winter temperatures than occurred naturally prior to their construction.

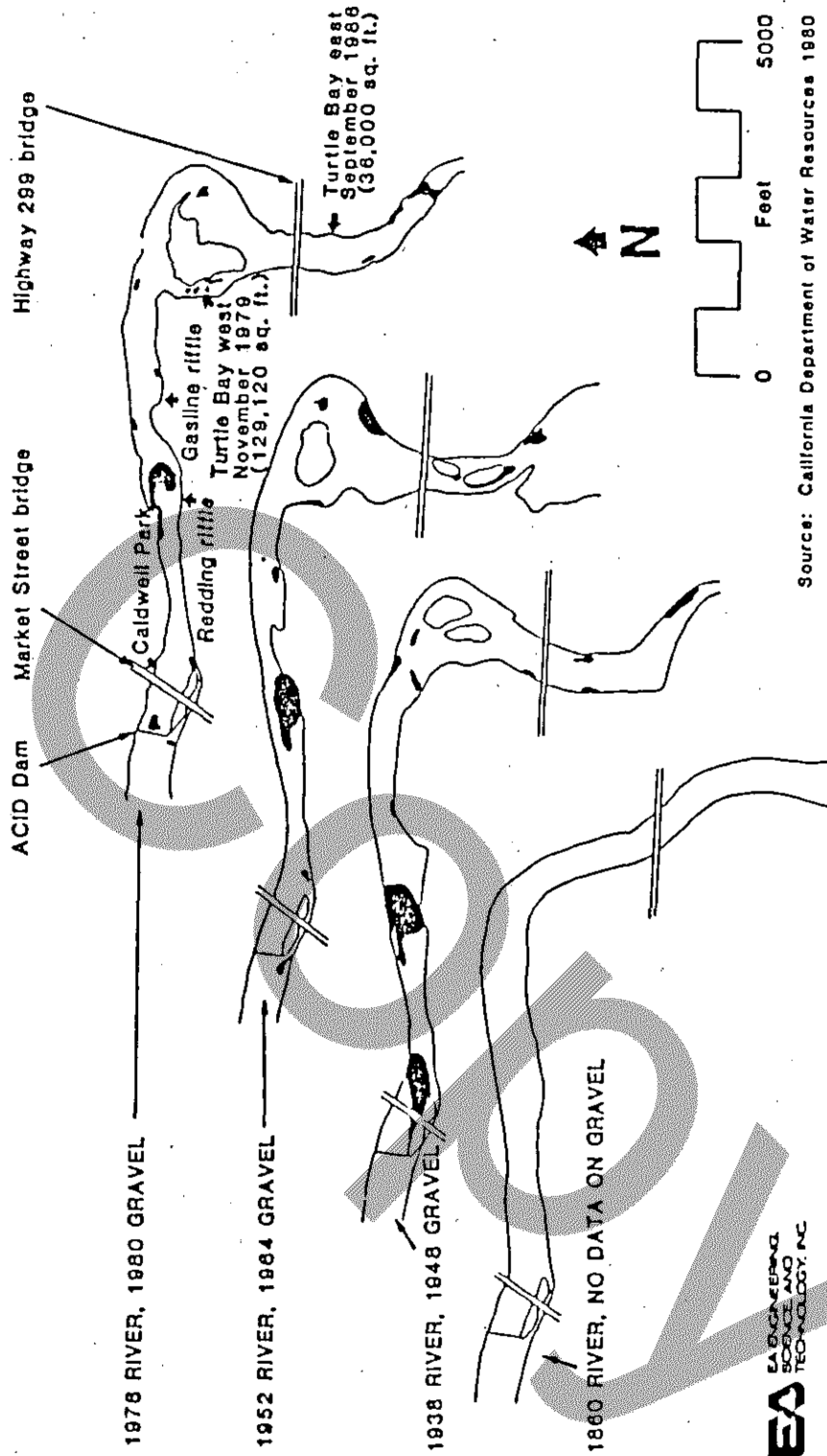
DFG agrees with the statements made in the Lake Redding Power Project Draft EIR regarding the impacts of Shasta Dam and the conditions of the salmon spawning gravel beds within the vicinity of the Plan Area stating,

The absence of gravel recruitment because of Shasta Dam has adversely impacted all the salmon runs in the upper Sacramento River. . . The fact that the winter chinook must successfully spawn in this area to survive because of lethal water temperatures downstream makes this area even more critical (DFG, 1988).

# SPAWNING GRAVELS AREAS

# FIGURE

# 8



Loss of spawning gravel between the Market Street Bridge and below the Highway 299 Bridge, and gravel enhancement sites used by the California Department of Fish and Game.

The Lake Redding Power Project Draft EIR, (December 1986) on page 3-35 states,

There has been a continuous (spawning gravels) loss, which DFG attempted to reverse the decreasing size of the gravel beds in 1979 by placing 129,120 square feet of new spawning gravel in the Redding Riffle and lesser amounts in the Caldwell Park Riffle, Gasline Riffle, and Turtle Bay West. Of these attempted enhancements, only the Turtle Bay West site is considered successful. Eighty-five percent of the gravel placed in the Redding Riffle in 1979 had eroded by April 1980. Unfortunately, because the site was in the main channel with no hydraulic controls, ordinary high flows at the site were sufficient to move the gravel downstream. The gravel in the Caldwell Park Riffle was placed too high in the channel to be useful to fish attempting to spawn. The Gasline Riffle had velocities too low for spawning (Parfitt and Buer 1981).

According to the DFG (April, 1988), during the following year, small projects were done at both the Turtle Bay West and East sites. Both areas are off the main channel and are more protected from flood flows. Both areas showed considerable spawning activity but complete surveys of spawning improvement were not made.

According to the DFG (April, 1988), in 1986 and 1987 a large project was undertaken at the Turtle Bay East site. Quarry rock weirs were placed within the site and approximately 3,400 yards of spawning gravels were added. Aerial surveys after project completion showed more than 150 fall chinook redds during an early December flight; however, only two winter chinook redds were confirmed during their late spring spawning period.

According to the DFG spawning gravel enhancement efforts continue in the Plan Area and vicinity. DFG states (April, 1988),

Another large project has been planned for Turtle Bay West. So far, we (DFG) have been unable to get the proper flows to construct the project at a time when we would not adversely affect salmon spawning and rearing in the area. . . our (DFG) efforts to improve salmon spawning habitat in the area is still in the experimental (emphasis added) stage. Simply dumping gravel into the river will not produce long-term benefits. As a result we are now looking at using boulder weirs as hydraulic controls.

The Lake Redding Power Project Draft EIR, (December 1986) on pages 3-43 and 3-51 provides the ensuing information regarding Steelhead and Rainbow Trout,



## Steelhead

Adult steelhead migrate into the upper Sacramento River primarily between July and November (Hallock 1961). These fish generally spend 1-3 years in saltwater. Spawning occurs in tributary streams with peak activity in February. Fry emerge between February and May, and juvenile freshwater residence lasts from 1 to 2 years. The seaward migration of steelhead smolts occurs primarily in the spring, but there is a smaller out migration in the fall. There is little, if any, spawning by steelhead in the main stem of the Sacramento River (USFWS and USBR 1984).

## Rainbow Trout

Resident rainbow trout are of the same species as steelhead and have a similar life history, except that there is no juvenile seaward migration. Spawning occurs from February to June in tributaries streams (Moyle 1976). Adults are generally 2-3 years old at maturity. Fry emerge 5-7 weeks after spawning and are found in shallow, low-velocity stream margins. As they grow they become able to handle swifter waters and move offshore.

## Economics of the Anadromous Fishery

The Lake Redding Power Project Draft EIR (December 1986) on pages 3-99 and 3-103 also discusses the economic role of the fisheries stating,

The most popular sport fish caught in the Plan Area is the resident rainbow trout. Steelhead trout fishing is more popular in the Klamath River and on the Sacramento River below Red Bluff (Reginato, May 1986, pc). There is little information on steelhead populations between Keswick and Red Bluff.

Salmon fishing in the local area is nonexistent, as there is a closure on salmon fishing from Anderson to all areas north along the Sacramento River (DFG, 1986). Commercially, there are local bait and tackle shops and local fishing guides that depend on the local fishery, but because fishing for steelhead and salmon in this area is either limited or illegal, it is likely that the anadromous fishery is not a major source of income in the Redding area. Sport fishing for salmon has not always been restricted in the Redding area. If the fishery improves so that restrictions can be lifted, the increased recreational opportunities would be reflected in related segments of the local economy. Under present conditions the anadromous fishery is of more economic importance regionally than it is locally. First, a healthy salmon run is important to the fish hatcheries in

the region, such as the Coleman National Fish Hatchery. Second, salmon fishing is open in most areas along the Sacramento River south of Anderson. Steelhead fishing is also more popular south of Red Bluff. Commercially, this encourages business for fishing guides as well as bait and tackle shops along the Sacramento River. However, according to Leidy et al (1984), only about three percent of all chinook salmon caught in a year (including the river and ocean sport and commercial catches) are attributable to the river sport catch for the state as a whole.

According to the Specific Plan on page 38, "a recent BLM Study estimates up to 80,000 recreation hours per year are spent fishing on the Sacramento River south near Jelly's Ferry."

### 3.1.2 IMPACTS

Increased access and human activity in the Turtle Bay areas will cause impacts on birds and other wildlife and vegetation. Some species of wildlife such as Common (yellow breasted) Chats are not tolerant to increased human activity and will be displaced. Other species and habitats which may be reduced from increased human activity include: wood duck nesting habitat, California quail, Nuttall's woodpecker, Hairy woodpecker, Western kingbird, Ash-throated flycatcher, Western flycatcher, Tree swallows, Purple martin, Plain titmouse, Winter wren, Bewick's wren, Warbling vireo, Yellow warbler, Yellowthroat common chat, Northern oriole, Blackheaded grosbeak, Lazuli bunting, Rufous-sided towhee, Brown towhee, and Song Sparrow.

Species which will continue to be found at the present level of existence include: White-breasted nuthatch, House wren, Yellow rumped warbler, brown-headed cowbird, American goldfinch and Western tanager.

Species which may have an increased population from site alterations include: Scrub Jay, Starling, Barn swallow, Robin, Brewer's blackbird, and House finch.

The alteration or elimination of existing habitats may displace some species of wildlife including beavers, muskrats and river otters. Disturbance or removal of riparian vegetation will occur due to development of the museum complex facilities, the river trail, boardwalks or overlooks along the river, development in the Park Marina Drive Sub-Area, and for the construction of the proposed bridge crossing (please also refer to the discussion in Section 3.10 Bridge Location). Riparian vegetation losses will include the removal of willows, cottonwoods, blackberries and annual grasses found within the Plan Area.

A loss of vegetative species diversity could also occur due to the vegetation enhancement program proposed by the Specific Plan. The vegetative species which may be impacted are difficult to determine since the variety of species found in riparian areas can number up to 139 different potential species.

Potential impacts on the fisheries can result from construction and development affecting the water quality of the Sacramento River and/or the lakes, ponds and marsh areas within the Plan Area. The construction of the bridge crossing will impact the fisheries if water quality objectives are not met (please refer to Sections 3.3 WATER QUALITY and 3.10 BRIDGE LOCATION). Potential water quality impacts on fish and other wildlife will also result from bank stabilization techniques. Other construction impacts include grading and in-water construction. These practices may increase erosion causing increased sedimentation and turbidity in the Sacramento River which clogs gravel areas causing adverse impacts on salmon spawning and juvenile salmon rearing areas.

Any introduction of motor boats on the lakes will disturb and dislocate wildlife on the lakes. However, the level of impact is not expected to be significant (Stone, April 1988, pc).

### 3.1.3 MITIGATION MEASURES

The museum complex facilities are proposed to be concentrated on the 15-20 acre graded/disturbed site surrounding the Monolith. The remaining 120 acres are proposed for passive use including nature trails to the river (please refer to discussion in Sections 1.4 PROJECT CHARACTERISTICS and 3.8 LAND USE CONSIDERATIONS). The museum complex is proposed to provide cultural, educational, recreation and entertainment facilities which the DFG states, "the substantial benefits afforded by habitat preservation and public education outweigh the relatively minor adverse impacts which could occur" (A. E. Naylor, DFG, written response to the proposed Riverfront Specific Plan as of November 4, 1987).

Mitigation measures recommended by DFG to reduce the potential impacts on vegetation and wildlife include the following: enforcement of the prohibition of off-road recreation vehicle use within the Turtle Bay areas; existing trails throughout Turtle Bay West and East should be utilized and/or improved to reduce the amount of vegetation lost or disturbed for the establishment of nature trails; existing vegetation and trees should not be disturbed unless necessary; where trees or vegetation are removed they will be replaced with species appropriate to the local conditions; dead or dying trees in the Plan Area which may become a potential safety hazard or nuisance will be removed and, where appropriate, replaced nearby with trees of the same or suitable species. Dead trees which are not a health hazard should be left

standing because there are 63 species of wildlife dependent on cavity nesting either as primary or secondary nesters.

The museum complex facilities will also serve to block the access of vehicles into the "Wild Area" of Turtle Bay West which has been used by off-road vehicles in the past.

Losses of vegetation in the Park Marina Drive area will be minor since the proposed reconstruction is to occur in areas which are presently developed or have been previously disturbed. In addition, the Specific Plan proposes that the areas along the lake shores and river edges in the Park Marina Drive area be improved as a riverfront parkway. The development of the parkway will establish new areas of vegetation in areas which are presently developed.

The Specific Plan proposes that "overlook" and boardwalk structures be built along the river edges to provide visual access to the river while protecting sensitive riparian vegetation and wildlife habitats such as habitats of beavers, muskrats, and river otters. "Overlook" or observation platform are proposed in Turtle Bay West for viewing salmon spawning (Impacts and mitigations on Vegetation and Wildlife from the bridge route are discussed in Section 3.10 Bridge Location).

The Specific Plan on page 40 recommends the development of "Ongoing Resource Management" which establishes a vegetative enhancement program. An objective of the program will be to preserve the natural characteristics of the "Wild Area" of Turtle Bay West. It is recommended that as part of the program the removal of dead vegetation within the Plan Area be allowed only if the public health hazard effects out-weigh wildlife habitat enhancement considerations. Similarly, when and where selective thinning is proposed the same considerations shall be made and shall include a consideration for the net effect on species diversification. The enhancement program provides the opportunity to establish both greater vegetative species diversity and enhance or create wildlife habitat in selected areas. Similarly, vegetative species providing wildlife habitat displaced from one area due to the construction of nature trails or increased human activity in the Plan Area shall be replaced in suitable areas which are subject to less human activity. Therefore, the net effect sought as an objective is that wildlife habitat and vegetative species diversity lost or displaced in one area be replaced or enhanced in others, including no net loss of wetland/riparian habitat or value.

A revegetation element (or vegetation enhancement program) shall be prepared as part of an erosion control plan for projects advanced within the Plan Area (erosion control plans are discussed in Section 3.3 WATER QUALITY). The revegetation element of the erosion control plan shall include the following:

The extent and manner of tree cutting and vegetation clearing, including plans for disposing of cut trees and vegetation, and plans for the protection of remaining vegetation; a schedule showing when each stage and element of the project will be completed, including estimated starting and completion date, hours of operation, and days of week of operation; and a description of equipment and methods to be employed in processing and disposing of soil and other material that is removed from the grading site, including the location of disposal sites.

The above actions will protect desirable trees and other vegetation that have erosion and sediment control value, or which provide shade, aesthetics, wildlife habitat, dust control, noise abatement, oxygen production, or nutrient and water cycling (additional recommended measures to protect and establish vegetation are included in Section 3.3 WATER QUALITY and 12.0 APPENDIX B).

### 3.2 FLOODING

#### 3.2.1 EXISTING CONDITIONS

The Specific Plan on page 37 identifies that the Plan Area lies within the floodplain and low-lying lands adjacent to the Sacramento River. Bluffs rise to nearly 600 feet above sea level on the eastern edge of the River. The topographic conditions of the Plan Area have been shaped by past sand and gravel extraction activities. Turtle Bay West is potted with ponds filled with ground water and mounds of gravels and larger stones. Distinct scarps and levees are found within Turtle Bay West and near the river's edge.

#### **Sacramento River Flows**

The Lake Redding Power Project Draft EIR, (December 1986) on pages 3-14 to 3-16 discusses the Sacramento River flows through the Plan Area providing the following information,

Sacramento River flows at Redding are greatly moderated by the operation of Shasta and Keswick dams. High flows resulting from winter and spring precipitation and snow melt are stored, and then released in the dry summer months when irrigation demand is high. Releases from Keswick Dam are monitored at the dam and at a USGS gaging station about one mile downstream. For the period 1963-1980, which included a severe drought, the lowest average daily flow (24-hour) was 2,460 cfs (cubic feet per second), and the maximum flow was 79,000 cfs (USGS unpublished). The 79,000 cfs discharge . . referred to by the Bureau of Reclamation as the project intermediate flood, represents the 10-, 50-, and 100-year floods, since Shasta and Keswick dams have the storage

capacity to limit flows to this discharge, regardless of runoff intensity, up to the 100-year event. A greater discharge would occur only if Shasta and Keswick pools were completely full when inflow exceeded 79,000 cfs. Natural low flows are enhanced by releases from Shasta Dam, mainly for the purpose of providing sufficient downstream flows to permit irrigation diversions. For this reason, minimum summer flows are usually higher than minimum winter flows, even though winter is the season of high precipitation.

Minimum flows are contractually required to meet fish and wildlife needs. The existing minimum mandated flow is 2,600 cfs in a normal year and 2,000 cfs in a dry year. DFG is currently seeking to increase the minimum mandated flow to 6,000 cfs (Weidlein, June 1986, pc), which would extend the typical summer month releases into the fall and winter.

### Principal Flood Problems

The Flood Insurance Study, City of Redding, California Shasta County (Federal Emergency Management Agency, January, 1985) on page 7 states,

Rain floods from intense, widespread storms over the Redding area and the Sacramento River basin upstream from Redding can occur anytime from September through April. Winter rain flood runoff from the Sacramento River above Shasta Dam is intensified when the ground is frozen and infiltration is minimal, or when rain or snow in higher elevations add snow melt to rain flood runoff. Snow melt flood runoff from the upper basin can be expected during April through June and could result in flood-control releases from Shasta Lake. Such releases, however, would be much smaller than those caused by winter rain floods; thus snowmelt flooding is not considered a hazard in the study area. The two largest floods that have occurred since the construction of Shasta Dam were in 1970 and 1974. The peak discharges for these years were 78,900 cfs and 81,400 cfs, respectively.

Large portions of material from the north and west banks of the river between the confluence of Sulphur Creek and Cypress Avenue were observed falling into the river during the high flow periods of February, 1986 (Jim King, City of Redding Community Development Department, December, 1988, personal communication).

Photos of flood scenes from 1940, December, 1969, January, 1970 and 1974 also show past flood heights occurring during those events (Floodplain Information-Sacramento River, Redding, CA, U.S. Army Corps of Engineers, December, 1975).

The Specific Plan states on page 37 and 38,

Two flooding boundaries are shown previously in Figure 9. The interior boundary is the current 100-year floodplain as defined by the Federal Emergency Management Agency (FEMA). This line represents the flood water levels observed during the 1970, 100-year release from Keswick Dam of 79,000 cfs. The outer boundary on the map is the 500-year event, roughly defined as a release of 180,000 cfs from Keswick Dam. Although the probability of such an event is low, it would cause widespread, but shallow, low velocity flooding over most of the Planning Area.

There is a 63 percent chance that one or more such releases would occur in any 100 year period, or a 26 percent chance that one or more such release would occur in any 30 year period. Only once in the past 25 years has the Bureau of Reclamation released the full 79,000 cfs from Keswick Dam, although releases of 75,000+ cfs have occurred five times since 1963.

The Specific Plan on page 42 identifies that structures should not be placed in the floodway where velocity flow occurs. The Floodplain Information Report for the Sacramento River, Redding, California (Department of the Army, Sacramento District, Corps of Engineers, 1975) states that,

the average velocities of flow (Intermediate Regional Flood) are 9 feet per second within the main channel and 3 feet per second in the areas beyond the main channel for the Plan Area. Water flowing at a rate of 7 feet per second or greater will cause severe erosion of streambanks and is capable of transporting large rocks.

The flows beyond the main channel within the Plan Area are not of significant velocity to prohibit structures. The Conservation and Open Space Element on page 12 states,

Generally, it is the City's policy to prohibit development within the 100-year floodplain, but not necessarily all uses. The City encourages recreational uses such as parks, equestrian and pedestrian trails, boat ramps, outdoor theaters and picnic areas.

### 3.2.2 IMPACTS

Areas prone to flooding either in or along the floodway include most of Turtle Bay West; a portion of Turtle Bay East and Redding Landing development; the "pitch and putt" golf course; and the lake shore and riverbank areas of the Park Marina Drive area.





Proposed improvements along the lake shores and riverbank areas within the floodplain in the Park Marina Drive area include: overlooks; boardwalks; promenades; and "urban" edges (river edge treatment as shown previously in Figure 5).

The Redding Landing area is proposed for recreational, office and retail commercial uses. Except for the "pitch and putt" golf course which is proposed for office uses, most of the land area is not subject to flooding. However, reconfiguration of the lagoon shoreline will involve development in the floodplain.

Proposed improvements within the floodplain in the Turtle Bay West area are limited to the proposed logging pond, boardwalks and "spawning overlook".

The information provided in the Flood Insurance Study City of Redding, California Shasta County (Federal Emergency Management Agency, January 3, 1985) and the Floodway Flood Boundary and Floodway Map City of Redding, California Shasta County (Federal Emergency Management Agency, July 3, 1985) indicates that the development of the proposed Redding Landing and "pitch and putt" golf course sites, of which portions are within the floodplain, would not increase flood heights. Although building and/or filling within the floodplain (100-year FEMA flood boundary), may obstruct the flow of flood waters and, therefore, increase flood elevations. However, construction of new buildings or structural embankments with the flood fringe will not have a significant effect on the base flood elevation. This is due to the small loss of flow area since water depths at the flood plain fringe are typically shallow. The following section identifies measures for reducing the potential for obstructing flood flows and increasing flow velocities.

### 3.2.3 MITIGATION MEASURES

The following design considerations and design criteria should be considered for all projects proposed within the 100-year floodplain per the FEMA maps:

Discharge quantities, water velocities and water surface elevations shall be determined as set forth in chapter 18.47 of the City of Redding Zoning Ordinance. Hydraulic analysis of the existing condition and the proposed condition shall be completed to the satisfaction of the City of Redding Public Works Department. This shall include, but not be limited to, water surface elevation changes and velocity changes in the overbank areas at the project site as well as upstream and downstream. It should be noted that the existing FEMA and flood area boundary for the base flood was determined by surveying techniques during a period of 79,000± cfs discharge from Keswick Dam. It is recommended that the

parameters of a model of the existing condition be optimized in order to reproduce the measured profile before it is acceptable. At that time, the proposed condition may be modeled using the optimized parameters of the existing conditions.

For any structures proposed within the floodway, such as the spawning overlook, the design of such structures should consider the passage of flood debris through or around the proposed construction. This can be accomplished by either providing sufficient clear span for flood debris to pass and/or constructing the spawning overlook at an angle to the flow so that flood debris will not catch on the structure and will rather continue around the structure. For the proposed logging pond all logs should be either removed or secured from September through April to avoid the potential for additional debris entering the river, if flood rains occur.

All sanitary sewer manhole and rodhole lids should be air tight or be installed 1 foot above the base flood elevation.

All automatic air-vacuum assembly openings on water mains should be elevated 1 foot above the base flood elevation.

All underground facilities shall be protected from damage due to flood water force (hydrostatic and erosive).

Landscaping plans shall call for vegetation and earth stabilization techniques that: are consistent with the natural flora of Turtle Bay and are in keeping with the existing topographic character of the area. The City of Redding Planning Department and Public Works Department shall review and have approval authority of all improvement plans.

In addition all projects proposed within floodplain will conform to the City's Floodplain Ordinance (Chapter 18.47) and shall include the following measures:

Development should be diverted away from erosion prone areas. Only where site and soil investigation and proposed construction standards assure complete safety for future developments should such sites be considered.

The minimum setback within the floodplain shall be 30 feet when adjacent to the Sacramento Avenue where there is moving water.

The finished floor elevation of the ground floor of any building is to be a minimum of one foot above the 100-year flood plain elevation of the River, as established by the most current flood insurance rate map prepared by the FEMA or the Corps of Engineers.

All permanent structures built within the 100-year floodplain shall have a foundation or anchoring system designed to prevent flotation and lateral movements in a manner approved by the Building Official or shall be constructed upon an engineered earth fill. This would include any boardwalk or overlook structures planned within Turtle Bay West and recreation facilities (picnic tables, etc.) in the proposed parkway along Park Marina Drive located within the 100-year floodplain. All pier structures should provide adequate spacing to minimize the potential for debris from accumulating on the structure. The museum complex facilities are proposed above the 100-year flood level.

Any grading or fill within the 100 year floodplain of the River shall be subject to an environmental determination by the Planning Commission. Fill shall not occur within the designated floodway of the River, as established by the State Department of Water Resources. Engineered fills shall occur only after first obtaining a use permit from the Planning Commission.

Projects advanced involving development within the floodway or alteration of the riverbank will require permits from the U.S. Army Corps of Engineers, Bureau of Reclamation, the State Reclamation Board, Regional Water Quality Control Board and a 1601 or 1603 agreement with the Department of Fish and Game.

### 3.3 WATER QUALITY

#### 3.3.1 EXISTING CONDITIONS

The Lake Redding Power Project Draft EIR (December, 1986) on page 3-24 discusses the water quality in the vicinity of the Plan Area and provides the following information,

The water of the Plan Area and vicinity is generally of good quality. (During) heavy storms in the (Spring Creek) watershed above Keswick Dam discharges of large quantities of acidic heavy-metal laden wastewater from abandoned mines occur. This runoff has reached levels toxic to fish and is a concern for human health. The California Regional Water Quality Control Board has prescribed water quality standards (objectives) for the Sacramento River. These are intended to protect the present and beneficial uses of the Sacramento River between Shasta Dam and the Colusa Basin Drain. TABLES WQ-1 and WQ-2 provide a summary of the biological and chemical water quality objectives and the physical water quality objectives of the Sacramento River.

TABLE WQ-1

**SUMMARY OF BIOLOGICAL AND CHEMICAL WATER QUALITY  
OBJECTIVES APPLICABLE TO WATER IN THE SACRAMENTO RIVER AT  
REDDING, CALIFORNIA**

Water Quality Parameter

Bacteria mean of	Not to exceed geometric mean 200/100 ml fecal coliform
Inorganic constituents	Not-to-exceed level (mg/l):
Arsenic	0.01
Barium	0.1
Copper	0.0056
Cyanide	0.01
Iron	0.3
Manganese	0.05
Silver	0.01
Zinc	0.016
Cadmium	0.00022
Other chemical constituents	Not-to-exceed limitations specified constituents in California Administrative Code, Title 17, Chapter 5, Subchapter 1, Article 4, Sec- tion 7019, Tables 2, 3 and 4
Dissolved oxygen	Shall be greater or equal to 9.0 mg/l from June 1 to August 31. When natural conditions later dissolve oxygen below this level, the concentration shall be maintained at or above 95 percent of saturation
pH	Changes in normal levels shall not exceed 0.5
Pesticides	Not-to-exceed limitations specified in California Ad- ministrative Code, Title 17, Chapter 5, Subchapter 1, Group 1, Article 4, Section 7109, Table 4

Source: RWQCB 1975, Revised April 1986

TABLE WQ-2

SUMMARY OF PHYSICAL WATER QUALITY OBJECTIVES  
APPLICABLE TO WATER IN THE SACRAMENTO RIVER AT  
REDDING, CALIFORNIA

<u>Water Quality Parameter</u>	<u>Objective</u>
Temperature	Not to be elevated above 56 F (13 C) during periods when temperature increases will be detrimental to the fishery
Turbidity	Not to exceed 20 percent of natural turbidity
Sediment	The suspended sediment load and suspended sediment discharge rate of surfaced waters shall not be altered in such a manner as to cause nuisance or adversely affect beneficial uses
Settleable material	Water shall not contain substances in concentration that result in deposition of material that causes nuisance or adversely affects beneficial uses
Suspended material	Water shall not contain suspended material that causes nuisance or adversely affects beneficial uses

Source: RWQCB 1975

**Lakes and Ponds**

The lakes and ponds located within the Park Marina Drive area are comprised of: Motel Lake, located at the north end of Park Marina Drive; Kutras Lake, the largest lake (actually a part of the river) located along the west side of the River; the "swimming hole", the pond located between Kutras Lake and Park Marina Drive; and two ponds located between Kutras Lake and Motel Lake.

The discussion in Environmental Impact Report, 12-75 for a Proposed Eight Story, 64 Dwelling Unit Condominium, (City of Redding

Planning and Community Development Department, December 1975 pp. 1, 2, 9 and 12) provides the following historical information:

In 1944 the project site was excavated and left in borrow pits, in the interest of supplying aggregate for the construction of Shasta Dam. Following the dam construction period, water from the Sacramento River seeped into the excavations and left the area as a slough consisting of mud holes full of unusable and generally stagnant water. This condition created an environment beneficial for mosquito breeding. To alleviate this condition, Mr. Robert Spaid with the cooperation of Mr. Chris Kutras, began reclaiming the area. The 26 acres of swampland that were left following the dam project was converted to a total of six acres of dry land with the remaining 20 acres formed into shallow lakes. A drainage channel was constructed to provide water circulation and to prevent stagnation and the resulting undesirable aquatic conditions.

From the middle to the late 1960's, the California State Department of Highways began construction of the Highway 44 (299) Freeway. At that time, Mr. Spaid initiated actions which eventually led to the installation of a 24-inch pipeline under the freeway to maintain adequate water circulation within Motel Lake. The purpose of the pipeline is to provide a continual flow of fresh river water to the pond, thereby reducing the problems of stagnant water and to discourage mosquito breeding. Water from the lake returns to the river through an open channel immediately adjacent to the Highway 44 (299) causeway.

Mr. Spaid has performed dredging operations to remove shallows that had encouraged the overgrowth of weeds. The heavy aquatic growth has been a source of organic waste pollution to the river and to the lake . . . The water quality within Motel Lake should be considered as highly degraded with concentrations of iron and coliform bacteria. This condition is a result of excessive storm drainage from a 30 inch diameter City owned storm drain system and limited natural water flow to and from the Sacramento River. . . These pollutants would probably be confined to gasoline, oil, rubber, acid and asbestos resulting from surface and off-street parking and storm drainage. The introduction of these pollutants will result in an undetermined impact on aquatic life in the lake. This impact should be considered as a cumulative impact since the City currently deposits storm drainage via a 30 inch storm drainage system in Motel Lake.

It is anticipated that the additional impact will mainly be confined to the lake. The lake has been dredged of sludge in the past which suggests that the present recharge system is inadequate, especially during the summer months. The

lake is occasionally recharged during high flood levels but this recharging process is too infrequent to have any appreciable effect on clearing the lake of accumulated sludges. It should be made clear that large amounts of sludge have an adverse effect on the vegetative aquatic life which in turn is linked to the lake's ecosystem

Principal water quality impacts to Kutras Lake, the swimming hole and the ponds located between Motel Lake and Kutras lake are from storm drainage carrying pollutants from built and paved areas. The following discussion identifies the existing conditions.

### Storm Drainage

Storm Drainage from residential, commercial and public uses in the vicinity of the Park Marina Drive area and the Convention Center/museum complex area discharge into the lakes, ponds and river in the Plan Area. Presently three storm drainage outlets discharge into Motel Lake; one discharges into the ponds located between Motel Lake and Kutras Lake; one discharges into Kutras Lake; another discharges into the river inlet area of the existing trailer park. From the Convention Center/museum complex area storm drainage discharges under the freeway into one of the three outlets which discharge into Motel Lake. The area north of the Convention Center discharges storm water to the river.

### 3.3.2 IMPACTS

The Final E.I.R. (EIR 1-81, SCH# 81010705) Benton Ranch Master Plan by Eco-Analysts contains the following discussion identifying potential impacts occurring from storm water drainage,

Drainage from storm sewers does not resemble rainwater in chemical or sanitary characteristics, due to materials washed from the atmosphere, roofs, yards and paved areas. These mixed-in constituents are diverse in both nature and origin. Oils and greases leaking from automobiles may be the most hazardous constituents of urban runoff; such constituents have direct adverse effects upon aquatic organisms and also act as carriers for transporting normally insoluble toxic chemicals, especially chlorinated-hydrocarbon pesticides. Another group of potentially hazardous constituents in urban runoff are heavy metals such as lead, cadmium and copper.

The first flush effect of pollutants in urban drainage is of special concern in California where intervals between rainstorms can exceed 100 days. During this period, pollutants and other debris accumulate on impervious surfaces and storm drains. This accumulation is removed by runoff from the first significant storm, or first flush resulting in an

initial, highly concentrated level of pollutants in the runoff waters. This is compounded because receiving streams or lakes are generally at low flow or water level, reducing the beneficial effects of dilution. The summertime low-flow urban runoff, caused by over-irrigation of lawns, air conditioner condensate, car washing, hydrant flushing, pavement cleaning and swimming pool maintenance deserves consideration. These flows while minor in quantity, typically contain petroleum hydrocarbons, detergents, fertilizers, herbicides, pesticides, and other pollutants. They resemble first flush effects without the benefit of substantial stormwater dilutions, and may become much more concentrated by evaporation.

The historical information addressing Motel Lake identifies that storm water runoff from surrounding residential, commercial and public uses contain pollutants which degrade the water quality of the lake. Storm drainage also discharges into the other lakes, ponds and water areas in the Plan Area, including the Sacramento River. Development of the museum complex facilities will increase storm water runoff from built and paved areas. The reconstruction and improvement of the Park Marina Drive area will not increase the amount of storm water runoff since existing development will be reconstructed or removed. Removal reduces runoff due to conversion of developed land to parkway and open space.

A potential impact resulting from nutrient carrying sediments in urban runoff is eutrophication of the lakes. Eutrophication is the natural aging process of a lake and is not entirely dependent upon man's activities. Civilized man has, however, by altering drainage basins through urbanization, contributed uncounted tons of nutrient carrying sediments to natural waters. Due to man's activities eutrophication can be accelerated to the point where the increase in nutrients carried to the lake(s) from fertilization, spills, detergents and roadway chemicals can greatly increase the growth of natural algae. Organic materials which contribute to the eutrophication of a lake are domestic waste, fecal matter from waterfowl (ducks and shore birds) and decomposing aquatic vegetation. When algae growth increases above its natural level due to man-induced fertilization or other identified sources the animal life within a lake cannot consume the algae as fast as it is reproduced. As a result the algae decomposes and exhausts the deep water oxygen supply causing fish to suffocate (Richard E. Garriot, P.E. Urban Land "Small Urban Lakes: Problems and Possible Solutions" Vol. 33 No. 6 June 1974 and Technical Bulletin 72 Lakes and Ponds, Urban Land Institute, p. 30, 1976).

Historic information also identifies that sediments contained in the storm water runoff from surrounding land uses have required the dredging of Motel Lake. Dredging has the potential to cause increased turbidity due to the disturbance of accumulated bottom materials causing the nutrients which had settled out to flow



back into the water column, where they are used by aquatic weeds and algae, increasing algae and weed growth. Turbidity also decreases water clarity and affects the feeding ability of fish-eating birds such as ospreys, shorebirds and waterfowl.

Construction impacts from the Development of the museum complex facilities, reconstruction of Park Marina, bridge construction, bank stabilization and improvements along the river edges and lake shores include the potential for increased erosion, turbidity and sedimentation. Construction activities disturbing the lakes and river channel due to adverse effects on water quality have the potential for impacting the aquatic life and wildlife in the lakes. Adverse water quality impacts to the river affect the salmon spawning and rearing areas, as described in Section 3.1.2 IMPACTS.

Bridge construction and bank stabilization techniques have the greatest potential for causing short-term water quality impacts due to construction activities along the river bank which include grading, excavation and filling and in-water construction. Bank stabilization techniques include revegetation of the bank slopes, regrading of the bank slopes and revegetation, constructing "urban edges", and riprapping. Potential impacts involved in regrading bank slopes include short-term increases in suspended sediments and turbidity levels during construction. Riprapping is a bank stabilization technique which affects vegetation and wildlife. Riprapping has the potential to remove shallow water areas from future vegetative and animal life production which results in a loss of habitat and food supply source. Another impact which occurs due to riprapping is an acceleration of water velocity and the displacement of rearing areas for resident fisheries populations.

The Specific Plan proposes that boat launching facilities, a harbor and docks be developed on Kutrass Lake and the river inlet at the Redding Landing site. Potential impacts resulting from power boat use are the release of petroleum products. Another proposal is to connect the lakes. This may affect the water quality of the lakes, ponds and Sacramento River and could also alter existing aquatic habitats.

Additional sources of pollution which could impact the lakes are litter and runoff carrying phosphates from lawn areas, herbicides and pesticides from nearby residential, commercial and public landscaped areas.

### 3.3.3 MITIGATION MEASURES

Proposed projects should comply with the City's storm drainage standards and grading ordinance and erosion control plans should also be required. Although City Staff already has an established

city-wide procedure for project approval and site plan review, erosion control plans provide a method of ensuring proper consideration of erosion control, surface water management, vegetation protection, and public nuisance when any major construction or grading activity is contemplated. The permit-issuing authority shall determine the adequacy of the erosion control plan and may require the submission of additional information where necessary.

Erosion control plans should specify the scheduling and type of activities involving the construction of facilities, grading, filling, or removal of vegetation. The areas of soils disturbed at any one time and the duration of its exposure shall also be identified. All disturbed areas must be stabilized in the manner specified in the erosion control plan as approved by the permit issuing authorities.

All erosion control plans should adequately assess the surface water management implications of a proposed project, including water quality, erosion control, groundwater considerations, revegetation, drainage improvements, and the methods and procedures for construction and construction schedule.

Erosion control plans should include a runoff control element which specifies the type and location of all temporary and permanent runoff management facilities, including those to be used during construction to prevent the discharge of degraded runoff water into surface waters. Temporary runoff management techniques include the use of straw bale sediment barriers, sand bag sediment barriers, filter berms, filter fences, filter inlets, flexible downdrains, and siltation berms. Other techniques for runoff collection and conveyance include storm drains; catch basins; dry wells; discharge aprons and armored scour hole; slotted drains; and sediment retention or flow detention basins. These techniques and others should be considered and utilized where appropriate.

Erosion control plans should also include a drainage element which provides the information and calculations used to size the drainage facilities and systems to be installed.

A slope stabilization element identifying the location, design, and specifications for slope stabilization which will be utilized during and after construction of the project should be included in erosion control plans. Slope stabilization is most pertinent to the river edge and lake shore bank stabilization. Bank stabilization techniques include revegetation of bank slopes; regrading to a stable slope and revegetation; the construction of "urban" edges; and riprapping. The construction of "urban" edges for bank stabilization (refer to Figure 5) is preferable to riprapping (although it requires excavation and filling) because it allows for vegetation and animal life to exist adjacent to the water's edge where food supplies occur. Riprapping, however,

creates a sterile bank area extending into the river where vegetation and animal life cannot exist. Riprapping is not a recommended bank stabilization technique due to the impacts described.

Areas requiring bank stabilization should be identified when specific proposals are advanced. Because of natural changes in bank conditions that may occur before the construction of specific proposals, it is desirable to defer preparation of detailed plans in order to mitigate potential erosion problems. A design phase survey of the project area should be conducted by a team consisting of a qualified engineer, a landscape architect, and a wildlife biologist to refine plans for the grading and stabilization of lake shores and river banks. The selected bank stabilization and erosion control techniques should include an environmental assessment. The assessment should be made on a project by project basis as a condition of improvement plan and/or final map approval. The slope stabilization information should be utilized where appropriate in the drainage and revegetation elements.

In-water construction mitigation measures include the use of cofferdams while river bank stabilization and bridge construction occurs (also refer to Section 3.10 Bridge Location). Timing should be planned to avoid restriction of river flows from November to April and also at times when fish runs are occurring. In-river construction activity is preferable during the period between September 15 and October 15 when winter-run salmon spawning activity is at its lowest. Regardless, any work in the Sacramento River will require that applicants comply with Sections 1601 through 1607 of the California Fish and Game Code requiring notification and agreement for all activities involving the alteration of lake, river, or streambed bottom or margin and/or removal of streambed. This provides the California Department of Fish and Game review and recommendation for all projects which may affect water quality or which involve in-water construction.

Other permits will be required from the State Board of Reclamation, U.S. Bureau of Reclamation and California Regional Water Quality Control Board. Construction projects shall also meet the water quality objectives of the Regional Water Quality Control Board. A permit from the Department of the Army Corps of Engineers in accordance with Section 10 of the Rivers and Harbors Act of 1899, and under Section 404 of the Clean Water Act for placement of dredged or fill material below the ordinary high water elevation will also be required.

A stream environment zone element should also be included in the erosion control plan identifying and describing all lake shores, ponds and river banks in a proposed project area, any proposed encroachments, and proposed protection measures to be used in these zones. This information shall be used in the slope stabilization and drainage element, if appropriate. Additional measures are provided in Section 12.0 APPENDIX C.

### 3.4 ARCHAEOLOGY/ HISTORICAL/CULTURAL RESOURCES

#### 3.4.1 EXISTING CONDITIONS

According to the Wild and Scenic Rivers Study, prepared by the Department of the Army Corps of Engineers, the river bank and terraces from Keswick Dam to Sacramento were occupied by Indians, with 245 known aboriginal sites dating back over a 4,000 year period. In brief, the study emphasizes that the Sacramento River was one of the most intensely occupied aboriginal areas in western North America. The Indian group within the vicinity of the Plan Area were the Wintu Indians.

The Society for California Archaeology has verified that there are a number of Wintu Village sites located north of the Plan Area including several sites, SHA-169, 170 and 171, near the Wintu Pumping plant. In addition, there is one Wintu site in Redding that is listed on the National Register of Historic Places. This site is located in the Benton Tract, also north of the Plan Area across the Sacramento River.

To date, there is one known historic or archaeological site within the Plan Area (CA-SHA-280, the specific location is on file with the City Planning Department). The Specific Plan does not propose development in the vicinity of the site. Records maintained by the Northeast Information Center, California State University, Chico indicate that the Plan Area has not been surveyed for cultural resources with the exception of a small area located in the southern portion of the Park Marina Drive area.

#### **Known Cultural Resources**

Records of the archaeological sites are maintained at the Society for California Archaeology District II Clearinghouse at Chico State University. A review of those records discussed in the Lake Redding Power Project Draft EIR, (December 1986, pages 3-65 and 3-66) disclosed ten archaeological sites along the Sacramento River near Redding, nine along the left (north) bank of the river and one on the right bank. Five of those sites are located north and west from the Plan Area and one is located in the Plan Area.

CA-SHA-280. This site is located in Turtle Bay East and is described as a prehistoric site which has been severely impacted by previous construction activities.

4-SHA-47. This site, approximately 16,000 m<sup>2</sup> in size, is located downstream from the ACID Dam on the left (north) bank of the river. The site was originally recorded by Golomshtok in 1922 and investigated by Smith and Weymouth in 1952. Known as the Benton Ranch or Benton Tract site, it is the only one of the sites listed in the National Register of Historic Places (USNPS 1976). Johnson and Johnson (1974) characterized 4-SHA-47 as

"possibly the major site in the vicinity of Redding." Although it has been extensively vandalized over the years, the site contains numerous burials and prehistoric and historic artifacts in its 100 cm deep deposits of dark, ashy soil.

4-SHA-169. This site is also located downstream from the ACID Dam on the left (north) bank of the river. A large number of historic and prehistoric burials and associated artifacts were removed from the site in 1959, during excavation by San Francisco State College (Treganza and Heickson 1960). The site is approximately 2,000 m<sup>2</sup> in size and was extensively vandalized prior to excavation.

4-SHA-170. This site, located near 4-SHA-169, is believed to be contemporaneous with that site and, is in fact, an extension of it. The site is smaller in size than SHA-169 and contained fewer artifacts. It was also vandalized prior to the 1959 excavation.

4-SHA-171. This is a small site associated with 4-SHA-169 and 4-SHA-170, but it is located farther from the river bank. Treganza and Heickson (1960) stated that the site ". . . did not show enough evidence of occupation to warrant sampling."

4-SHA-219. This site is recorded near the river on the right bank. The site is only 350 m<sup>2</sup> in area and is located at the 500 foot contour, 150 feet from the river. According to the original 1959 site record, the site was being destroyed by erosion at the time of its original recording.

### 3.4.2 IMPACTS

The high level of disturbance that has occurred from past gravel extraction, fill activities and subsequent development preclude the potential for encountering archaeological sites within much of the Plan Area. The proposed bridge routes have the potential to further disturb an area of known cultural sites north of the Plan Area.

### 3.4.3 MITIGATION MEASURES

Even though much of the Plan Area has been disturbed, Turtle Bay East and the preferred bridge location should be surveyed by a qualified archaeologist prior to project construction. In other areas, if any prehistoric or historical/cultural materials are encountered during construction, all work shall cease immediately pending an inspection of the site and materials by a qualified archaeologist. Adequate mitigation measures will be provided if any sites are encountered. Potential measures include collection, capping, vegetation and fencing, or avoidance of the site.

### 3.5 NOISE

#### 3.5.1 EXISTING CONDITIONS

Table 24 of the Noise Element titled "Corridors Along Streets and Highways Which Should Require a Noise Analysis for New Residential Projects to Determine if Mitigations are Needed (1980-2000)" identifies a 150 foot corridor along Park Marina Drive as being the affected corridor width from edge of pavement where the noise level exceeds 60 CNEL by more than one decibel. This is based on noise monitoring data from 1982 provided in the Technical Appendices for the Noise Element on page 97, which calculated the CNEL from LEQ at 100 feet from the nearest lane along Park Marina Drive as 59.6 (4,000 ADT, 1982 traffic).

According to Table 9 "Existing and Projected Noise Levels (1980-2000) for Major Streets", the projected CNEL at 100 feet for year 2000 is 62 decibels for 8,000 ADT. The existing traffic of Park Marina Drive for 1987 is approximately 8,000-10,000 ADT's.

An existing intermittent noise source is from power boating activity along the Sacramento River within the Plan Area. In December of 1984, the City conducted a noise analysis of the hydroplane boat race on the Sacramento River between Keswick Dam and the railroad trestle. Average background noise levels emitted from the hydroplane boats can range from 68 decibels (dBA) at 1,000 feet from the centerline of the river to 79 dBA at 400 feet. Peak noise levels increased from 82-90 dBA at 1,000 feet to 97 to 101.5 dBA at a distance of 400 feet.

#### 3.5.2 IMPACTS

The City's Noise Element on page 19 (Table 5) recommends the following maximum noise standards for new land uses:

Single Family Residential	60 CNEL
Multi-Family Residential	60 CNEL
Commercial	65 CNEL
Industrial	70 CNEL

The primary noise source is traffic along Park Marina Drive. The City's Noise Element, identifies that traffic noise along Park Marina Drive exceeds the recommended 60 CNEL exterior noise level for residential areas and will continue to increase in the next 20 years due to increased traffic resulting from the growth of the city and the allowable development for the Park Marina Drive area under the current General Plan. Implementation of the Specific Plan will not increase traffic any more than the development that is allowed under the current General Plan. Therefore, the net effect of potential noise impacts is not any greater than is currently permitted.

Short term noise impacts from construction will occur as the Plan Area develops. Construction activity will be from the development of the museum complex facilities; proposed recreation areas of the Riverfront parkway including boat docks, launch ramps, picnic and harbor areas; the proposed reconstruction and improvement along Park Marina Drive; and the construction of the bridge crossing.

Increased boater access in the Plan Area and related power boating on the lakes could cause noise impacts to the proposed office and retail commercial uses proposed for the Redding Landing development. Increased noise levels from power boat activity both on the lakes and on the river could also impact the residences of the "bluff" area located east of the Sacramento River. These residences directly overlook the Sacramento River and are approximately 1,000 feet from the center of Kutras Lake, 1,800 feet from the swimming hole, 2,000 feet from the docks to the north of Kutras Lake or the small boat harbor to the south, and 2,200 feet from Redding Landing. All of these areas, except for Redding Landing will be oriented toward daytime recreational use.

The City has no jurisdiction over the type of crafts that can use the Sacramento River and therefore cannot control this source of power boat noise. They could however, control the crafts using the lakes, docks, and launching ramps.

Another activity that could impact residents of the "bluff" area are the restaurants and possible night clubs which could be developed in Redding Landing. These or any facility that may offer live musical entertainment and/or dancing in the evening may be a source of significant noise impacts especially if the entertainment is outdoors. Although the distance to the residences is over 2,200 feet, music carries over water especially on a warm summer night.

### 3.5.3 MITIGATION MEASURES

The noise reduction standards for buildings shall be utilized where applicable and when recommended under State and Federal laws in Title 25 of the California Administrative Code.

Noisy construction activities including heavy equipment operation or pile driving will be limited to 7 a.m. to 7 p.m. on weekdays. When specific projects are advanced to develop the harbor areas, project specific noise studies should be prepared to identify the potential noise impacts which may occur based on the intensity of use proposed for the harbors and the type of crafts which will be accommodated. Potential measures which may be applicable include establishing speed zones on the lakes to reduce power boat noise, limiting the hours of operation and/or reducing power boat noise by limiting the type of craft which can be docked, launched, or

operated on the lakes to non-motorized crafts such as row-boats, paddle boats, canoes or rafts. The use of battery powered boats is also acceptable.

When specific projects are proposed in Redding Landing, noise studies should be prepared if facilities propose live music, either indoor or outdoors. The studies may not be required if it is clearly demonstrated through design, orientation, or the type of music that there will be no significant noise impacts. Once a facility is established and desires to provide live music, the applicant should apply for a use permit. Noise studies, if necessary, should be provided as part of the permit.

### 3.6 OPEN SPACE, PUBLIC ACCESS AND RECREATION

#### 3.6.1 EXISTING CONDITIONS

##### Specific Plan Open Space Framework

The Specific Plan on page 5, describes the open space framework of the Plan Area, focusing first on the river, which it describes as "the historic lifeline of the region which dominates the natural terrain and developed portions of the City." The Specific Plan goes on to state,

Approaching the City on Highway 299, the dramatic river valley is in full view; bluffs rise on the eastern bank where new commercial uses and prestige office buildings have been built; the plain along the western bank contains older residential and commercial areas that extend from the historic downtown, on higher terrain further to the west. The continuous series of open lands and water, parks, ponds, and river edges creates the framework for the Plan.

The Open Space Element of the Redding General Plan identifies much of the Planning Area as Greenway. The Turtle Bay parks are classified as Improved Open Space. Open space areas within the Plan Area include the river banks, islands, the river itself, and the lakes and ponds in the Park Marina Drive area (please refer to Sections 1.4 Project Site Characteristics and 3.8 Land Use Considerations).

##### Recreation and Public Access

Turtle Bay is identified as a Regional Park in the Recreation Element. Informal recreation of various kinds already occurs on the publicly-owned lands of Turtle Bay East and West. Uses at Turtle Bay West include fishing, hiking, and nature study. Recreation opportunities in Turtle Bay West include a boat launch, outdoor stage and picnic area located in the small improved area north of the Civic Auditorium and Posse Grounds adjacent to the



river. Existing uses at Turtle Bay East include fishing and hiking, and, illegally, off-highway vehicle use. Turtle Bay East has been established as a fishing access area. The Sacramento River is used extensively for fishing, boating, and float trips.

According to the Specific Plan on page 31,

Bicycle travel occurs along the Park Marina designated route. Numerous visitors enjoy the private recreational opportunities available at the "pitch and putt" golf course, Aqua Golf driving range, and Kutras Lake boating concession including river raft rentals and private (and public) boat launching. Private recreation opportunities also formerly occurred at the swimming pond beach area (now closed).

The trailer park located along the east side of Park Marina Drive and adjacent to the river provides private camping recreation facilities.

The Conservation and Open Space Element proposes a linear park along the river, including a link to the Sacramento River Trail System being developed by the City from Lake Shasta south to the Planning Area. The Recreation Element on page 8 suggests that the City consider the Sacramento River as a scenic waterway and affirms the linear park concept by stating,

The River is the backbone of the Redding park and recreation system, As such, access to the River at convenient points should be secured and protected. A trail system should be developed along each side of the River where topographic conditions permit.

The Specific Plan on page 32 states that,

(the Recreation Element also) notes that 68% of the City's 1,156 acres of acquired parkland is unimproved and, as yet unavailable for use. Areas in and around Turtle Bay West and around the perimeter of Kutras Lake are designated for recreational hiking uses.

Page 29 of the Recreation Element of the Redding General Plan identifies in its five year capital improvements plan (1985-1989) recommended appropriations for improvements in Turtle Bay. The capital improvements plan recommended approximately \$60,000 for 1985-86, \$20,000 for 1987-88, and \$20,000 for 1988-89. Approximately \$40,000 is recommended for landscaping within Turtle Bay for 1989-90.

### 3.6.2 IMPACTS

#### Open space

The Specific Plan proposes that the area adjacent to the river along the lakes and ponds of Park Marina Drive and between the proposed "North and South Gateways" be improved as a municipal riverfront parkway. This will involve removing approximately 141 dwellings units and 50 office and retail commercial uses (refer to discussions in Sections 2.4 ISSUES TO BE RESOLVED and 3.8 LAND USE CONSIDERATIONS).

#### Public Access and Recreation

Potential impacts from increased public access include litter, vandalism, increased noise from unauthorized vehicles, an inadequate ability to patrol public trails in open space areas, increased public liability, and trespassing.

The additional public access proposed in the Specific Plan will also increase opportunities for fishing, hiking, bicycling, equestrian purposes, for boat launching, and visual access to significant vistas. Other impacts of increased human activity on vegetation and wildlife are discussed previously in this report.

### 3.6.3 MITIGATIONS

#### Open Space

The Specific Plan proposes that a river-oriented parkway be developed along Park Marina Drive. This will involve reconstruction of some residential and commercial uses developed in the Park Marina Drive area. The conversion from residential and commercial uses to greenery and open space is proposed as a tradeoff for the intensified land uses proposed for the "pitch and putt" golf course site, Redding Landing, and the residential area along Park Marina Drive (please refer to Sections 2.4 ISSUES TO BE RESOLVED and 3.8 LAND USE CONSIDERATIONS).

Turtle Bay East is proposed as open space with passive recreational uses. The museum complex within Turtle Bay West is proposed to be developed on the 15-20 acre graded and disturbed site surrounding the Monolith. The remaining 120 acres of Turtle Bay West will remain as open space for passive uses. The only improvements will be nature trails, the river trail, and possibly boardwalks or overlooks along the river (please refer to Sections 1.4 PROJECT CHARACTERISTICS, and 3.1 VEGETATION AND WILDLIFE).

## Public Access and Recreation

The policies of the Conservation and Open Space Element encourage acquisition of lands adjacent to the river in fee title or in dedicated easements to increase public access.

Ordinances adopted by the City to protect resources found in the Plan Area include: prohibiting motor vehicles in unpaved areas owned by the City to protect terrain and wildlife from damage; adopting a bird sanctuary ordinance (City Ordinance 1087) to protect the wildlife in Turtle Bay Regional Park; and the City's grading ordinance which provides wildlife habitat protection.

The museum complex facilities should be fenced to reduce potential vandalism. The complex will also serve to block unauthorized vehicle use from entering into the Turtle Bay West area. Litter shall be controlled by providing trash receptacles in public use areas and through diligent maintenance of public use areas.

Increased public access along the river's edge is proposed by reshaping the bank slopes along the river; providing overlooks and boardwalks where riparian and other sensitive wildlife habitats occur; and constructing promenades and "urban" edges. A boat launch ramp is proposed for Turtle Bay East to improve public access.

Regarding the potential impacts of the river trail system the Technical Appendices to the Conservation and Open Space Element on page 7 states that, "All of these arguments are sound (potential fires, noise and dust and an inadequate ability to patrol public trails), but as the City urbanizes, they will become less reasonable because more people will use open space areas regardless of whether there are improved trails."

To mitigate potential increases in public liability the (Technical Appendices to the Conservation and Open Space Element (1985-2000) volume VII, on page 7 identifies that,

A recent amendment to the California Government Code has decreased public agency liabilities for trails to unimproved publicly owned land. In 1979, the immunity provided by Government Code Section 831.4 was expanded to cover "dangerous conditions of any paved trail, walkway, path or sidewalk on an easement of way, which has been granted to a public entity to provide access to unimproved property." The immunity provision presumes that cities must take reasonable steps to warn users of any dangerous conditions that may exist on the trails in question.

### 3.7 AESTHETICS, VIEWS, AND BUILDING HEIGHT

#### 3.7.1 EXISTING CONDITIONS

##### **Aesthetics**

The discussion in the Specific Plan on pages 42 and 43 partially describes the aesthetics of the Plan Area.

##### **Turtle Bay West**

Turtle Bay West is divided into approximately 110 acres of reforesting riparian lands along the river and 30 acres of flat, graded area containing the Monolith. Auditorium Drive, which provides access to Turtle Bay West and the Convention Center, is treeless and does not offer a strong, visual image to the park entrance. The Convention Center and its neatly landscaped grounds are in contrast to the riparian forest along the river. The Auditorium, due to its size and prominent location, overshadows the other buildings along Auditorium Drive. It's bulk and architectural style of large concrete slabs and functional appearance evokes the "Monolith" and its historical importance. This image creates a distinctly urban and "civic" character.

##### **Park Marina Drive**

The entrance to Park Marina Drive from the north is off the Highway 299 off-ramp, and from the south off the Cypress Avenue Bridge. (The) proximity to the river under the Cypress Avenue Bridge makes for a particularly vivid visual image. Different stretches of Park Marina Drive have distinctly different forms of development, and as a result, tends to have a "patchwork" quality. Two general scales of development tend to be at odds. Smaller-scale residential development, that includes a significant amount of vegetation and/or a close relationship to water, is side-by-side with commercial development surrounded by expansive asphalt parking areas and virtually no relationship to the adjacent bodies of water.

Building setbacks and the way they relate to the roadway also differ widely. Single-family residential houses north of South Street are close to the road edge, as are the restaurant and boat dealership near the 299 off-ramp.

The shopping center and commercial development along the east side of Park Marina Drive are setback behind large parking lots. The shopping center that includes Montgomery Wards does not face Park Marina Drive. The blank rear side of these large buildings, including service and loading areas, is clearly visible across a paved expanse and gives

the impression that here Park Marina Drive is a service road. The curve of Park Marina Drive itself tends to focus views toward the waterfront areas, but existing development in some locations tends to block these views. In other locations large filled areas are vacant or covered with scrub vegetation that tend to obscure views or divert attention from more visually attractive sights.

Building types within the Park Marina Drive sub-area range from trailers (mobile) homes and small, wood-frame houses, to garden apartments, concrete and steel shopping centers and office buildings. As a result, there is no overall architectural style that offers a sense of unity to Park Marina Drive. However, a number of the buildings along the Riverfront do use similar materials, such as heavy timber framing with wood siding. This provides a sense of coordinated development.

Across the River, offices and residences on top of the bluffs are visible from many points within the Planning Area. They are two to three story structures that create a walled effect in some locations because of their end-to-end placement.

Aside from the lack of an overall architectural style that the Specific Plan identifies, the predominate type and style of architecture and landscaping that has occurred, primarily on the east side of Park Marina Drive is incongruous with either an urban setting or a riverfront environment. The style would be more appropriate in a mountainous setting.

### **Views and Building Height**

The Specific Plan discusses the views on pages 42 and 43.

Entering the City from the east on Highway 299, the river and its majestic valley is the dominant visual image to the traveller and resident. Similarly, crossing the river on the Cypress Avenue Bridge provides direct upstream and downstream views of the river and Turtle Bay Regional Park. From the bluffs there are panoramic views, but few public access points to take advantage of them. Aside from these opportunities, there are few public places to stop and view the river as it passes through the Plan Area. Along Park Marina Drive the river channel is only visible from the roadway near the southern end of the Plan Area off Parkview Avenue, or when passing under the Cypress Avenue bridge. This latter location gives a particularly powerful view of the river. Along much of the rest of Park Marina Drive views are either of the lakes and marshes or, because of the low elevation of the road, of the cliffs and bluffs beyond the river. The residential neighborhood west of Park Marina

Drive has some view of Kutras Lake and the bluffs beyond, as does some of the commercial development along the roadway. However, the residences in Park Marina Village and the Trailer Park have direct views of the river.

From Turtle Bay West, the dense riparian community screens the river, although a short hike to the tops of former levees allows close river vistas.

From Turtle Bay East, the river is highly visible. A panoramic view is available at the top of the Turtle Bay East entry road at the end of Bechelli Lane.

Other significant views are those from residences, restaurants, and offices on the bluffs looking west toward the Planning Area (Identified view areas are shown in Figure 7).

According to the Open Space and Conservation Element on page 4, "The City's height standards for each zoning district are an important factor in minimizing the visual impact on the river." The height standards discussed on page 5 of the Open Space and Conservation Element, provide the following information pertinent to the proposed office and retail commercial uses of the Specific Plan:

C-0 Office District allows a building height of 40 feet.

C-2 Central Commercial District allows a 50 foot height or greater by use permit.

The 50 foot height is the maximum height identified. Two other visual quality preservation programs which are discussed include prohibiting development within the 100-year floodplain of the river and the on-going program to develop a linear park system along the banks of the River.

### 3.7.2 IMPACTS

#### **Construction Impacts Relating to Aesthetic Conditions**

Short-term aesthetic impacts will result due to the construction of the museum complex facilities, the reconstruction and improvement in the Park Marina Drive area including Redding Landing, the construction of boardwalks and overlooks, the stabilization of bank slopes, and the construction of the bridge. Construction impacts from these activities include dust generation, removal or disruption of existing vegetation and other elements of the existing viewscape, traffic disruption, the visual presence of the construction materials and operations, and increased noise levels near operating equipment. Mixed with the public's reaction to these generally adverse construction related aesthetic impacts

will be an element of interest in the activities and the progress of the project.

### **Views and Building Height**

The six-story office building and parking structure proposed for the golf course site could affect the sight lines of the single-family homes located to the north and northwest of the golf course. The office uses to the west of the golf course could also be affected.

Other impacts which must be considered are the precedent such a structure may have, and the encroachment upon the privacy of adjoining residences. These are subjective considerations which must be evaluated in terms of what the community feels its physical appearance should reflect.

The High density residential land use proposed along Park Marina Drive could have the potential to impact residents along the western border of the proposed land use from a visual and aesthetic perspective if heights exceed one story.

Impacts to existing aesthetics and views in the North and South Gateway Sub-areas will be minimal since existing uses which are proposed to be removed or reconstructed already impede views. In most instances views and aesthetics will be enhanced by coordinated and comprehensively designed improvements.

### **3.7.3 MITIGATION MEASURES**

#### **Aesthetics**

Improvements proposed for the Park Marina Drive Sub-Area in the Specific Plan on pages 25 through 28 to provide visual attractiveness include (illustrated previously in Figure 6):

**Central Harbor.** A central harbor in Redding Landing which would involve a reconfiguration of the existing inlet. The central harbor is proposed to function as the central focus of the Redding Landing development. It should be an interesting visual feature, in terms of its overall shape, and should include different edge treatments that add to the enjoyment of the water; for example, the edge of the Harbor could include areas where wide, seating-steps descend closer to the surface of the water (illustrated previously in Figure 5). The Harbor should be surrounded by a pedestrian walking space that varies in dimension, with some places where buildings are quite close to the edge of the water and others where more expansive open spaces are created. Outdoor eating areas should be encouraged around the perimeter of the Central Harbor.

River Edge Walk/Promenade. A river edge walk should be developed that is a special feature of the specialty center, as well as a link in the overall riverfront/waterfront public access system. This walk could be at a somewhat lower elevation than the rest of the center, to provide closer contact with the cooling effect of the river as well as a sense of separation from the more active commercial activity within Redding Landing.

Harbor Bridge. This bridge should connect the north and south sides of the center to create a continuous pedestrian shopping circuit, as well as an exciting vantage point from which to view the center and the river.

Pedestrian Street. A linear and uninterrupted pedestrian street should be developed along the north side of the center. It should form a boundary between the active recreation uses and park areas to the north and the shopping village to the south. It should also incorporate places, such as outdoor seating and/or eating areas, from which activity within the Small Boat Harbor can be viewed.

Canal. A canal should be developed that provides a flushing flow of water from the Small Boat Harbor through the Central Harbor, but is also an interesting water feature in its own right; it could incorporate abrupt changes in elevation, or even large boulders, to create a lively visual effect. Walks should be developed along both sides of the Canal, and pedestrian footbridges should span it at various points to evenly distribute pedestrian circulation and to create additional opportunities for views of both the Small Boat Harbor and the Central Harbor.

Picnic Park. The Picnic Park should be a relatively quiet area that links the more active uses of the Small Boat Harbor, the Cape riverfront trail, and the Redding Landing specialty center. It should be a well maintained, shady grove from which these adjacent areas of the Riverfront can be viewed. It should contain picnic tables for use by patrons of Redding Landing as well as by the general public.

Strong Visual Relationships. To enhance the orientation of shoppers and its overall physical image, Redding Landing should be planned to incorporate strong visual relationships within the center and between the center and adjacent areas. For example, views along major linear features of the plan, like the Canal or the Pedestrian Street, should be terminated by a special visual feature, such as a landmark architectural element or a nicely framed view to the river or the Small Boat Harbor.



**Major Pedestrian Entrances.** Two major pedestrian entrances should be developed that create a clear sense of arrival at Redding Landing. These entrances could include architectural elements, like an arbor or information kiosk, or special landscape features, like a flower garden, that create an inviting gateway to the rest of the center. These entrances should be easily located from the parking areas and driveways adjacent to the center; their location should be clearly visible from the major vehicular access points, or at least clearly indicated by signage.

**Prestige Riverfront Office Buildings.** These buildings should be somewhat separate from the rest of Redding Landing, and should be sited within the more naturalized setting that is characteristic of the Fishing Spot park area to the south.

**Parking Distribution.** Parking should be distributed around the center in a way that minimizes walking distances, and does not create the sense of a single, massive parking lot. The shape of the Redding Landing project site lends itself to a clustered parking approach, with concentrations of parking to the north and south of the center linked by a less extensive parking area in between.

### **Architectural Style and Building Massing**

The detailing and overall design of buildings within the center should combine to create an intimate, village scale of development. Whereas the Plan recommends a general architectural form of a "stick" or "shingle" style characteristic of early twentieth century country resorts or civic parks, other styles may also be effective as long as there is an underlying unifying theme (also refer to Community Design, Policy 3.3 of the Specific Plan, page 47). The placement and configuration of these buildings is crucial to the character of Redding Landing.

Features that these buildings should contain or contribute to are:

**Landmark Architectural Feature.** An architectural feature like a clock or bell tower, that extends above the rest of the center, should be developed to add to visibility from surrounding roads and bluff areas; it should also provide a major focus for activities and orientation within Redding Landing. This landmark should be in scale with the village character of the rest of the center, and be an attractive symbol of Redding Landing and the rest of the Riverfront area. It would be appropriate to locate the largest open space within the center adjacent to the Landmark Feature.

Hierarchy of Outdoor Spaces. Buildings should be configured and sited to create a variety of open spaces; ranging from intimate, "sidewalk cafe" spaces to a limited number of larger, more public spaces that can accommodate performances, arts and crafts shows, or other attractions.

Associated Features and Details. Lighting, bridges, walkways, fences, and signage should be consistent and in design and scale with the architecture of Redding Landing. The design of these kinds of features should also be consistent throughout the adjacent public park areas.

Prestige Riverfront Offices. These buildings should be of the same architectural design style as the buildings within Redding Landing and the rest of the Riverfront park areas.

Overall Landscape Treatment. Plant materials that reflect the Riverfront setting should be used consistently throughout Redding Landing and the adjacent park areas; typical riparian trees, such as alder, cottonwood or river birch, would be most appropriate. The use of these landscape materials should contribute to a unified and harmonious appearance for the entire Park Marina Riverfront area.

Special Landscape Areas. Within Redding Landing some areas should receive special landscape treatment; for example the main entrances to the center, the edge of the Riverfront Promenade, and the edges of the Canal could use flowering or other highly ornamental plant materials to highlight the special character of these places.

Landscaped Parking Areas. Parking areas should use shade trees and other plant materials that complement those used throughout the rest of the Riverfront. Shade trees within the parking areas should be densely planted so extensive shade is provided during the summer months. A row of trees and supporting shrubs should be used to visually separate the Redding Landing parking areas from Park Marina Drive and adjacent commercial uses to the west, as well as from the park areas to the north and south.

Parking Lot Surfacing. Where economically feasible, parking areas should be surfaced with materials that minimize heat absorption and glare, such as turf block or other kind of porous paving.

In order to implement the above measures, any future discretionary approvals within the entire Plan Area should be subject to architectural site plan and design review and approval by the City. Otherwise the design criteria identified will be meaningless since it cannot otherwise be implemented.

Additional mitigation measures are identified in Sections 3.1 Vegetation and Wildlife, 3.3 Water Quality, and 12.0 APPENDIX B shall also be implemented to preserve trees and vegetation, where possible.

### Views and Building Height

Measures recommended in the Specific Plan on page 41 for maintaining view corridors include:

Allow buildings only in locations designated on the Land Use Plan of the Specific Plan and only to the height and bulk allowed;

Office areas shall have residential-style and roof lines;

A minimum 15-foot street setback shall be required for office areas.

All mechanical equipment shall be screened and utilities shall be underground.

A definitive method of preserving views and aesthetics which should be considered is the establishment of a "view corridor" ordinance which would go beyond the guidelines established in the Specific Plan. A view corridor ordinance would identify and define view planes and include regulations on building height and setbacks along both the river and Park Marina Drive. A special review committee could also be established to review development proposals advanced within the Plan Area. In Addition, when proposals are advanced to build the office buildings and parking structure proposed for the golf course site, additional information shall be provided to assess the visual and viewshed impacts on surrounding uses. The following provides some guidance by which development proposals could be reviewed.

The City should consider adopting an architectural design review district classification to the Plan Area. The district would provide several policies, measures and design standards and criteria to promote development designed to establish an open character with buildings well spaced and oriented with respect to views both to and from the River on both public and private property. The ensuing measures and criteria could be considered when proposals are advanced for development.

## SITE PLANNING

Site planning and design should include the provision for public and private open space. Site planning should include the provision for public access to the river from streets, dedication of right-of-way for a public trail system along the river, and building setbacks from the river. Consideration should also be given to the protection of vistas and scenic corridors, a comprehensive trail system along the river, and unified development of properties in the Plan Area with respect to walkways, lighting, landscaping, circulation and parking.

Projects should give equal status to the view of the building from the River as from the street and parking area.

New construction should preserve mature trees, the bluffs, the river and backwater, and other features in the landscape that are important to the character of the site and environment, especially when they constitute an important part of views from neighboring buildings or the public street.

Desirable trees should be protected during construction and landscaping planing should be an integral element of the total design. Greenway and site work should provide favorable exterior elevations and views from within. Plant, shrub, and tree species should be appropriate to the climate and location and provide color, transitions, seasonal variety, and attract the eye. Emphasis should be given to energy conservation through shading and low maintenance.

Parking areas should be broken into small areas, have shading by trees, or otherwise be treated to reduce the undesirable visual effects of many parked vehicles. Outdoor displays or seating areas should be screened by low walls, hedges, or plantings.

Landscape features, such as walls paving, fences, screens, outdoor lighting, and planters, should be an integral part of the building design with emphasis on safety and enhancing views of driveways, pedestrian walkways, entry and delivery areas. Nighttime views of the building should be considered with lighting designed for both security and architectural effects.

A variety of building shapes and sizes should be used to create interest and character while still maintaining consistency in exterior color and roof lines. Surrounding building heights and sizes should be respected, if necessary, by breaking a larger building into a smaller component, increasing setbacks, and giving attention to all sides of the building.

A clear and consistent design should be used to avoid confusion of forms, colors, materials, and details. Buildings should carry an overall theme for the area. Materials should be appropriate to the intended use and the bulk of the building.

Shapes colors, materials, and other architectural treatments should be used to define, differentiate, soften, and enliven the built form. Flat rectilinear forms will not satisfy aesthetic requirements on a large scale. The use of curves and angles, backfill, and varying levels should be used to soften and add dynamism to a project. The sensitive alternation of colors, materials, and building plans can also produce interest, enhance architectural effects, create pockets of light and shadow, and provide relief from monotonous or uninterrupted expanses of wall.

Roof lines should be visibly angled and of materials that harmonize with the building. Flat roofs should be avoided. Roof overhangs should use to provide passive solar, to complete the roof line, or to reduce apparent wall height. Consideration should be given to the views from taller buildings. Roof pitch, texture, and color should be used to compliment and enhance the scale of the building and wall materials. Roof forms of existing buildings should be respected if they are consistent with the overall theme. Any distinctive patterns of ribs, joints, or standing seams should coordinate with other elements.

Windows should be used to allow light and air and a view of the interior rather than to be used as a sign. Openings should be treated as part of the architectural composition and should consider exterior effects, scale harmony, and the climate. Recessed openings and overhangs can help to create contrast. Color and tinting should consider the exterior wall materials and glare affecting onto other properties.

Signs, sign structures, and exterior graphics should be treated as an integral element of the total design. An attempt should be made for harmony and subdued appearance. Forms materials, and colors used should be similar to the building. Signs should be mounted flush on the wall of the building or should be ground mounted. Pole and roof signs are considered inappropriate.

Utility connections and mechanical equipment should be concealed with screens and enclosures that are integral elements of the building.

Utility doors, access panels, fire doors, and service entries should be part of the architectural composition and blend with the building or placed out of view.

If river water is used to supplement the air-conditioning system of a project, then it should also be used to provide at least one decorative fountain or waterfall effect to be seen from the public right-of-way prior to recycling the water back to the River.

#### **BUILDING SETBACKS**

Unless a project is proposed whereby a series of separately owned parcels are to be developed under a comprehensive master plan, the following setbacks shall be required. These projects shall be developed under the Planned Development Zone and setbacks may vary depending on the use, design and amenities provided.

All buildings shall be setback a minimum of 20 feet from any public street.

On all parcels adjacent to the Sacramento River, all buildings shall be set back a minimum distance from the top of the bank as follows:

One-story buildings not exceeding 20 feet - 30 feet.

Two-story buildings not exceeding 30 feet - 40 feet.

Three-story buildings not exceeding 40 feet - 50 feet.

Minimum setbacks from side property lines shall be as follows:

One-story buildings, a minimum of 20 feet.

Two-story buildings, a minimum of 25 feet.

Three-story buildings, a minimum of 30 feet.

Buildings should not project into or over water-surface areas such as lagoons and lakes subject to flooding from a 100-year flood.

#### **VISUAL CORRIDORS**

All building sites within the Plan Area should be developed in a manner which provides visual corridors through the site to the water area consisting of clear corridors amounting to one-fourth of the width of the property. Where side-yard setbacks do not provide sufficient width to meet this requirement, internal corridors or greater side-yard setbacks could also be used.

Where a parcel is immediately adjacent to the Sacramento River, a minimum one-fourth of any building site width shall be maintained in whole, in an open-view corridor with no buildings or other site-obscuring appurtenances excluding landscaping. In these situations, side-yard setbacks may be

reduced by one-third the distance stipulated in the recommended minimum setbacks.

No main building shall be located closer to another main building on the same parcel than the following minimum distances:

Between one-story buildings, 20 feet.

Between one- and two-story buildings, 25 feet.

Between two-story buildings, 30 feet.

Distances between building greater than two stories in height shall be equal to the average height of the two buildings as measured at their highest point above grade.

#### LANDSCAPING AND WALKWAYS

Twenty percent of the gross building area site should be landscaped, including a minimum ten-foot-wide planter along Park Marina Drive, planting along the river bank designed to minimize erosion, and shade trees in parking areas.

On all properties abutting the river, a minimum 8-foot wide concrete walkway should be constructed within 20 feet of the top of the bank. The walkway should be designed for public access to and public view of the river and should run the entire width of the property adjacent to the water area. Between the walkway and the top of bank, a decorative three foot high safety fence is to be installed. Prior to issuance of a building permit, a walkway easement covering the walkway and three feet on either side should be deeded to the City.

On all properties abutting lakes, lagoons, or other back-water, a five-foot-wide walkway should be constructed five feet back of the top of the bank.

Aside from the above, Policies and Measures included in the Specific Plan on page 47 establish guidelines for building height and include:

The height and bulk of all public and private buildings shall combine to create a unified appearance along the west and east sides of Park Marina Drive.

Building heights on the east side of Park Marina Drive shall be a maximum of 36 feet at the eave of the roof.

Building heights on the west side shall also be limited to 36 feet, except at the golf course site where a single building of six stories is allowed (72 feet).

Narrow "landmark" elements such as tower buildings, spires or other distinctive design features are allowed as part of the hotel or Redding Landing.

Building widths and heights shall be varied to avoid a "wall" of structures impairing river/lake views.

Architectural design review will assure that the above are implemented for any discretionary approvals. To this end, the City Council may wish to consider a moratorium on the approval of any projects in the Plan Area requiring discretionary approvals until an architectural site plan and design review board and criteria is established. An alternative would be to require use permit approval of any project. The Specific Plan and this EIR identify some of the preliminary criteria to be imposed. This mitigates any delays which normally would occur if all criteria had to be developed. Thus, establishment of a board, review of the design criteria and its adoption are the only steps necessary to implement architectural site plan and design review for the area.

### 3.8 LAND USE CONSIDERATIONS

#### 3.8.1 EXISTING CONDITIONS

##### General Plan Designations

The Land Use Element designates much of the Plan Area as Greenway (Figure 10). This includes the banks of the Sacramento River, Kutras Lake, and Motel Lake. Turtle Bay East and West are designated as Parks. Other land use designations are:

**Highway Commercial** is the classification for the area north of the Cypress Bridge along the east side of Park Marina Drive and also adjacent to the Highway 299 off-ramp.

**Residential - 3.5 Units/Acre** is designated for the single-family neighborhood north of South Street along the west side of Park Marina Drive.

**Residential - 18 Units/Acre** designation is limited to the Park Marina Village housing development along Village Drive.

**Office** is ascribed to the area comprising the U. S. Forest Service building and adjacent parcels along Washington Avenue and south of South Street, and also along the east side of Park Marina Drive adjacent to the "Swimming Pond".

**Park** is designated for the area between Washington Avenue and Park Marina Drive south of South street extending across Park Marina Drive along Kutras Lake including the area between the river inlet and the Lake (trailer park location).



Retail is the classification for the area along the west side of Park Marina Drive, including the Montgomery Ward Shopping Center and Cypress Village Plaza.

3.0 and 12 units/ acre, Retail, Service Commercial and Office classifications are the land use designations for the area atop the bluffs east of the river.

### Zoning Classifications

**Turtle Bay West/Convention Center** - The entire Turtle Bay West area is classified as CO-BR-F (Figure 11). This is a combining district that is subject to the requirements of each of the individual designations:

**CO - Commercial Office** - Offices and prescription pharmacies are permitted in this zone. Conditional uses permitted include nursing homes; religious, educational, cultural, and governmental facilities; restaurants; funeral homes; banks; and mixed residential and commercial projects.

**BR** - This classification has been deleted from the Zoning Code.

**F - Combining District/Site Plan Review** - Site plan review by the Board of Administrative Review is required for all development in this district.

**Park Marina Drive** - The following are the classifications for this area:

**C2-F - Central Commercial with F Combining District** - Uses permitted are commercial and retail. Conditional uses permitted are residential and service commercial.

**C2-CT - Central Commercial with CT Combining District** - Uses permitted with a use permit are mobile homes and travel trailers. All uses require a review and permit from the Board of Administrative Review.

**FP - Floodplain Combining District** - This district includes all areas defined by the Federal Emergency Management Agency (FEMA) as subject to inundation by a 100-year flood. The FEMA boundary includes two sub-areas, "Floodway" and "Flood Fringe". The City's FP district also includes areas adjacent to the 100-year floodplain deemed by the City to be affected by flooding. FP may be combined with any of the City's other zoning districts, and all development within the district requires approval from the Board of Administrative Review. Any use may be permitted in the FP District outside the Flood Fringe as long as the lot and building elevation are one foot above the 100-year flood elevation.

Any project request for encroachment into the Flood Fringe must submit a hydraulic assessment study of possible flood effects to the Planning Commission.

R1-B1 - Residential - Single family residential uses with a minimum site area of 10,000 square feet are permitted in this district.

R3-15 - Residential - Multi-family residential development with a minimum lot area of 1,500 square feet per unit is permitted in this district.

R3-25-F - Multi-Family Residential Combining District - Single family, duplex, and multi-family residential uses are permitted in this district. Conditionally permitted uses include schools; condominiums; playgrounds; and public buildings.

U-F - Unclassified with F Combining District - All uses not otherwise prohibited by law are permitted in a U zone, provided that a use permit first be procured, except for a single family dwelling on one lot.

Turtle Bay East and much of the bluff area adjacent to it is zoned U-Unclassified. As previously noted, any use may be permitted in this district. However, if the U District is contiguous with the 100-year flood plain it may be designated as an FP combining district.

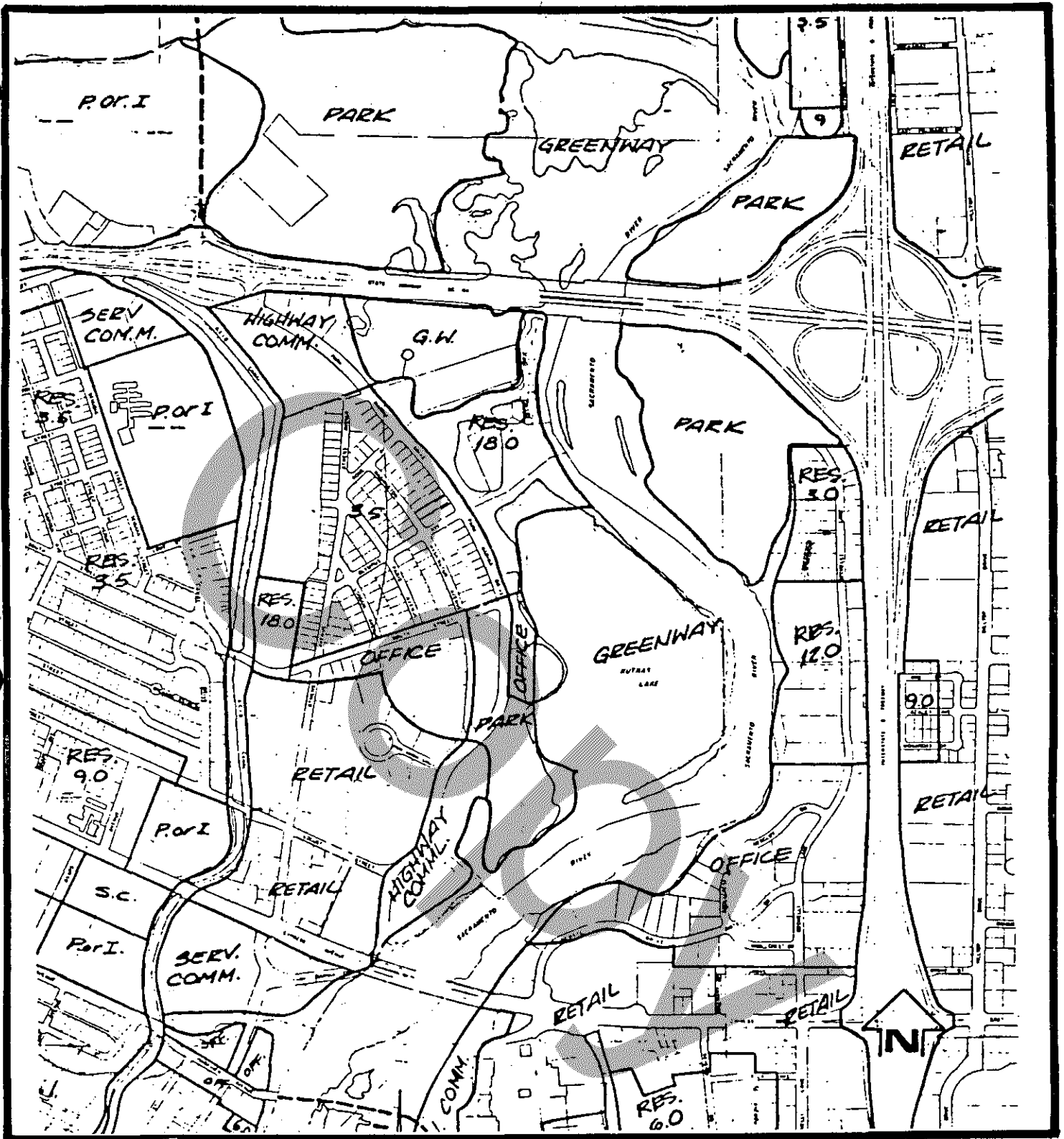
According to the Summary of Existing Conditions Redding Riverfront Specific Plan prepared by The Planning Collaborative, Inc. (December 1986),

The purpose of the Specific Plan is to determine which of these land uses should be changed, which ones should stay the same and which should be made more detailed in order to ensure a well-planned riverfront.

### 3.8.2 IMPACTS

#### TURTLE BAY

The facilities for the museum complex are proposed for the 20 acre disturbed site around the monolith. This will convert the use of this area from vacant park land to the "CERE" culture/education/recreation facility which is consistent with the General Plan Park designation. The remaining 120 acres is proposed to be used as open space for trails and passive recreation uses. A boat ramp and passive recreation uses are proposed for Turtle Bay East. The uses proposed in the Specific Plan are consistent with the General Plan.



GENERAL PLAN DESIGNATIONS

FIGURE

10



In regard to land use incompatibilities, concerns exist over conflicts which may arise between uses in the Convention Center and Posse Grounds and the museum complex facilities due to the dissimilar uses, parking and traffic. In addition, when activities are occurring at the Convention Center and the Posse Grounds at the same time, there is insufficient parking. Therefore, the Posse Grounds are not scheduled for use when there is an event at the Convention Center. Since the arena at Posse Grounds does not have any form of cover, its use is limited.

**PARK MARINA DRIVE**

The Specific Plan proposes that the area adjacent to the river along the lakes and ponds of Park Marina Drive and between the proposed "North and South Gateways" be reconstructed and improved as a municipal riverfront parkway. This would involve removing and/or rehabilitating over the long-term, approximately 141 dwellings units and 50 office and retail commercial uses. The General Plan will have to be amended in order to implement the Specific Plan for consistency purposes. The following discussion identifies the status of the existing buildings within the area proposed to be removed or rehabilitated.

**Existing Structures and Proposed Specific Plan Status**

The ensuing uses are proposed to be removed but can be relocated within the South Gateway area:

Outrigger Office (4)	4500 s.f.
Professional Offices (15)	6000 s.f.
Ice Cream Store (2)	3000 s.f.
Wine Cellar Retail/Office (8)	12000 s.f.
Round Office Building (12)	23000 s.f.
Cypress Square (2)	6000 s.f.
Trailer Park Office	4000 s.f.
Bike Shop	3200 s.f.
Hobby Hut	8000 s.f.
"Mattress" Store	8000 s.f.
Redding Sport and Boat	6000 s.f.

The following uses are proposed to be removed but may be reconstructed within the Riverfront Parkway area:

- Redding Raft Rental
- Park Marina Water Sports

The following residential uses are proposed for higher density for which a General Plan amendment will be necessary:

- Single-Family Residential 24 parcels  
(along the west side of  
Park Marina Dr.)

The following uses are proposed to be removed and replaced with parkway or riverfront uses. The General Plan will need to be amended to the Park designation.

Spaid House	1 unit
"Chalets"	7 units
Apartments	65 units
Condominiums	12 units
Trailers - (approx.)	32 permanent and 50 overnight only
Aqua Golf occupying approximately	3.5 acres

### 3.8.3 MITIGATION MEASURES

#### **TURTLE BAY**

Section 5.0 Alternatives to the Proposed Project advances alternatives by siting the museum complex facilities on the Benton Ranch Property to reduce conflicts that may arise between the two dissimilar uses, parking and traffic. The development of a convention oriented hotel/motel facility is an alternative land use which should be considered in place of the museum facilities in addition to the provision of an exhibit hall.

Once a determination for the placement of museum complex facilities has been made, a parking master plan should be prepared so that there is sufficient parking available for both the Convention Center and the Posse Grounds. Not being able to schedule activities at the same time results in decreased revenues.

Although not an environmental issue but certainly land use related, the City should evaluate the renovation and expansion of the Posse Grounds Arena and the construction of a lightweight fabric roof structure over the facility similar to the Concord Pavilion in the Bay Area. This will allow additional uses of the facility during summer days and for certain events during the winter. Use of the arena will also allow for the scheduling of events which are not permitted in the Convention Center.

Mitigation measures for the proposed uses in the Turtle Bay sub-area are discussed in Sections 3.1 VEGETATION AND WILDLIFE, 3.3 WATER QUALITY, and 3.6 OPEN SPACE, PUBLIC ACCESS AND RECREATION.

#### **PARK MARINA DRIVE**

The Specific Plan identifies various actions which can be used to develop the riverfront parkway and proposed gateway uses. The Specific Plan states on page 55,

Guided by a lasting vision for the Riverfront, a phased program of implementation will require coordination of public

and private actions over many years. The City can choose from several implementation strategies, as well as a broad range of regulatory, developmental and financing mechanisms to accomplish these goals. In general terms, the City can follow one or some combination of the following approaches:

**Regulatory Approach.** The Specific Plan can serve simply as a General Plan amendment and regulatory document used to regulate decisions regarding land use, intensity, development layout, circulation, and the provision of utilities to developed portions of the riverfront. Under this approach, the City takes no action to encourage appropriate development, but rather, administers a plan in the same way that zoning and design review procedures are conducted. The regulations and guidelines of the Specific Plan would guarantee conformance to the ultimate riverfront concept, however, in the intervening years, there would be little relationship between developed areas. Development proposals by landowners would be dictated by property lines rather than logical units of development. The timing of development would be determined by many factors rather than optimal market opportunities. Existing development could prevent the riverfront from achieving its highest and best use, causing a delayed development process.

**Specific Plan/Redevelopment Plan.** Under this approach, the Specific Plan would serve to amend the General Plan as above, but could be expanded to include the legally required elements of a Redevelopment Plan. The City's Redevelopment Area would be expanded to include the Riverfront Specific Plan Area to enable full redevelopment powers to be exercised by the City's Redevelopment Agency. The Agency is empowered to acquire, manage property, relocate people and businesses, prepare site redevelopment, develop property and facilities, and sell land. It may acquire land by purchase lease, gift, or eminent domain. Given sufficient financial resources, this approach would allow the City to take full control of the development process and fully expedite plan implementation.

**Public/Private Joint Action Program.** Under this approach, a range of implementation activities, organizational approaches, and development actions would be used, through a series of joint partnership arrangements (either without or supported by City redevelopment powers). The Specific Plan provides a comprehensive policy framework within which the City and the property owners can act as a team to achieve the objectives of the Plan. Under this approach, the City can use its financial resources to both support,

stimulate, and leverage private sector investment in realizing the Plan. Under this approach, the City would have great flexibility in its implementation program and could apply all mechanisms equally well to private land and city-owned land.

The latter approach is clearly the most flexible and effective in meeting the needs of the City, and the most practical given the City's available resources. The elements of this approach are presented in the sections which follow. The actions which should be accomplished, the organizational models which are available for joint public/private action, and the ways in which these models might be applied to Turtle Bay and Park Marina Drive are presented.

Of all the strategies proposed to implement the Specific Plan, the Public/ Private Joint Action Program is the ideal approach to pursue, however, it can be the most difficult to accomplish since it takes time and cooperation. Furthermore, the lack of single ownerships can also be a major stumbling block. As an example, the downtown Redding Mall was developed under the redevelopment strategy. However, the existence of multiple ownerships is cited as one of the elements which have hampered it's success. Therefore, as an interim strategy, several approaches can be used while a final strategy is formulated.

The Regulatory Approach coupled with architectural site plan and design review can be used to implement certain components of the Specific Plan while the recommended Public/Private Joint Action Program implementation strategy is being formulated. Regardless of the strategy used development will take time. Therefore, the relocation or removal of existing uses or residences should not be undertaken until the strategy is clearly developed with specific timelines and a financial plan for implementation. Proposed uses should not be permitted unless they are consistent with the Specific Plan. Existing uses should not be permitted to renovate or expand unless they too are consistent with the Plan. Both existing and proposed uses within the Plan Area should be subject to architectural site plan and design review.

#### **City of Redding Relocation Policy for Residents and Businesses Displaced by Redevelopment**

If the City were to adopt the Redevelopment Plan approach for implementing the Specific Plan, development can be included in the City's Redevelopment Plan. Under a redevelopment plan the City's relocation policy provides adequate measures in accordance with Title I and Title II of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, Title VI of the Civil Rights Act of 1964, Title VII of the Civil Rights Act of 1968 and the California relocation Assistance Act. These policies apply to all relocation assistance and property acquisition



by the City of Redding to assure uniform, fair and equitable treatment of any persons displaced by a city program. The City's Relocation Policy is summarized in APPENDIX B.

Additional actions which the Specific Plan identifies on pages 58-60 for the implementation of the Specific Plan include,

### Financing

The public sector involvement in the development process has its greatest impact in providing financial incentives and support to the development process. Although the capital requirements of the proposed riverfront projects are large, the City can be a major factor in leveraging the capital needed to initiate and accomplish project development.

The City can provide initial seed money to launch new projects; it can build needed infrastructure through its general fund or undertake general obligation bonds to finance major project improvements as well as receive State and Federal grants to increase the capital base of new projects; and it can attract support from banks by providing loan guarantees through locally provided loan insurance or public loan contributions to a riverfront loan pool. These approaches reduce the cost of financing by reducing the risk of the provider, and, thus, enhancing project feasibility.

If the City chooses to create a Riverfront Redevelopment Area, the City can provide tax increment financing to future phases of the project. Using this approach, the Redevelopment Agency would issue bonds to finance project improvements and administrative costs and would apply the tax increments of increased property value obtained in the project area to pay debts on the bonds (tax increments are considered revenues in excess of those produced at the time the area is declared a redevelopment project). Although this mechanism has been reduced by the effects of Propositions 13 and 4, it is still considered a major source of local revenue.

The Specific Plan itself is a powerful vehicle for attracting private sector investment. The City can use the Specific Plan as a vehicle to promote major developers who have the experience and capability to fund development projects on a scale envisioned by the Plan. The City should use its financial resources wisely to fund initial start-up costs by obtaining available State and Federal assistance. However, significant funding for the long-term can be expected to come from private sector capital sources using this approach (the various financial options for different elements of the Plan, suggesting which are the most suitable given existing City resources and opportunities are illustrated in the Specific Plan).

### Development Rights Exchange.

The key to the recommended strategy is that in the early years, the City may use a development rights trade-off approach within individual project areas to achieve the integrated parkland and development objectives of the Plan. Within each of the implementation project zones, trade-offs are available in which property owners can transfer development rights to desirable development sites in exchange for creation of parkland amenities in areas preferred for public open space. These trade-offs promote optimum land development serving both public and private sector interests. For instance, flood prone lands can be converted to parkland in exchange for development on higher ground. At the same time, parkland development can greatly enhance the property value of reassigned development sites.

### Non-Conforming Uses

There are a number of ways the City can accommodate existing residents and tenants in the Plan Area and non-conforming uses under the Plan. Life estates can be offered to existing residents so they can remain within the Plan Area as long as they desire. Relocation assistance can be provided for residents or tenants to secure an alternate location and finance the transition. For a project such as Redding Landing, commercial tenants on the site today could be offered the option of joining the new project when it is completed. The City can acquire an option on properties with a right of first refusal. In this way, the City is given the first chance to purchase properties when the land owner chooses to sell. Each of these options and others are available to accommodate land owner/resident/tenant needs.

### Development and Participation Agreements.

Development agreements can also be used to give both landowner/developer and the City the needed assurances on project decisions. A development agreement is essentially a contract between the landowner and public regulatory agency which can specify intensity allowable, design features, restrictions, covenants, timing and phasing, and other specific project details. The advantage of a development agreement to the landowner is that it can not be amended without concurrent approval from both parties.

Participation agreements can also be made. These involve agreements whereby landowners or existing tenants are granted shares of a development corporation which is developing a number of assembled parcels in exchange for land or leases. It allows for participation by private interests in a major redevelopment structure.

## Legal Actions - Use of Eminent Domain.

The public power of eminent domain can be an important tool in the development process. A municipality can require private property or property leases to be sold to a public entity at fair market value, established by a court of law. Land may be condemned in the public interest and acquired for public use and disposition through the use of the police power, as a last resort, if normal property negotiation and acquisition by the public are unsuccessful. Its use is not necessary in the public development process, but is available for use in what may be termed either last resort acquisition, or friendly acquisition strategies.

The proposed land assembly process for the Riverfront Specific Plan relies on a development rights transfer and trading program supported by negotiations between property owners and the City. It does not require use of eminent domain. However, property condemnation using eminent domain can support the negotiation efforts: For example, where it is beneficial to the tax position of the landowner to have properties formally condemned rather than purchased or exchanged, a "friendly" condemnation can occur. In this circumstance, condemnation occurs with the consent of the landowner creating a financially favorable land deal. Conversely, when negotiations regarding property value and acquisition are not successful, a municipality may be required to undertake condemnation proceedings as a last resort to satisfy the public interest objectives and accomplish a plan.

The Specific Plan suggests an action for public involvement for the long-term planning of the Park Marina Drive area on page 63.

. . . the City, existing property owners, lessees and tenants are expected to participate in the early and long-term phases. The recommended institutional organization is formation of a non-profit development corporation for Park Marina Drive. In each case, the fundamental elements of the corporation are to provide an arrangement for bringing together the various participants to work jointly toward common objectives. The elements of each include the membership of the participating parties, the organization of the corporation around the target geographic area, the ability of the corporation to receive grants, administer projects and to engage in joint venture with private development corporations. The recommended structure is not the only one available, nor is it the only way to organize the activities. As negotiations and funding attempts proceed, the institutional arrangement which best "fits" each sub-area will evolve.

### 3.9 TRAFFIC AND CIRCULATION

The ensuing traffic and circulation analysis is general in nature due to the type of E.I.R. being prepared. The City General Plan Circulation Element provides the basis of circulation needs. As an example, the analysis may conclude that a particular intersection may require signalization. However, when a specific project is advanced which may affect the intersection, detailed traffic engineering analysis may determine that the signal is not necessary if left hand turn pockets are installed, or due to signal phasing at another intersection. The purpose of this analysis is primarily to determine the magnitude of traffic generated by the study area and its general impact on existing facilities. This provides general guidance for evaluation of specific projects. General circulation mitigation measures are advanced which are applicable to all projects, regardless of their specific impact.

#### 3.9.1 EXISTING CONDITIONS

The principal roads in the Plan Area are Park Marina Drive and Auditorium Drive. Park Marina Drive is a four-lane road from a point about 300 feet north of the intersection of Locust Street to Auditorium Drive. North of Auditorium Drive it becomes Butte Street having two-lanes; south of Locust Street, Park Marina Drive also is two-lanes.

Auditorium Drive is a two-lane road which serves the Redding Convention Center with its only ingress and egress access located at the Highway 299 on-and off-ramp intersections and the Auditorium Drive/Park Marina Drive/Butte Street intersection. The Circulation Element identifies that the highway interchange is subject to both weekday traffic peaks and peak traffic related to events occurring at the Convention Center. Any ramp modification or traffic-control needs will likely be related to the expansion of these facilities. To serve weekday peak traffic problems, ramp signals are recommended, regardless of the proposed uses advanced in the Specific Plan.

South Street and Butte Street provide the primary links to the downtown commercial business district. Parkview Avenue, Locust Street and Athens Avenue provide primary connections to Cypress Avenue. Athens, Rome and Olympus Avenues intersect with Park Marina Drive in the northern portion of Park Marina Drive. Although Athens Avenue serves primarily as a residential collector street in this area, it becomes a busy commercial thoroughfare onto South Street approximately four blocks south of the Park Marina Drive intersection (Figure 12). Park Marina Circle, which is presently being developed, intersects Park Marina Drive in a "T" intersection. Washington Avenue, which is oriented in a north-south direction also intersects Park Marina Drive in a "T" intersection.

Traffic controls are comprised of stop signs controlling minor roads onto Park Marina Drive. Traffic signals are located at the Locust Street/Athens Avenue intersection and Cypress Avenue/Athens Avenue intersection. Traffic distribution, existing traffic volumes in the Plan Area and vicinity are provided in Table T-1 and in Figure 12.

The Specific Plan provides the following information on page 50,

Local transit service routes (i.e. RABA bus service) serve the Planning Area. The Greyhound and Intermountain Stage regional bus lines run along Highway 299 west, and Trailways crosses the Cypress Avenue Bridge. The main terminals for these buses are in the downtown Central Business District.

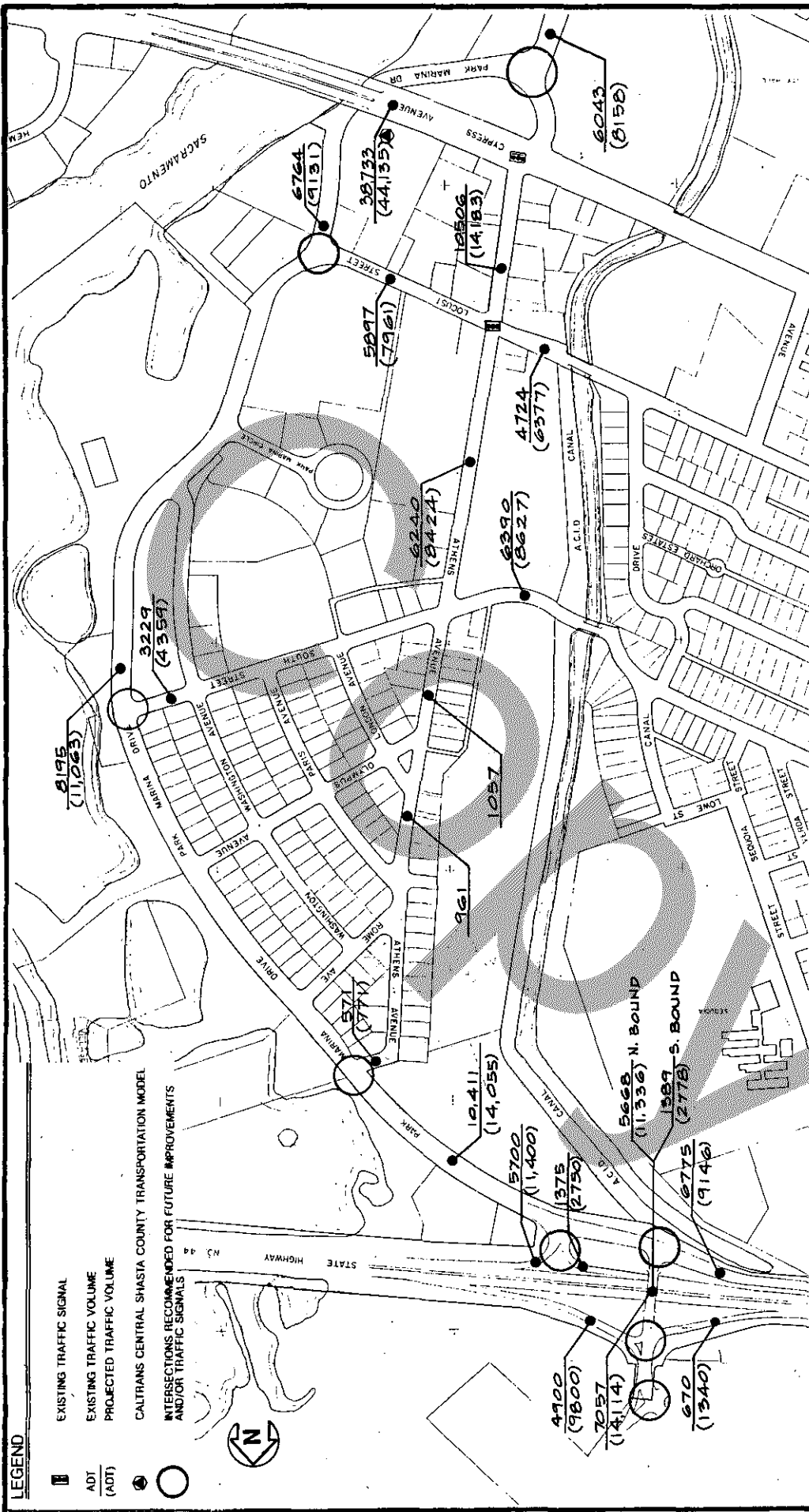
#### **Pedestrian and Bicycle Access**

Pedestrian access and bicycle routes are underdeveloped in the Planning Area. Park Marina Drive is currently a designated bicycle route consisting of a signed and painted lane along both sides of the roadway. No designated pedestrian access routes are contained in the General Plan. The relationship between vehicular circulation and pedestrian activity is difficult in a number of locations. It is difficult to cross Park Marina just about anywhere, particularly near the Auditorium Drive/299 overpass and off-ramp. Finally, no pedestrian access routes are defined along the River edge anywhere within the Planning Area.

It should be noted that painted edge lines along both sides of Park Marina separate through traffic lanes from a 4 to 5 foot shoulder when parking is restricted. This 5 foot shoulder is not a bike lane. The difficulty between vehicular circulation and pedestrian activity is due to the lack of sidewalk.

Using conservative assumptions, the estimated daily traffic volume which can comfortably be carried by a good standard 2-lane road is approximately 12,000 vehicles per day. A 4-lane road can carry 24,000 vehicles per day. This is based on a service level of "C" which is a "zone of stable flow, but speeds and maneuverability are more closely controlled by higher volumes. Most of the drivers are restricted in their freedom to select their own speed, change lanes, or pass. A relatively satisfactory operating speed is still obtained, with service volumes perhaps suitable for urban design practice". Roadway capacity at service level "C" equals about 600 vehicles/hour/lane.

Intersection capacity is analyzed by using critical movement intersection analysis which presumes that signal timing may be adjusted to meet vehicle movement needs. Level of service "C" is experienced when the sum of conflicting critical movements reaches 1,200 vehicles per hour.



**FIGURE 12**

**EXISTING AND FUTURE AVERAGE DAILY TRAFFIC (ADT) VOLUMES**

Existing traffic volumes in the Plan Area have not exceeded service level "C" and are principally at service levels "A" and "B". The major congestion experienced in the Plan Area results when traffic from events at the Convention Center exit at the same time that normal peak hour occurs and requires police manpower to clear traffic. A service level of "E" to "F" is reached when this situation arises.

### 3.9.2 IMPACTS

#### **Project Trip Generation**

The trip generation rates used were obtained from various sources including the Institute of Transportation Engineers (ITE), Trip Generation, Fourth Edition, 1987, and the California Department of Transportation, District 4 Research Counts. Traffic volumes from the existing uses in the Plan Area south of SR. 299/44 are presented in TABLE T-1. Based on the existing zoning, TABLE T-2 shows volumes when the area is developed or "builtout". A comparison of these tables illustrates that an additional 12,009 trips could be generated by the existing zoning. TABLE T-3 identifies the traffic generated by the uses proposed in the Specific Plan both north and south of SR. 299/44 when "buildout" occurs. A comparison of TABLE T-2 and TABLE T-3 illustrates that the proposed Specific Plan will generate 5,390 traffic trips less than the existing zoning which is a significant reduction.

In the Plan Area, the Auditorium Drive/SR. 299/44 overpass is currently impacted and will continue to be so at ultimate development based on either the existing zoning or the Specific Plan. Ms. Michelle Gallagher, CalTrans IGR/CEQA Coordinator for District 2 states in her letter of May 19, 1988,

State Highway 299 . . . will be greatly affected by this plan. It is anticipated that LOS (level of service) will drop to "F" within the 20-year period. Therefore, to maintain acceptable conditions 2 lanes (one each way) will be required. (These lanes would be on the outside, not in the median.) Auditorium Drive Interchange would also require modification. . .

Based on 20 year traffic volume projections (Figure 12), service levels in the area will still be at or less than "C" except for the interchange of Auditorium Drive and SR. 299/44 as discussed. The interchange ramp intersections with Auditorium Drive and Park Marina Drive will meet or exceed the service level "C" unless widening of the overcrossing, a dual west bound off-ramp, and signalization is provided.

**TABLE T-3**

**SPECIFIC PLAN TRAFFIC VOLUMES AT BUILDOUT**

<b>Turtle Bay</b>	<b>VOLUME</b>
Peak Day attendance of 3000, 1,071 cars @ 2 TE/day	2,142
Employees (10 per museum) 40 @ 4 TE/day	160
Sub-total	2,302
<b>Park Marina Drive</b>	
North Gateway - 400 additional motel units (9.6/room)	3,840
South Gateway - 50,000-100,000 (100,000) s.f. commercial @ 50 TE/Ksf	5,000
plus 60,000 s.f. Offices @ 15 TE/Ksf	900
Riverfront Parkway (approx. 20 ac. @ 35/ac.)	700
Residential (4.5 Ac. @ 24 du/acre) 108 units 7 TE/day	756
Offices (up to) 150,000 s.f. @ 15 TE/Ksf at Golf Course site	2,250
Sub-total	13,446
Total	15,748

**3.9.3 MITIGATION MEASURES**

Implementation of the Specific Plan is in of itself a form of mitigation since the land uses proposed will generate 5,390 less ADT's at buildout than the existing zoning. However, measures are advanced to mitigate impacts at the Auditorium Drive/Highway 299 interchange. There are other improvements, which technically are not mitigation measures but could serve to enhance traffic circulation in the area if implemented.

The Specific Plan recommends certain improvements on page 52.

**Intersection Improvements.** Realign the intersection of Park Marina Drive and Locust Avenue to form a "T" for safer and more efficient travel. Redesign the intersection of Park Marina Drive and Washington Avenue to improve traffic access and sight distance.

**Athens Avenue/Locust Street Entrance.** Reconstruct these major roads as a boulevard entrance to the riverfront with street trees and sidewalk improvements.

**Shared Parking.** Maximize shared parking between office, retail and recreation use at the Redding Landing Specialty Center, recreation and office use at the Golf Course site.



Turtle Bay East Access. Limit access to Turtle Bay East to the Bechelli Lane extension only. The existing road will need to be extended to future recreation use areas.

The Auditorium Drive/Highway 299 interchange is subject to peak traffic related to events occurring at the Convention Center area. As identified in the Existing Conditions ramp signals are recommended regardless of the proposed uses.

Other specific improvements include; widening to four lanes the Auditorium Drive highway overcrossing, the extension of Auditorium Drive to Market Street would provide a second access and relieve peak traffic problems. Also needed are lane additions and the widening of the westerly off-ramp. A parking study should be prepared so that there are adequate paved spaces to serve events which may occur at the Convention Center and Posse Grounds simultaneously. Traffic signals should be constructed at Park Marina Drive and Locust Street and South Street. Reconstruction of the signal at Locust Street and Athens is recommended.

In order to implement the above improvements, an assessment district should be established by the City, or a traffic impact fee imposed as a condition of project approval.

In the Park Marina Drive area, the intersection of Locust Street and Park Marina Drive should be realigned. Evaluation of the Parkview Avenue and Park Marina Drive intersections and how this intersection impacts the future Parkview Bridge should be undertaken. The intersection of Athens Avenue with Park Marina Drive could be closed.

To minimize the impacts on traffic direction, primary driveways on the east side of Park Marina Drive should be aligned with the existing streets on the west side. Parking should be continued to be prohibited on Park Marina Drive. Secondary driveways should be oriented to the primary driveways and when accessing Park Marina Drive should be spaced a minimum of 100 to 200 feet between each other with left turns prohibited.

### 3.10 BRIDGE LOCATION

#### 3.10.1 EXISTING CONDITIONS

As previously stated, the Final Environmental Impact Report (EIR-1-81), (S.C.H. #81010705) Benton Ranch Master Plan and Planned Development (prepared by Eco-Analysts for the City of Redding, 1981) considered a bridge crossing which would extend Auditorium Drive to the Benton Ranch property with an alignment either to the west or east of Sulphur creek. The traffic analysis from that report stated,

A two-lane bridge can adequately accommodate the estimated traffic volumes (of the project proposed at that time). Traffic on the North Market Street bridge is only modestly diverted due to the presence of the new bridge. Level of Service at the critical Eureka Way-North Market Street intersection would remain in the E range. . . the new river crossing would provide better access to central Redding.

The Benton Ranch EIR recommended that the bridge be located to the east of Sulphur Creek, however, a bridge siting study was not done. Key issues considered in the recommendation of locating the route east of Sulphur Creek in the Benton Ranch EIR included: protection of riparian habitat and archaeological sites; street and lot design of the proposed Benton Ranch Project; the Sulphur Creek drainage and floodplain; and traffic movements through the area. The Benton Ranch Area is now the property of the City of Redding and would be subject to new street and lot design concepts depending on the proposed development of the area.

A complete assessment for the location and construction of a bridge crossing is beyond the scope of the Program EIR, however, the following analysis is provided to identify a preferred alternative for the location of the bridge. Five alternative alignments for a bridge crossing are assessed (illustrated in Figure 13). A sixth alternative assesses "No Bridge Crossing". The analysis is prepared for planning purposes only, no specific studies have been performed.

#### **BRIDGE LOCATION ALTERNATIVE ALIGNMENTS TO THE BENTON RANCH**

##### **Alignment 1 - Locate the bridge behind Posse Grounds**

This alignment would require that a new roadway be constructed, including new intersections, away from the Highway 299 on-and off-ramps. The existing south side portion of Auditorium Drive would become a frontage road serving the existing uses including the Redding Visitor's and Convention Bureau. This would also encroach into the landscaping in front of the auditorium.

##### **Alignment 2 - Locate the bridge to the east of Posse Grounds**

This alignment is similar to Alternative 1 except that it would be located between the Posse Grounds and the Auditorium. The existing southern portion of Auditorium Drive would be realigned and "T" intersect with the "Auditorium Drive".

##### **Alignment 3 - Locate the bridge to the east of the Auditorium**

This alignment would route the bridge extension along Auditorium Drive along the existing alignment and would be adjacent to the proposed museum complex facilities. The route would bisect the

Civic Auditorium's northeast parking. It would follow the existing roadway, including minor alignment improvements. On the Benton Ranch side the route would be located half way between Alignment 1 and Sulphur Creek.

**Alignment 4 - Locate the bridge west of Sulphur Creek and along the existing Auditorium Drive**

This alignment would route the bridge extension along Auditorium Drive adjacent to the proposed museum complex facilities and the Civic Auditorium's northeast parking lot using the existing roadway, including minor alignment improvements. On the Benton Ranch side the route would be located west of Sulphur Creek.

**Alignment 5 - Locate the bridge east of Sulphur Creek with an adjusted alignment from Auditorium Drive.**

This alignment locates Auditorium Drive away from the adjacent museum complex facilities by moving the roadway to the west encroaching on the greenway strip in front of the Civic Auditorium and through up to one-half of the Civic Auditorium's northeast parking lot. On the Benton Ranch side, the route would be east of Sulphur Creek.

**Alignment 6 - No Bridge Crossing**

This alternative recommends that a roadway across the Benton Ranch property from Market Street to Hilltop Drive be developed and pursued. Whereas this does not provide the relief a bridge would, it would assist in reducing the traffic congestion in the Lake Boulevard/North Market Street/Hilltop Drive area, primarily that which affects Lake Boulevard.

**3.10.2 IMPACTS**

All the alternatives could avoid the Sulphur Creek drainage and floodplain. However, Impacts on wildlife habitat are directly related to the amount of riparian vegetation disturbed or lost for the construction of the bridge.

Construction impacts due to grading, excavation, filling, equipment use, handling of construction materials, and in-water construction include adverse impacts on water quality which can increase sedimentation and turbidity which clogs spawning gravels affecting salmon spawning and rearing areas. In addition, scouring around bridge piers may cause spawning gravels movement (Tom Stone, DFG Biologist, April 1988, pc).

The Specific Plan identifies that the proposed bridge crossing and the Auditorium Drive road extension could divide the Convention Center/museum complex facilities and requiring pedestrians



BRIDGE ALIGNMENT ALTERNATIVES

FIGURE

13

to cross a road between facilities. However, the bridge would tie City land on each side of the river which are now divided.

Regardless of the bridge route selected it will be visible from the river banks of Turtle Bay West and the Benton Ranch property. The bridge will be most visible from upstream and downstream users including river trail hikers, boaters and fisherman. The bridge will be visible from the proposed museum complex facilities and the Convention Center.

## **EVALUATION OF THE ALTERNATIVE ALIGNMENTS**

### **Riparian Vegetation**

Alignments 4 and 5 encroach into the riparian areas of Turtle Bay West. Alignment 3, to a limited degree, impacts riparian areas. Alignment 4 would remove approximately 1.5 acres of vegetation. This route divides an approximate five acre area from the remaining nature preserve area. Alignment 5 would remove approximately 1.75 acres of vegetation and similar to Alignment 4 it would also encroach into and divide a portion of the riparian area. Alignments 1 and 2 would have minor impacts on vegetation.

### **Fisheries**

The Redding Riffle is the largest of the spawning gravel beds in the Plan Area. Alignment 1 is proposed to be located at the head of the Redding Riffle, whereas Alignments 2 and 3 are located within it. No specific studies have been performed for this analysis but potential scouring around the bridge piers could result in the movement of spawning gravels from the Redding Riffle.

Alignments 4 and 5 are below the Redding Riffle. The Gasline Riffle, a small spawning gravel bed is located below the Alignment 4 site and in the immediate area of the Alignment 5 site. Similar to Alignment 1, scouring could result around the bridge piers causing spawning gravels movement from the Gasline Riffle).

### **Archaeology/Historical/Cultural Sites**

Alignment 4 has the potential to disturb two archaeological sites located in the Benton Ranch site. No archaeological sites are known to occur in the alignment areas of Alignments 4 and 5 (refer to Section 3.4 Archaeology/Historical/Cultural Resources).

### **Traffic and Circulation**

Alignments 1 and 2 will require the construction of a new roadway away from the Highway 299/44 on-and off-ramps in order to avoid spacing the intersections too close together or creating an awkward intersection. The alignment has the potential to encroach on

a minor portion of the Civic Auditorium's south side parking lot. A re-configuration of the circulation from the parking lots onto the new roadway would also be required. The existing portion of Auditorium Drive serving the offices, television station and skating rink would become a frontage road which would feed onto the new roadway. This alternative also has the potential to affect the ingress and egress of the parking lots, requiring the relocation of driveways as determined necessary.

Alignments 2 and 3 propose alignments away from the museum complex facilities and would encroach across the existing greenway in front of the auditorium and across up to one-half of the Convention Center's existing northeast parking lot (Alignment 3).

Alignments 3, 4 and 5 would utilize the existing Auditorium Drive roadway, although, alterations would be required for better alignments. These alternatives would be located adjacent to the museum complex facilities and would divide the Convention center and museum complex facilities.

Alignment 6 would eliminate a bridge crossing to Auditorium Drive as an alternative/solution in reducing the congestion in the Lake Boulevard/North Market Street/Hilltop Drive area. It would also eliminate a second egress route from the Convention Center/museum complex area. This alternative would fail to tie the two sides of the bridge together which would be critical to meeting the Specific Plan objectives if the museums are located on the Benton Ranch site. Due to build-out under the existing General Plan or the Specific Plan and associated traffic growth, the Auditorium Drive Bridge is required to facilitate traffic movement in the North Market Street corridor. Without a bridge, other mitigations may need to be evaluated and advanced or growth restrictions implemented.

#### PREFERRED BRIDGE CROSSING ALIGNMENT

Alignment Six - No Bridge Crossing is the environmentally superior alternative for protecting the natural resources impacted. However, to relieve the congestion along the Market Street corridor the No Bridge Crossing Alignment does not assist in achieving this objective. The preferred alternative providing a bridge is Alignment 5 - Locating the Bridge east of Sulphur Creek. In comparison with the alternatives evaluated, Alternative 5 has less impacts. The key issues considered include: protection of riparian habitat and archaeological sites; the spawning gravel beds and fisheries; the Sulphur Creek drainage and floodplain; and traffic movements through the area. Alignment 5 has one of the shortest spans across the river (500 feet) which minimizes the construction number of piers, if they are required. Alignment 4 has a span of approximately 400 feet.

### 3.10.3 MITIGATION MEASURES

A specific bridge site study should be prepared if it is determined that an Auditorium Drive bridge can be financed.

A bridge crossing would provide some relief to the congestion along the Market Street corridor. The bridge crossing in conjunction with other available Central Business District solutions will aid in improving the level of service at the downtown intersections. A second access to the Convention Center and the museum complex facilities would relieve traffic congestion related to events occurring at both facilities. A bridge crossing could also serve as a major bike-way connection across the Sacramento River. School, commute and recreational bicycle trips would be enhanced with a direct lower auto conflict bike-way route when compared to the present North Market Street traffic corridor.

#### **Riparian Habitat**

Where possible, the areas along the bridge crossing should be revegetated. An erosion control plan should be prepared and submitted, including a vegetation element addressing the vegetation to be disturbed or lost and identifying where, when and how revegetation is to occur. In-kind replacement at the Turtle Bay East site should also be considered for vegetation removed for the construction of the bridge so that the net effect within the Plan Area will be a "no net loss" of riparian habitat or value. However, the City has purchased miles of riparian habitat along the Sacramento River over the years and this should be taken into consideration as possible "in-kind" replacement.

#### **Archaeology**

As identified, archaeological sites are located west of the mouth of Sulphur Creek. Therefore, adequate mitigation measures should be provided for any site which may be encountered, disturbed or destroyed due to the location of the bridge (mitigation measures are discussed in Section 3.4 Archaeology).

#### **Fisheries**

Some very important riffles that produce large numbers of salmon are located along this stretch of the river these include the Redding Riffle and to a lesser extent the Gasline Riffle. Therefore, construction of a bridge crossing shall require that the contractor meet California State Fish and Game requirements so that there will be no detrimental impact on the fisheries. If a bridge crossing project is advanced, a study of the size of the area and amount of spawning gravels which may be displaced shall be addressed. Sites in Turtle Bay East and West have been used for experimental gravels enhancement projects. As a mitigation measure the City shall consider working with the California Department of Fish and Game to identify, fund and provide spawning

gravels enhancement so that "no net loss" of spawning gravels will occur.

The development of spawning gravel areas has involved the creation of stream channels through a portion of Turtle Bay West and East adjacent to the river. Further enhancement of these channels would involve revegetating the stream banks to promote riparian vegetation growth. This would serve to mitigate the loss of riparian areas impacted by the bridge crossing and also provide spawning gravels and rearing areas for juvenile salmon lost from the construction of the bridge. Any new channels should also avoid the potential for trapping juvenile salmon. Vegetative enhancement would also reduce the potential erosion of the new channel banks, thereby reducing potential additional erosion into the river.

### Water Quality

Some turbidity can be expected during construction; however, it will be local in nature and the contractor should be required to perform his work in a manner that will minimize turbidity. The water quality standards (objectives) of the California Regional Water Quality Control Board shall be met. Earth and other deleterious materials, such as cement, oil, etc., will be kept out of the river during construction as it could destroy vast numbers of salmon eggs and young fish as well as destroy downstream spawning riffles for years (also discussed in Sections 3.1 Vegetation and Wildlife and 3.3 Water Quality).

### Bridge Mitigations

The bridge should be designed to minimize river pier construction where the design affords passage of flood flows with minimal or no obstructions other than the minimum necessary piers in the river. Minimizing the number of piers will also serve to maintain river navigation and reduce the level of impact on the fisheries from potential scouring around the bridge piers causing spawning gravels movement. If piers are constructed in the river, they should be constructed inside of sheet-piled coffer dams. This work should be done in conformance with the Department of Fish and Game, U.S. Army Corps of Engineers, U.S. Bureau of Reclamation, State Reclamation Board and the Regional Water Quality Control Board-Central Valley Region requirements.

According to the Final Environmental Impact Statement Shasta County Sacramento River Crossing from Interstate Route 5 to State Route 273 (Shasta County Department of Public Works 1976), if pier construction occurs in the river, it is usually necessary to construct a working platform for the construction of the superstructure and for access to the pier location. The working platform will be a temporary timber material that will be removed from the river. The working platform will not be in the river



during the winter flood period. A typical temporary trestle consists of timber pile piers driven into the river bottom on 20 foot centers with timber or steel stringers and a timber deck. The entire trestle including piles is removed upon completion of the work. This type of work generates virtually no turbidity in the river. The proposed construction technique has been used numerous times in recent years by the State and adjacent Counties for bridges over the Sacramento River with no known adverse environmental effects. The contractor will be required to provide adequate openings in falsework during construction to insure safe passage of small crafts.

COPY

#### 4.0 POTENTIAL SIGNIFICANT ENVIRONMENTAL EFFECTS WHICH CANNOT BE AVOIDED

The E.I.R. does not identify any potential quantifiable significant adverse environmental effects which cannot be mitigated to below a level of significance through implementation of the mitigation measures proposed in the EIR. However, the cost effectiveness of some of the mitigation measures advanced may be questioned.

To minimize impacts of the flows affecting gravel spawning grounds in the Sacramento River, the use of a suspension bridge or a bridge with a minimum number of piers in the river is advanced as a mitigation measure.

If the suspension bridge is not adopted as a mitigation measure due to its cost which would be higher than a standard bridge, then a "Statement Of Overriding Considerations" may need to be adopted. In order to properly make the necessary findings cost estimates will need to be prepared.

#### 5.0 ALTERNATIVES TO THE PROPOSED ACTION

Alternatives to the draft Plan vary by Sub-Area and by Plan Area. Included among these is the CEQA required No Project (existing trends and policies) alternative. This action would keep the area under the present regulatory zoning and General Plan classifications. A test of reasonableness for any alternative is to review their merits against the Goals and Objectives of the Riverfront Plan established by the Riverfront Committee.

##### **PLAN AREA ALTERNATIVES**

Reasonable alternatives by entire Plan Area include: Prepare an Area Plan; Adopt a More Restrictive Specific Plan; or Adopt a Less Restrictive Specific Plan.

##### Prepare an Area Plan

An alternative to the Specific Plan is to prepare and adopt an Area Plan. According to the General Plan Guidelines published by the Office of Planning and Research,

Area plans, which are not the same as specific plans . . . are adopted as part of the general plan . . . They can be adopted for the entire planning area or for only a small portion . . . Area plans allow specific, local application of jurisdiction wide policies and create a local forum for resolving conflicts among competing interests.

Generally, area plans have less standards than specific plans and deal primarily with land use designations and compatibility issues. The proposed Specific Plan could be converted to an area plan by deleting the majority of standards identified. The effect of approving the area plan would be similar to an amendment to the General Plan.

The adoption of an area plan would not reduce the potential impacts on the environment identified in this EIR. The Specific Plan advances programs, regulations and standards which serve as mitigation measures. If they were not advanced for implementation as part of an area plan, then they would be identified as mitigation measures.

Adoption of an area plan would not meet the goals and objectives of the Riverfront Plan established by the Riverfront Committee.

#### Adopt a More Restrictive Specific Plan

The adoption of a more restrictive Specific Plan could modify the land uses, requirements and standards identified. This could lead to placing the area under a redevelopment plan. The redevelopment agency would be empowered to acquire, manage property, relocate people and businesses, redevelop and develop property and facilities and sell land. The agency could acquire land by purchase, lease, gift, or eminent domain.

A more restrictive Specific Plan would not permit any deviation from standards and requirements imposed on future development. Interim uses would not be permitted and the transferring of development rights would not be permitted, whereby a property owner can transfer development rights to desirable development sites in exchange for creation of parkland amenities in areas preferred for public open space. Other restrictions would preclude the accommodation of non-conforming uses within the Plan Area whereby such uses are abated over a prescribed period of time. The proposed Specific Plan currently calls for accommodation. An example is the use of life estates for existing residences so that they can remain in the Plan Area as long as they desire.

A more restrictive Specific Plan could dictate an architectural theme and stringent architectural review where specific design elements as minute as type and color of handrails are reviewed.

A more restrictive Specific Plan would advance programs, regulations and standards which serve as mitigation measures for potential significant impacts. Adoption would not meet the goals and objectives of the Riverfront Plan established by the Riverfront Committee.

### Adopt a Less Restrictive Specific Plan

The adoption of a less restrictive Specific Plan could modify or delete design review, the pedestrian trails and walkways, a unifying architectural theme, and the preservation of open space. These concepts are central to the goals and objectives of the Riverfront Plan established by the Riverfront Committee. The Plan specifically calls for maximizing public access, providing trail linkages, minimizing future flooding hazards, enhancing the natural scenic qualities of public and private land, and ensuring quality development oriented to the riverfront with a unified design theme. Adopting a less restrictive Plan would not meet the goals and objectives of the Riverfront Plan established by the Riverfront Committee. However, a less restrictive Specific Plan may not result once mitigation measures identified in this EIR are imposed to reduce potential impacts to insignificant levels.

### **SUB-AREA ALTERNATIVES**

Alternatives to the Specific Plan can also be varied on a sub-area by sub-area basis without significantly affecting the entire Plan Area.

#### Turtle Bay

Turtle Bay is unique due to its location and historical changes. The recent acquisition by the Redevelopment Agency of the property across the Sacramento River provides some options that did not exist when the draft plan was prepared, nor is time of the essence in its development. The luxury of when the property is developed relates to the size of the City at any given time. For example, a city of 100,000 may have some different aspirations than a city of 55,000 people. The same would also apply when the city is 150,000 or 200,000. The size of the city and its aspirations or self-identity could dictate usage.

Options to Turtle Bay are to plan on the following:

The relocation of the posse grounds when the rodeo outgrows the facility.

The development of a convention headquarters hotel in the area around the monolith or on the north side of the Convention Center.

The placement of a City administration building near the monolith.

The development of a six-to seven-thousand seat, multiple-purpose building.

The development of a baseball field(s) across from the Convention Center.

The landbanking of the area for another 30 or 40 years.

All of the above have some merit and provide for flexibility in the location of public and quasi-public land uses in either Turtle Bay or on the Benton Ranch.

The placement of the museum complex on the Benton Ranch Property has an advantage for allowing the future development of support facilities such as additional parking and hotels to develop on the disturbed site surrounding the Monolith. These facilities could support the Convention Center, Posse Grounds and the museum complex (when a bridge crossing is developed).

The existing uses in area of the Convention Center, Posse Grounds, etc. are all commercially oriented and of an active nature, whereas the museum complex facilities are community oriented and more passive in nature. Development of a hotel in the 15-20 acre disturbed and graded site with additional parking would be consistent with commercial and active uses on the south side of the river.

Placement of the museum facilities on the north side of the river would provide a clear separation of intensity of uses. Furthermore, if a bridge crossing is not developed in the near future, these uses could exist separately. The large nature preserve area in Turtle Bay West would remain as such. If the bridge across the river is not constructed in a timely manner, a pedestrian bridge could provide a link between the area and the museum facilities. However, if a bridge is not constructed linking the museum complex to Highway 299/44, the attempt to capture travellers along the highway would be hampered and could adversely affect the viability of the museums efforts.

The museum complex on the Benton Ranch could be served by a road connecting North Market Street with Hilltop Drive which could provide some relief to the Market Street/Lake Boulevard/Hilltop Drive area. This alternative would also be developed near the River providing an equally large setting for trails and exhibition areas. Passive use of the area along the river could also provide measures to protect the archaeological resources found on the Benton Ranch property.

Placing of the museum facilities in the areas previously designated for commercial or residential use in the Benton Ranch Master Plan and Planned Development would not create any potential for significant adverse environmental impacts. Therefore, an amendment to EIR-1-81 would be all that is required for environmental clearance. A new EIR would not have to be prepared.

Placement of a hotel facility in the area of the Monolith Site would be consistent with the Specific Plan and the impacts would be no different than placing the hotel on any other commercial or intensive use sites in this area.

The option of locating the natural science museum in Turtle Bay West and the remaining museum complex facilities on the Benton Ranch property would allow for a less intensive use of the area surrounding the Monolith. An advantage of this alternative is that it would permit similar passive uses to be developed along both sides of the river creating a "river-oriented" nature area for the museum facilities. Another advantage of this alternative is that it would reduce traffic congestion in the Convention Center area due to the less intensive use surrounding the Monolith.

Similar to siting the entire museum complex on the Benton Ranch Property, environmental review could entail amending EIR-1-81.

The development of a multi-purpose building poses no problems and would be similar in use to the Convention Center. However, the development of a baseball field(s) across from the Convention Center may pose problems if located near the Monolith due to impacts resulting from a large congregation of persons such as noise. Whereas individually the various uses would not have significant traffic impacts, cumulative adverse impacts could result if activities were occurring simultaneously at the Convention Center (seating for 2,082), Posse Grounds Arena (seating for 6,400), the multi-purpose building (seating for 6,000 to 7,000), and the baseball field (seating unknown). The impact would be compounded if the museum facilities were also developed.

#### North Gateway

The area immediately south of Highway 299/44 has both freeway exposure and nearby supporting commercial. Options to the proposed motels identified in the Specific Plan include:

- Offices
- Health clubs
- Restaurants/highway commercial activities
- Strip retail commercial
- Relocation of the on-and off-ramps to Highway 299/44

Each of these use has its own implications. Offices, health clubs, strip retail commercial, and highway commercial can locate elsewhere in the City and are not dependent on this area to be viable. The key to use varies on whether or not the development turns its back on Motel Lake or the Lake as an asset. Principal impacts are traffic and aesthetic related. Regardless, the majority of the above uses, except for the restaurant and relocation of the ramps, do not meet the goals and objectives of the Riverfront Plan established by the Riverfront Committee.

It is proposed that the new motel site proposed along Motel Lake be eliminated and instead developed along Park Marina Drive north of Kutras Lake (proposed for park use in the Specific Plan). The proposal to eliminate the proposed new motel site is recommended because it could cost approximately \$800,000 in fill. The recommended relocation site for the motel is an area which does not provide direct access to the river. Therefore, the impact on the lands proposed for the riverfront parkway would be insignificant.

#### West Side of Park Marina Drive

Uses along the west side of Park Marina Drive have the greatest potential for impact. Based on the physical relationship to the single-family area to the west, identified impacts could occur from noise, loss of privacy, reduction in neighborhood viability, and traffic conflicts from too many driveways. Any more intensive use of this area will require a center turn lane on Park Marina, lot consolidation, and buffers adjacent to single family residences.

Alternative uses include the following:

##### Duplexes

Single-story office only

Shifting Park Marina Drive westward to create more land near the River or creating a boulevard with a broad center median

Closure of Athens Avenue, Rome Avenue, or Olympian Avenue

Expanding the plan area to include the entire neighborhood and changing the use of the neighborhood to office or multiple family.

The development of duplexes would be subject to virtually the same impacts that the single family units which currently exist would experience from future development and traffic in the area. Furthermore, the traffic conflicts that could result from the single family homes in the future with flow through traffic on Park Marina Drive would be compounded by duplex development.

The development of single-story offices, if properly sited and designed would be a compatible land use with residences to the west. By directly traffic onto Park Marina Drive rather than Washington Avenue, traffic conflicts with residences could be avoided. Two story office buildings would also be compatible if properly sited and designed.

Shifting Park Marina Drive westward to create more land near the River or creating a boulevard with a broad center median would probably raise more problems than solutions unless the shift is done so that it benefits both the property owners and the Plan. Current total parcel depth between Park Marina Drive and Washington Avenue is approximately 250 feet. If this land is to be used

for high density residential or office use, approximately 50 feet could be removed and still allow for the development of the parcel(s) in an efficient manner. The 50 feet if totally transferred over to the east side would create additional open space. It appears that a better benefit would be to create a median and provide adequate sidewalks on the east side. Therefore, Park Marina Drive needs to only shift westward approximately 20 to 25 feet. Approximately 1,800 feet would have to be shifted. It is unknown if the cost to reconstruct existing curb and gutter warrants this action.

The closure of Athens Avenue, Rome Avenue and Olympian Avenue from Park Marina Drive should not impact existing or future traffic flows from the residential uses in the area. In the future, the residences to the west may desire that these roads be closed to limit through traffic from using roads within the neighborhood. One of the roads, probably Rome Avenue should be kept open for safety purposes.

Expanding the Plan Area to include the entire neighborhood and changing the use of the neighborhood to office or multiple family land uses should be evaluated as a totally separate special study. However, from an environmental perspective the primary impacts would be those associated with the transition of one land use to another which include noise, aesthetics, and traffic. It is more than likely that time and the real estate market will determine the viability of the neighborhood and whether it should remain for single family use.

#### Riverfront Park

Options in this area are fairly straight forward. Either the area is developed or it is preserved as open space as the Plan proposes. If developed, construction can occur on piers or by filling in the lakes.

The existing dwellings to the north do have a finite useful life. However, due to their location the likelihood that they are maintained in good state is strong. While the Plan proposes that this area also be placed in open space, the dwellings can either be left alone or acquired as they become available. Aside from open space they can be left as such, removed for a higher density complex or removed and the area developed for offices. Of all the options it is more than likely that they would remain in their current state if not acquired for open space. Conversion to higher density or residential use could result in aesthetic and traffic impacts.

#### Turtle Bay East

Turtle Bay East is handicapped by the lack of access and infrastructure. The plan proposes this area as open space.



Other land use options include:

- A nine-hole golf course
- A boat launch
- A museum
- A place for a rafting business
- A golf driving range

The location of the site is more conducive to uses which are not dependent on either access or a great investment in infrastructure to be successful. A boat launch, golf course or driving range would be uses that are recreation oriented and can be deemed almost "passive" in nature. Infrastructure requirements would be greater for the golf course than the boat launch or driving range. There are however, other areas within the Plan Area and also in the City which can provide the above uses in a more conducive location.

### Golf Course Site

The plan proposes one six-story office building on the "pitch and putt" golf course site as a trade-off to placing Kutras Lake in open space. The main limitation on use is the size of the area and its relationship to residences to the north and west. Alternatives to the offices include:

- Retain the golf course
- Additional offices of two, three, four, five, or six stories
- Merger of the area with several of the lots to the west and closure of Washington Avenue south of South Street

Retention of the site either in its current use or as a future park would retain the existing trees and aesthetic qualities of the site. It would also continue to serve as an open space buffer between the office buildings to the west and Park Marina Drive and the riverfront. It is by far the most aesthetically pleasing alternative.

A higher intensity use of the golf course site could occur whereby additional offices buildings varying from one to six stories in height would be built instead of the one six story building. This would increase the visual impacts on surrounding residential and commercial uses as well as increased impacts on traffic and parking. Parking is the major limitation to the intense development of the approximate three-and-one-half acre site. All forms of combinations of office square footage and parking (using a multi-level structure) could be developed, however, the combinations would be purely speculative. The key environmental issues would be the removal of existing mature trees, traffic, noise, aesthetics, and their impacts on the existing residential uses to the north and to a limited degree to the west.

The merger of the area with several of the lots to the west and the closure of Washington Avenue south of South Street would directly impact the three residences to the northwest. In order to develop compatibility, the residences would either have to be removed or converted to office space. However, the golf course site could be converted to high density multi-family use. This would provide greater compatibility with the existing residential uses to the north and west and would ensure future compatibility with the proposed high density residential uses along Park Marina Drive north of this site.

### South Gateway

This area is perceived as retail and functions to a limited degree as such. Basically, there are two options. One is to create one retail commercial center by encouraging the various property owners to work together and individually to develop a unifying architectural theme. The second is to continue in a manner with no goals or objectives in mind other than those of the individual owners. The area provides an opportunity to either create an attraction of more than local interest or to continue in the present pattern of local interest only. Seaport Village in San Diego is an example of the concept advanced, but on a smaller scale. A similar concept applied to the South Gateway could encourage both tourists and residents to frequent the area where restaurants and specialty shops use the river and backwater area to create an aesthetically pleasing ambience. Commercial uses that now exist in the area for the most part would continue to exist, but should be reinforced by related uses.

Two basic options to the specialty center plan are:

- Conventional offices
- A broad range of "C-2" uses

The real issue here is public access to and along the river and cohesive development as compared to a disjointed approach were development to continue to occur under the existing General Plan and zoning.

### **NO PROJECT (EXISTING TRENDS/POLICIES) ALTERNATIVE**

Under this Alternative the area will continue to develop under the existing General Plan and Zoning. The Turtle Bay West area will remain as P-Public or I-Institutional, Parks and Greenway. Turtle Bay East is designated as Park. The Turtle Bay West and the Park Marina Drive area surrounding Kutras Lake are zoned C-0 Office District; Turtle Bay East is zoned U Unclassified (a complete discussion of existing zoning and General Plan designations is provided in Section 3.8 Land Use Considerations). Permitted uses in the C-0 Office District include offices, professional offices and personal services. Other uses permitted with a use

permit include: a rest home, convalescent hospital, or nursing home; religious, educational, cultural, recreational, governmental and public utility structures and uses; restaurant; mortuary or funeral home; banks and savings and loan institutions. The museum complex facilities are consistent with the uses allowed with a use permit. A disadvantage of developing the Plan area without a specific plan is self evident allowing for no coordinated master planned growth. Furthermore, future projects could require individual EIR's as each project is advanced.

The Program EIR<sup>7</sup> has determined that many of the proposed uses in the Specific Plan can be developed after review of the specific design proposal. If no further information is necessary and the mitigation measures identified in the Program EIR are implemented as conditions of project approval the project can receive environmental clearance (Section 2.4 Issues to Be Resolved).

Long-term land-use planning concerns for the Plan Area under the No Project alternative include:

Development will continue with no overall architectural style offering no unity to Park Marina Drive;

The area will continue to develop with a wide variety of building types from trailer homes and small, wood-frame houses to garden apartments, concrete and steel shopping centers and office buildings. However, a number of buildings along the riverfront do use similar materials, such as heavy timber framing with wood siding. This provides a sense of coordinated development ( Specific Plan, page 44).

The areas along the River, Kutras Lake and Park Marina Drive will remain with existing commercial and residential uses.

Construction impacts relating to grading, erosion, sedimentation, turbidity and urban runoff would be addressed in adherence to the City grading ordinance or specific mitigation measures identified in individual EIR's.

Views and access to the riverfront will continue to be limited to vacant areas where access and views of the river are possible due to the private ownership of the entire area along Park Marina Drive. The Golf course site will remain as its present use in the short-term while long-term use may dictate a higher use of the site.

Relocation of existing residents and commercial uses will not be necessary. However, increased traffic flows due to commercial and residential growth within the area and the surrounding city will continue to increase the traffic conflicts between residential development along the west side of Park Marina Drive.

Noise from traffic and boating activity on the river will occur.

Public access and recreation will continue to be limited along Park Marina Drive to those private businesses offering public use.

The City will continue to pursue the development of a bridge across the Sacramento River in order to relieve traffic congestion along the Market Street corridor. Environmental concerns for riparian habitat, fisheries, water quality and archaeological resources will have to be considered in an individual EIR.

Water quality within in the lakes will remain the same with occasional dredging necessary to remove accumulated materials from the bottom of the lakes.

The major disadvantage of this alternative is that it provides limited long-term planning for the Plan Area. Limited in that, although, potential uses must be consistent with the General Plan and existing zoning, a vision of what the uses will be and an overall "river-oriented theme" cannot be achieved. Another disadvantage of the No Project alternative is that the current trend of public access to the riverfront and lake areas will gradually be lost to private development.

The modified alternative also proposes that a single implementation approach be pursued. This alternative proposes that the combination of public sector and private sector ownership and development be used as the implementation approach rather than pursuing either the regulatory approach or the redevelopment plan approach (refer to Section 3.8.3 MITIGATION MEASURES). This is proposed as being advantageous over determining whether the Plan Area is suitable for redevelopment (i.e. blighted area) or whether the regulatory approach will provide any encouragement for Plan implementation.

#### 6.0 RELATIONSHIP BETWEEN LOCAL SHORT TERM USES OF MAN'S ENVIRONMENT AND MAINTENANCE AND ENHANCEMENT OF LONG TERM PRODUCTIVITY

There are no identifiable significant cumulative and long-term effects which adversely affect the state of the environment.

There are potential long term effects resulting from the implementation of the Specific Plan such as: the conversion of 15-20 acres of disturbed land in Turtle Bay West for the museum complex facilities or a hotel site; increased human activity and public use within the entire Plan Area; increased noise levels; additional demands upon energy, services, and facilities, both in the

area and within the region; and increases in traffic generated in the area. However, due to the implementation standards and mitigation measures advanced in the Specific Plan and this E.I.R., respectively, these impacts can be reduced to an insignificant level.

The Plan proposes the acquisition of lands along the riverfront along Park Marina Drive for the development of a continuous parkway for public use. The ultimate development identified in the Plan will result in the removal, reconstruction, rehabilitation and relocation of existing residents and businesses along the riverfront area. Development promoted in the Plan Area will be in accordance with the stated goals of the Specific Plan, and the intended effect will be to enhance the river-oriented environment. This should result in a higher quality blend of urban, man-made and natural environments than if development proceeds under current conditions.

#### 7.0 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES FOR THE PROPOSED PROJECT

Irreversible environmental changes will occur as a result of this project. Portions of the land form will be permanently changed, even though most of the Plan Area has been disturbed or graded. Land uses will be allocated for a long term period, and in the long term there will be the increased use of services, facilities and utilities.

Irretrievable commitments of natural resources will include: energy during construction and use; materials to construct the projects; as well as a continuing demand for services such as power, water, waste treatment and disposal, police, fire protection, and to a limited degree, schools. In addition, transportation services and facilities and socially related community facilities will be required on a long term basis.

The project will reduce potential uses of the Plan Area by committing it to the uses advanced in the Specific Plan. Development of the riverfront parkway in the Park Marina Drive area will reclaim lands presently used for residential, commercial and office uses for public park use. However, this commitment will complement the Sacramento River and the "undeveloped" areas in Turtle Bay East and West. The project does not affect the utilization or conservation of any scarce natural resource.

#### 8.0 GROWTH INDUCING IMPACTS

Through the implementation of the Specific Plan, the potential exists to directly and indirectly foster development and improvements which can lead to economic growth. The current general

plan already allows for the growth of the area. However, the Specific Plan could facilitate that growth occur in a more rapid fashion than under general market conditions. Implementation of the project will induce growth, however it is growth that will occur regardless.

#### 9.0 CUMULATIVE IMPACTS

Other than the potential for impacting the views of the existing residents to the west and noise impacts to residents living on the "bluffs", there are no identifiable significant cumulative and long term effects of the proposed project, which adversely impacts the state of the environment.

It must be recognized that portions of the Plan Area are developed and situated in an urban environment. Development, removal, reconstruction, and rehabilitation occurring under current regulations have the potential to cumulatively impact the environment without recourse. Traffic, noise, and water quality impacts tend to become adverse more from a cumulative basis than individually. Without the Specific Plan they will continue to increase. Implementation of the Specific Plan has the potential to lessen the cumulative impacts because an orderly master planned approach is advanced.

10.0 PROJECT STAFF, REFERENCES, ORGANIZATIONS AND INDIVIDUALS CONSULTED

10.1 PROJECT STAFF

The Sharrah Dunlap and Associates, Inc. Project Team

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Marti Dorman, Clerical

City of Redding Staff

Phillip A. Perry, Planning Director  
John Keaney, Senior Associate Planner  
Jim King, Senior Associate Planner  
Doug Will, Traffic Engineer

10.2 REFERENCES

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**10.3 ORGANIZATIONS AND INDIVIDUALS CONSULTED**

Raymond E. Barsch, General Manager, State of California,  
Reclamation Board

Carolyn Bond, Redding Museum and Art Center

Art Champ, Chief, Regulatory Section and Lou Cadwell, Department  
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Peter Dangermond, Dangermond and Associates Inc., Sacramento,  
California

Marsha Howe, Director, Carter House Natural Science Museum

Roy A. Montgomery, Auditorium Director, City of Redding Civic  
Auditorium - Convention and Trade Center

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Jim Stokes, Wintu Audubon Society

Trudy Vaughn, Executive Director, National Logging and Timber  
Museum

Doug Will, Traffic Engineer, City of Redding Traffic Department

Henk Zoll, City of Redding Public Works Department

## 11.0 RESPONSES TO THE NOTICE OF PREPARATION

The following organizations and individuals responded to either the formal Notice Of Preparation or to a letter sent by Sharrah Dunlap and Associates (SDA) to all organizations and individuals who commented on the Specific Plan. The letter requested that environmental issues which warranted further identification, consideration and evaluation be identified in order to assist SDA in the preparation of the EIR.

State of California Office of Planning and Research

Mr. David C. Nunenkamp, Chief, Office of Permit Assistance  
March 21, 1988

State of California Reclamation Board

Mr. Raymond E. Barsch, General Manager  
March 25, 1988

City of Redding Civic Auditorium - Convention & Trade Center

Mr. Roy A. Montgomery, Auditorium Director  
March 25, 1988

State of California Department of Transportation

Mr. W. C. Smith, P.E., Chief, Traffic Branch  
March 30, 1988

Mr. W.R. Williams  
April 2, 1988

Mr. Ken and Mrs. Bessie Daniels  
April 2, 1988

Mr. Kenneth Hickson  
April 5, 1988

Park Marina Ventures

Mrs. Kathi Mac Iyer, Broker/Owner  
April 8, 1988

Mr. Ken and Mrs. Bessie Daniels  
April 9, 1988

Mr. and Mrs. G.H. Clark  
April 12, 1988

Mr. and Mrs. Leroy Sheff  
April 12, 1988

California Archaeological Inventory Information Center

Mr. Makoto Kowta, Northeast Information Center Coordinator  
April 13, 1988

State of California Department of Fish and Game  
Mr. A.E. Naylor, Regional Manager - Region 1  
April 18, 1988

State of California Department of Fish and Game  
Mr. W. Klein for  
Mr. A.E. Naylor, Regional Manager - Region 1  
April 18, 1988

Park Marina Water Sports  
Mr. Gary Myers, Owner  
April 19, 1988

Cypress Square Florist  
Mr. Mike Marshall, Owner  
April 22, 1988

State of California Department of Boating and Waterways  
Mr. William H. Ivers, Director  
April 26, 1988

State of California Department of Transportation  
Ms. Michelle Gallagher, IGR/CEQA Coordinator  
Environmental Services Branch - District 2  
May 19, 1988

Concerned Citizens and Business People of the City of Redding  
Mr. Donald M. Brazelton, Jr.  
Mrs. Betty J. Brazelton  
Mr. Chuck Williams  
Mrs. Virginia Williams  
M. Billie Klammer  
Mr. Tom Brown  
Mr. Thomas A. Hestor  
July 13, 1988