ATTACHMENT 3(C)

ENVIRONMENTAL DOCUMENTS

FINAL
ENVIRONMENTAL IMPACT REPORT

UPPER CACTUS BASIN
FLOOD CONTROL FACILITY

Prepared for:
The City of Rialto

Prepared by:
Harmsworth Associates
23232 Peralta Drive, Suite 209
Laguna Hills, CA. 92653
714-855-0222

September 1988

CACIO 1
BASIN
E.I.R. File

CITY OF RIALTO

NOTICE OF DETERMINATION

Pursuant to Public Resources Code Section 21152 (c), I, EARLENE SPROAT, Clerk of the Board of Supervisors, County of San Bernardino, State of California, hereby certify this document was posted in the Office of the Clerk of the Board

from 10/14 to 11/14/88

EARLENE SPROAT
Clerk of the Board
By C. Willing
Deputy

TO: X Clerk of the Board
County of San Bernardino
385 North Arrowhead Avenue
San Bernardino, CA 92415

or

State Clearinghouse
1400 Tenth Street
Sacramento, CA 95814

CLERK OF THE BOARD OF SUPERVISORS
1988 OCT 14 AM 9:32
COUNTY OF SAN BERNARDINO
CALIFORNIA

PROJECT TITLE: E.A.R.# 87-36: Upper Cactus Basins Project

STATE CLEARINGHOUSE NO: (IF SUBMITTED TO CLEARINGHOUSE):	CONTACT PERSON:	TELEPHONE NO:
SCH # 87110914	L.M. McQuern	714/820-2535

PROJECT LOCATION: Rialto Flood Control Channel N/O Baseline Road and E/O Ayala Drive

PROJECT DESCRIPTION: Excavation and construction of three flood control basins, appurtenant drainage facilities, and preliminary 15-acre City park site on 140-acre site, and approval of Conditional Development Permit No. 337.

This is to advise that on October 11, 1988 (Date), the City of Rialto:

X approved ____ denied the above described project and has made the following Environmental determinations regarding said project:

1. The project X will ____ will not have a significant effect upon the environment.

2. X An Environmental Impact Report was prepared for this project pursuant to the provisions of CEQA.

   ____ A Negative Declaration was prepared for this project pursuant to the provisions of CEQA.

   The EIR or Negative Declaration and record of project approval may be examined at: Rialto Planning Department, 150 South Palm Avenue, Rialto, California 92376

3. Mitigation measures X were ____ were not made a condition of project.

4. A statement of Overriding Considerations X was ____ was not adopted for this project.

Date Project Filed 10/2/87

Date Notice Submitted 10/14/88

Date Notice Received _____

L.M. McQuern
Signature

L.M. McQuern
(Typed Name)

$35.00

FINAL
ENVIRONMENTAL IMPACT REPORT
UPPER CACTUS BASIN
FLOOD CONTROL FACILITY

TABLE OF CONTENTS

List of Figures		iii
List of Tables		iv
Summary of Findings		S-1
Section	**Title**	**Page**
1.0	Introduction	1-1
2.0	Project Description	2-1
2.1	Objective and Need for Project	2-1
2.2	Regional and Project Planning Background	2-5
2.3	Proposed Project Location	2-5
2.4	Project Characteristics	2-6
3.0	Environmental Setting, Proposed Project Impacts and Mitigation	3-1
3.1	Geology, Topography and Soils	3-1
3.2	Water Resources	3-6
3.3	Biological Resources	3-26
3.4	Cultural Resources and Paleontology	3-39
3.5	Land Use	3-40
3.6	Traffic and Circulation	3-48
3.7	Air Quality	3-63
3.8	Noise	3-95
3.9	Population	3-113
3.10	Public Services	3-116
3.11	Energy	3-119
3.12	Human Health	3-120
3.13	Visual Resources	3-121
3.14	Recreation	3-124
4.0	Project Alternatives	4-1
4.1	Identification and Description of Project Alternatives	4-1
4.2	Analysis of Project Alternatives	4-2
4.3	No Action Alternative	4-3
5.0	Summary of Environmental Consequences of Proposed Action	5-1
5.1	Unavoidable Adverse Impacts	5-1
5.2	Relationship Between the Short-Term Uses of the Environment and the Maintenance and Enhancement of Long-Term Productivity	5-3
5.3	Irreversible and Irretrievable Commitment of Resources	5-4

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TABLE OF CONTENTS
(continued)

	5.4	Growth-Inducing Impacts	5-5
	5.5	Cumulative Impacts	5-6
6.0		Organizations and Persons Contacted	6-1
7.0		List of Preparers	7-1
8.0		References Cited and Bibliography	8-1

APPENDICES

A	Initial Study
B	Notice of Preparation and Distribution List
C	Comments Received on Notice of Preparation
D	Biological Resources
E	Noise Analysis Methodology
F	Comments Received on Draft EIR and Responses to Comments
G	Summary of Planning Commission Meeting on Proposed Project
H	City Council Action on Proposed Project

LIST OF FIGURES

Figure	Title	Page
2.1-1	Regional Location Map	2-2
2.1-2	Project Location Map	2-3
2.4-1	Truck Route For Operator "A"	2-8
2.4-2	Outbound Truck Routes for Operator "B"	2-10
2.4-3	Inbound Truck Routes for Operator "B"	2-11
3.2-1	Surface Drainage Map	3-7
3.2-2	Map of Rialto Groudwater Sub-Basin	3-10
3.2-3	Upper Santa Ana River Watershed And Ground-water Basins	3-20
3.3-1	Existing Vegetation Map	3-28
3.5-1	Land Use Map	3-43
3.6-1	Existing Peak Hour Traffic Volumes	3-53
3.8-1	Typical Ldn Noise Level Ranges	3-98
3.8-2	Typical "A" Weighted Sound Levels and Human Response	3-99

LIST OF TABLES

Table	Title	Page
	Impact Summary Tables	S-7
2.4-1	Project Characteristics	2-9
3.2-1	Water Quality Data for Rialto Sub-Basin	3-13
3.2-2	Water Quality Data for State Water Project at Devil Canyon, Annual Mean Values, 1981-1986	3-15
3.3-1	Plant and Animal Species Potenially of Concern in the Study Area	3-32
3.6-1	Existing Traffic Volumes	3-51
3.6-2	Existing Intersection Levels of Service	3-52
3.6-3	Project-Generated Traffic	3-56
3.6-4	Project Traffic on Each Roadway Segment	3-57
3.6-5	Project Impact on Daily Traffic Volumes (1989)	3-59
3.6-6	Project Impacts on Daily Traffic Volumes (1998)	3-60
3.6-7	Project Impact on Intersection Levels of Service	3-61
3.7-1	Wind Frequency and Average Speed By Direction Rialto Airport: August 1979-October 1982	3-66
3.7-2	National Ambient Air Quality Standards	3-71
3.7-3	California Ambient Air Quality Standards	3-72
3.7-4	Fontana-Foothill Air Quality Monitoring Summary - 1977-1981	3-73
3.7-5	Fontana-Foothill Air Quality Monitoring Summary - 1982-1986	3-74
3.7-6	Fontana-Arrow Hwy Air Quality Monitoring Summary - 1982-1986	3-75
3.7-7	San Bernardino Air Quality Monitoring Summary - 1977-1981	3-76
3.7-8	San Bernardino Air Quality Monitoring Summary - 1982-1986	3-77
3.7-9	San Bernardino Four Air Quality Monitoring Summary - 1982-1986	3-78

LIST OF TABLES
(continued)

3.7-10	Emissiom Factors	3-86
3.7-11	Emission Summary For Channel Construction	3-87
3.7-12	Emission Summary For Basin C Construction First 30 Days	3-88
3.7-13	Emission Summary For Basin C Construction Last 110 Days	3-89
3.7-14	Emission Summary For Basin B Construction	3-90
3.7-15	Emission Summary For Basin A Construction	3-91
3.7-16	Average Daily (Pounds/Day) and Total Project Emissions (Tons)	3-92
3.8-1	Roadway Segment Location Numbers	3-100
3.8-2	1988 A.M. Peak Hour Sound Levels	3-101
3.8-3	1988 P.M. Peak Hour Sound Levels	3-101
3.8-4	Noise Generated by Channel Construction	3-104
3.8-5	Noise Generated by Basin Construction	3-106
3.8-6	Noise Level With and Without Process Screen	3-107
3.8-7	Traffic Induced Sound Levels At 50 Feet From Roadway (dBA)	3-109
3.8-8	Change in Traffic Induced Sound Levels at 50 Feet From Roadway (dBA)	3-111
3.9-1	Population Growth by Year	3-114
3.9-2	Estimated Buildout Population for the Project Study Area	3-115
3.14-1	City Parks and Park Acres	3-125

SUMMARY OF FINDINGS

The San Bernardino County Flood Control District, in association with the City of Rialto, proposes the construction of three retention basins and a 3,450-foot segment of flood control channel in north-central Rialto. The 140-acre project site is generally bounded by Highland Avenue, Ayala Drive, Baseline Road and Cactus Avenue, and is owned by the County Flood Control District.

The basins will be constructed by private operators under contract to the District. Aggregate resources, i.e., sand and gravel, removed during the excavation of the proposed basins will be used to meet a strong market demand resulting from the projected local growth and associated construction.

After the basins are completed, the San Bernardino Valley Municipal Water District (SBVMWD) proposes to utilize the basins for groundwater recharge in a manner that will not interfere with the project's overall flood control objective. Water to be percolated in the basins will come primarily from the State Water Project (SWP).

Need for Project

Projected growth within the City of Rialto will result in the need for two major infrastructure improvements related to water resources: 1) additional flood protection and 2) additional water supply. The need for additional flood protection arises because development will increase the amount of impervious area which will increase the magnitude of peak flood flows and the volume of storm runoff. The Rialto Channel receives most of the storm runoff within the City and is currently unable to adequately convey the peak flow from a 100-year flood event under existing conditions. Potential improvements to the Rialto Channel drainage system are currently under study by the County Flood Control District in an update of the County Comprehensive Storm Drain Plan. However, as long as the Rialto Channel has inadequate capacity, the City's policy is that new development must be accompanied by flood control improvements which prevent any increase in the peak flow contained in the Rialto Channel.

Completion of the Upper Cactus Basins has been determined by the County Flood Control District to be the most cost-effective means of offsetting flood hazard impacts resulting from projected new development in northern Rialto. The need for additional water supply arises from increased usage accompanying new growth. Artificial recharge of the Rialto aquifer is necessary to meet future demand imposed by growth induced increases in water usage. The aquifer is the main source of the City's water supply and does not have the capacity to meet demand by natural recharge alone. A benefit of artificial recharge of SWP water is that during wet years when surplus SWP water is available, it can be percolated into and stored in the aquifer for later withdrawal during dry years.

Description of the Proposed Action

The proposed project will be situated in the north-central portion of the City of Rialto in the east half of Section 34, Township 1 North, Range 5 West. An area of 20.3 acres in the southwest portion of the property will be reserved for future park development by the City of Rialto. This will be accomplished through a lease, sale or joint use agreement between the County and City. The area to the west of the project site across Ayala Drive contains the Rialto Municipal Airport. A strip of undeveloped land approximately 540 feet wide lies between Highland Avenue and the northern edge of the proposed project right-of-way. This strip of land includes a right-of-way for future development of Easton Street. The area to the east of the project site contains single family residences. The area to the south of the project site across Baseline Road is mostly vacant and includes additional County Flood Control District property.

The proposed project involves construction of three unlined retention basins (Basins A, B and C), a rectangular concrete channel approximately 3,450 feet in length extending from the south side of Highland Avenue to Basin C (the most downstream basin) and a system of basin inlets and outlets to route storm runoff in a controlled manner. Construction of a pipeline to convey SWP water to the Upper Cactus Basins is not part of this project nor considered to be within the scope of this report. Construction of drainage facilities to convey storm runoff to the Upper

Cactus Basins likewise is also not part of this project or analyzed herein.

The project can logically be subdivided into three main aspects: 1) construction of the basins and channel, 2) operation of the facility for flood control purposes, and 3) operation of the facility for artificial recharge of retained storm runoff and SWP water to the groundwater system. Each of these is discussed separately below.

Excavation of the basins and channel will be done under contract by the County Flood Control District with private excavators (sand and gravel operators). Basin C is nearly completed at the present time and only minor excavation and shaping of side slopes and levees will be required for its completion. No work has been done to date on either Basin A or B. The basins will be excavated one at a time beginning with Basin C and ending with Basin A. Approximately 3.0 million cubic yards of aggregate materials will be excavated and sold during the course of basin development. The excavation period is expected to involve 10 years (1989-1998). However, excavation activity will vary depending on the demand for aggregate materials in the Rialto area. Basin excavation could range from as little as zero to as much as 3,000 cubic yards per day. Channel excavation and concrete placement is expected to occur during the first year and involve a period of approximately 6 months. Inlet and outlet structure construction will occur for each basin as soon as the basin is considered functional in terms of flood control. Fencing of the entire project site perimeter will occur during the first year.

Two different types of private excavators are anticipated. The first type, Operator "A", will load aggregate directly onto trucks and haul the material to a privately owned, existing processing and storage site in south Rialto. The second type of excavator, Operator "B", will screen the aggregate onsite and then load and haul the material directly to the point of use. While more than one Type B operator could be excavating at any given time, it is assumed that combined daily production would not exceed 3,000 cubic yards. Graded aggregate resulting from screening may be temporarily stored onsite until it is hauled to a point of use. The stockpile area is expected to involve no more than 0.25 acres. The haul routes for this second type of excavator cannot be defined exactly since

the points of use will be relatively widespread and somewhat unpredictable. However, it is expected that much of the demand will occur in the partially developed northern portions of the City of Rialto.

When all of the basins and associated facilities are completed, the system as a whole will control flood hazards resulting from the currently planned upstream developments and will not allow any increase in hazard relative to the situation existing today. Peak outflow during the 100-year flood will be 1,244 cubic feet per second (cfs). Total storage volume for the three basins together will be 1,065 acre-feet.

The SBVMWD will use one of the completed basins for the artificial recharge (percolation) of SWP water into the groundwater system. The artificial recharge operations will not interfere with flood control operations as SBVMWD will stop the flow of SWP water, and allow the basins to dry with two or three days notice from the County Flood Control District of an expected storm. The rate of flow into the basin will be approximately 60 cfs (27,000 gallons per minute). Water depth will be nominally four feet. Annual amounts of water for recharge will vary from a lower limit of approximately 5,000 acre-feet to an upper limit of nearly 35,000 acre-feet, with an average between 10,000 and 15,000 acre-feet. All retained storm runoff from the basins' contributing drainage area will similarly be percolated into the groundwater system. However, no long term, deep water storage is intended. After a major storm event, retained runoff will be released slowly from the basins so as to avoid downstream flooding. Only a small portion of the storm runoff is actually retained for recharge. The County Flood Control District will remove silt and debris buildup, as needed, to maintain percolation capabilities in the basins.

Description of Alternatives

There is one potential project alternative regarding the flood control objective of the proposed project: increasing the size of the Rialto Channel between Baseline Road and the Santa Ana River. This alternative would pass the 100-year flood safely to the Santa Ana River, but would not reduce peak flow or runoff as would the proposed project. Previous cost analyses have indicated that this alternative would cost an estimated $3 million more than the proposed project.

Construction of equivalent retention basins at another downstream location adjacent to the Rialto Channel is not considered feasible because of a lack of appropriate sites. Construction of numerous small retention or detention basins throughout Rialto is not considered to be capable of providing an equivalent level of flood protection.

There are two potential project alternatives regarding the artificial recharge objective of the proposed project: 1) expand the size of the existing recharge facility near the intersection of Linden Avenue and Riverside Avenue, and 2) utilize other existing retention basins such as the Lower Cactus Basins, south of Baseline Road. Both of these alternatives would result in similar recharge effects as the action proposed. However, the first alternative is less desirable in that it could result in groundwater mounding (an artificially induced, localized decrease in the depth to the regional water table), at that site.

The No Action alternative would not provide any of the flood control or water supply benefits of the proposed project. The resulting situation would be incompatible with policy and assumptions implicit in the General Plan and the Northwest Rialto Specific Plan.

Summary of Environmental Impacts and Mitigation Measures

A summary of environmental impacts and mitigation measures is presented in the following pages. The degree of specificity of the impact assessment is consistent with the information available at this time for the proposed action.

The development of the proposed project, i.e., the three flood control/percolation basin and channel would result in significant effects to the local environment. The principal areas of environmental change include; topographic modification, unavoidable (but partly mitigatable) displacement of vegetation and wildlife habitat, and substantial visual changes at the site. In addition, potentially significant construction phase impacts, occurring intermittently for up to ten years will be evident in the areas of air quality, traffic and noise.

The project alternative related to the increasing the size of the Rialto Channel has the potential to reduce the localized adverse impacts of the project related to air quality, noise, traffic and biologic resources. However, since this alternative would require extensive construction of new flood control structures at other locations the net project effect could be substantially greater than those predicted for the preferred action.

Expansion of the Linden Avenue facility for the purposes of increasing groundwater recharge at that site would not eliminate any of the adverse impacts associated with the construction of the Upper Cactus basin facility. While the recharge aspects of the proposed project would be eliminated, the basins would still be required for flood control. Thus the construction impacts would remain. The chief difference between this alternative and that currently proposed would be the elimination of the potential impact related to bird collisions with aircraft. However, the increased recharge at the Linden Avenue site could result in groundwater mounding, as described earlier.

The only significant difference between the proposed action and that which use the Lower Cactus Basins as the recharge facility is that the potential impact related to migratory birds is reduced. All other identified impacts would remain essentially the same since the proposed basins would still be required.

Finally, the No Action Alternative, which would leave the site in its present state, thus avoiding the adverse impacts associated with the proposed project. However this alternative would not provided the required flood control facilities necessary for the development of the northern Rialto area. Further, the No Action alternative is inconsistent with the policies of the City as outlined in the City's General Plan.

IMPACT SUMMARY

ENVIRONMENTAL CATEGORY: Geology, Topography and Soils

Nature of Impact	Significance of Impact (prior to mitigation)	Mitigation Measures	Comments
Extraction and sale of onsite sand and gravel resource.	Beneficial	No mitigation required	Sand and gravel is considered a valuable mineral resource. The project will exploit this resource in a manner beneficial to the local community.
Creation of geologic hazard in and adjacent to the project site.	Insignificant	No mitigation required	Through proper design and construction the primary threat, i.e. slope failure should be avoided. While earthquake events may cause such failure the incidence of this is expected to be remote.
Alteration of site topography.	Insignificant	No mitigation required	While a substantial change in land form will occur the sites topographic relief is not considered to of significant value and no significant impact will result from its change.
Increased soil erosion resulting from site disturbance.	Potentially significant on a short term basis.	To avoid excess wind erosion a continuous watering/dust suppression program should be required. Revegetation should begin immediately upon completion of construction.	See impact summary for air quality for more details.

IMPACT SUMMARY

ENVIRONMENTAL CATEGORY: Water Resources

Nature of Impact	Significance of Impact (prior to mitigation)	Mitigation Measures	Comments
Surface Water:			
Altered Surface Water flow	Beneficial	No mitigation required	The project will help to control current and future potentially destructive events
Increased storm water runoff retention	Beneficial	No mitigation required	The project will allow runoff water to be retained for artificial recharge, a beneficial use
Changes in downstream surface water quality	Insignificant	No mitigation required	
Increase baseflow to Santa Ana River	Insignificant Beneficial	No mitigation required	The artificial recharge at the basins may increase base flows but the increase may not be measurable.
Groundwater:			
Increased groundwater supply	Significant Beneficial	No mitigation required	
Percolation of native storm water runoff	Beneficial	No mitigation required	
Effects to groundwater quality	Insignificant	No mitigation required	
Accidental release of hazardous materials	Potentially significant	Improved communication between agencies regulating hazardous materials. Implementation of emergency response plans. Avoidance of pesticide or herbicide use near basins.	This potential impact results from the activities offsite for the most part. This makes mitigation extremely difficult. Should a chemical spill enter the local drainage system serious effects to groundwater quality could occur.

IMPACT SUMMARY

ENVIRONMENTAL CATEGORY: Biology

Nature of Impact	Significance of Impact (prior to mitigation)	Mitigation Measures	Comments
Loss of onsite vegetation	Locally significant	No mitigation available on site. Partial mitigation through offsite preservation of similar communities. Revegetation Plan focusing on the use of native plant species should be prepared.	The most significant impact will occur for the holly leaved cherry phase of alluvial fan sage shrub. Loss of the California buckwheat area is also locally significant due to its community association. The loss of alluvial fan sage scrub is regionally significant.
Loss or change of wildlife habitat			
a) during construction	Insignificant	No mitigation required	
b) post construction	Beneficial	No mitigation required	Benefit derived from onsite ponded water which can be used by migratory bird species.
c) San Diego horned lizard	Potentially Significant	No mitigation proposed although transplant program should be investigated.	

IMPACT SUMMARY

ENVIRONMENTAL CATEGORY: Cultural Resources

Nature of Impact	Significance of Impact (prior to mitigation)	Mitigation Measures	Comments
Loss of culturally significant resources	Insignificant	No mitigation required	While the only known sites of interest have already been disturbed and not deemed significant the studies conducted to date do not preclude the presence of subsurface deposits of significance.

IMPACT SUMMARY

ENVIRONMENTAL CATEGORY: Land Use

Nature of Impact	Significance of Impact (prior to mitigation)	Mitigation Measures	Comments
Consistency with zoning	No Impact	No mitigation required	While no mitigation is required the project must have a Conditional Development Permit to allow aggregate extraction
Consistency with General Plan	No impact	No mitigation required	
Compatibility with Airport Operation			
a) impact from dust during construction and operation	Insignificant	No mitigation required	While not required the following measures should be considered 1) if visibility is reduced due to the emission of dust, additional watering should be required or activities halted. 2) no siting of point sources of dust in basin A or under flight path 3) disturbance area should be kept to a minimum
b) clear zone intrusion	Insignificant	No mitigation required	Airport manager should be consulted prior to siting of equipment or implementation of revegetation program.
c) impacts to flight safety from collisions with birds	Potentially Significant	Limit use of Basin A for recharge during bird migration periods	
d) site development	Beneficial	No mitigation required	The development of the site will give the airport a buffer zone to the east. The current public use of the site already provides a buffer, although theoretically some of the land could be sold for residential development.

IMPACT SUMMARY

ENVIRONMENTAL CATEGORY: Traffic and Circulation

Nature of Impact	Significance of Impact (prior to mitigation)	Mitigation Measures	Comments
Increased truck traffic on local roadways	Significant	Minimize project traffic during peak commuting hours.	
Road design compatibility	Significant	Reconstruct Ayala Drive to meet expected truck load limits	The current design of Ayala Drive is inadequate to handle the weight of fully loaded haul trucks
Decrease in safety on local roadways	Significant	Provide acceleration and deceleration lanes on northbound Ayala Drive for project vehicles Improve intersection of Ayala Drive and Highland Avenue to provide right turn lane and acceleration lane Provide deceleration lane on west bound Baseline Road Install flashing beacons at Ayala intersections Install warning signs Provide alternate site access from Baseline or Highland Provide onsite parking	

IMPACT SUMMARY

ENVIRONMENTAL CATEGORY: Air Quality

Nature of Impact	Significance of Impact (prior to mitigation)	Mitigation Measures	Comments
Increased emissions of air contaminants	Significant	Construction equipment should be properly maintained. No equipment should be left in an idle mode for more than five minutes. Area of disturbance should be kept to a minimum. Application of water and/or soil binding agents should be required. Rapid revegetation after construction should be required. Use of water spray at process screen and aggregate storage piles.	It is likely that a significant impact will remain for dust emissions. Even if all measures recommended are employed the SCAQMD threshold is likely to be exceeded.
CO	Insignificant		
SOX	Insignificant		
NOX	Insignificant		
PM	Significant		
ROG	Insignificant		

IMPACT SUMMARY

ENVIRONMENTAL CATEGORY: Noise

Nature of Impact	Significance of Impact (prior to mitigation)	Mitigation Measures	Comments
Increase in noise levels			
a) during channel construction	Significant short term	Equipment must be equipped with adequate muffler systems. Sufficient maintenance should be performed to guarantee proper operation. It may be necessary to limit the hours of onsite activity.	Even with mitigation measures indicated an adverse condition can be expected to remain. Although for a relatively short period.
b) during Basin construction	Significant	The measures above should be considered. Further it may be necessary to construct a sound wall around the processing screen or eliminate its use.	
c) from traffic sources along:	Slight	No mitigation is recommended	While the project will obviously increase local traffic and noise the projected growth of the region will cause a more substantial change than the proposed project.
Ayala Drive	Insignificant		
Baseline Road	Insignificant		
Highland Avenue	Insignificant		
Cactus Avenue	Slight		
Locust Street	Insignificant		
d) From Operations	Insignificant	No mitigation is required	

IMPACT SUMMARY

ENVIRONMENTAL CATEGORY: Population

Nature of Impact	Significance of Impact (prior to mitigation)	Mitigation Measures	Comments
Change in local population	No Impact	No mitigation required	

IMPACT SUMMARY

ENVIRONMENTAL CATEGORY: Public Services

Nature of Impact	Significance of Impact (prior to mitigation)	Mitigation Measures	Comments
Increased demand for Police service	Insignificant	No mitigation required	While no mitigation is required onsite security should be provided for construction equipment to reduce the potential for vandalism. To aid in reducing police requirements related to accidents, site access should be limited to a single location and only designated haul routes used.
Road Maintenance	Significant for Ayala Drive only	Upgrade the current design of Ayala to truck route standards prior to project.	

IMPACT SUMMARY

ENVIRONMENTAL CATEGORY: Energy

Nature of Impact	Significance of Impact (prior to mitigation)	Mitigation Measures	Comments
Increased fuel use during construction	Insignificant	None required	

IMPACT SUMMARY

ENVIRONMENTAL CATEGORY: Human Health

Nature of Impact	Significance of Impact (prior to mitigation)	Mitigation Measures	Comments
Exposure of workers to dust	Insignificant	No mitigation required	
Vectors	Insignificant	No mitigation required	

IMPACT SUMMARY

ENVIRONMENTAL CATEGORY: Aesthetics

Nature of Impact	Significance of Impact (prior to mitigation)	Mitigation Measures	Comments
Change in visual appearance of site	Significant	See items below	While a significant change in the appearance of the site will occur the long term impact will diminish as community view expectation changes.
loss of natural vegetation	Significant	A revegetation program must be instituted. This should make use of native species whenever possible. Other measures include: o routine maintenance o construction should limit the area of disturbance	The significant impact remains due to the substantial change in view presented.

IMPACT SUMMARY

ENVIRONMENTAL CATEGORY: Recreation

Nature of Impact	Significance of Impact (prior to mitigation)	Mitigation Measures	Comments
Increase in park land	Beneficial	No mitigation required	While no mitigation is required consideration must be given to the methods of funding both the parks development and maintenance.

SECTION 1.0
INTRODUCTION

The Environmental Impact Report (EIR) which follows was prepared by Harmsworth Associates for the City of Rialto. The action proposed by the San Bernardino County Flood Control District in association with the City was reviewed to determine its potential for creating significant environmental impacts. This document has been prepared due to the results of an Initial Study which was developed for the project, as required by the California Environmental Quality Act (CEQA), and can be found in Appendix A. The study indicated that the project "might" result in significant environmental impacts and that the preparation of an EIR was warranted. The following sections of this report present an evaluation of the potential environmental effects which can be reasonably expected to occur as a result of the proposed action.

At this time the County Flood Control District in association with the City proposes to construct three flood control retention basins and a segment of flood control channel in North-central Rialto. The proposed project is intended to eliminate any potential increase in the flood hazard resulting from future upstream development. Further, the Basins will be used to recharge local groundwater supplies with water obtained primarily from the State Water Project.

As mentioned above, the proposed action, while designed to minimize impacts to the environment, is subject to the review requirements of CEQA. The environmental review procedures of CEQA require that, early in the planning of the project, a preliminary decision be made as to the potential for a project to create impacts to the local environment. The initial vehicle for this decision-making process is the Initial Study as outlined in Appendix I of the CEQA guidelines. The results of the Initial Study, presented herein as Appendix A, determined that the project may, in fact, result in significant adverse environmental impacts in the following areas: air quality, hydrology, noise, transportation and growth inducement. Due to these findings, it was determined that the project would require the preparation of an EIR.

The second step required under CEQA is the issuance of a "Notice of Preparation" (NOP) of an EIR for the proposed project. The NOP for this project was circulated on December 8, 1987 to local, State and Federal agencies and other interested parties (see Appendix B).

This EIR has been prepared in compliance with CEQA, California State EIR Guidelines, California Administrative Code, Title 14, Division 6, Chapter 3. This document is intended to provide the public and concerned agencies with sufficient analyses and information to make a decision on future actions under their jurisdiction.

The document is organized in eight separate sections and includes all CEQA analysis categories. The sections contained herein are described briefly below.

Section 2.0 contains a description of the proposed action. Included in this section are the objectives and need for the project, its planning background, a characterization of the project and an identification of its location.

Section 3.0 provides a description of the environmental setting, assessment of potential impacts and mitigation measures for the impacts of the proposed project which are deemed to be significant.

Section 4.0 provides a description and analysis of the alternatives to the action proposed, and focuses on the impacts that could result from these project alternatives.

Section 5.0 presents a summary of the environmental impact investigations conducted for this project. The section identifies those areas where adverse impacts are unavoidable, the growth-inducing impact which may arise as a result of the project and changes in the short-term versus long-term uses of the project site.

Sections 6.0, 7.0 and 8.0 contain a list of persons and agencies contacted during the preparation of this document, a list of the persons involved in its preparation and references cited, respectively.

Appendices are included at the end of the EIR.

SECTION 2.0
PROJECT DESCRIPTION

The following discussion presents a general overview of the City of Rialto's need for drainage improvements, the location of the proposed project and the project's general characteristics. It is intended that this section provide the reader with a clear understanding of the action proposed by the City. A description of the alternative actions to that which is proposed is presented in Section 4.0.

2.1 Objective and Need for the Project

The County Flood Control District, in association with the City of Rialto, proposes the construction of three retention basins and a segment of flood control channel in an area generally bounded by Highland Avenue, Ayala Drive, Baseline Road and Cactus Avenue (see Figures 2.1-1 and 2.1-2). The main objective of the proposed project is to eliminate any potential increase in flood hazard due to planned development in the northern portions of the City. Further, the development of the basins will alleviate stress on other facilities downstream of the site, thus allowing the regional flood control system to function more effectively.

An example of this would be related to the Randall Storm Drain which is to be connected to the Rialto Channel south of the proposed project. When connected the the increased runoff entering the channel would exceed its capacity a the I-10 culvert. To avoid this situation the City has agreed to a policy which would offset any increase in runoff through the expansion of the Cactus basins capacity. The policy would require developments adjacent to the channel, or those that will potentially drain to the channel or basin, to excavate materials from the basins.

In addition, the San Bernardino Valley Municipal Water District (SBVMWD) proposes to utilize the proposed basins for artificial groundwater recharge in a manner that will not interfere with the project's flood control objective. Water to be percolated in the basins will come primarily from the State Water Project (SWP). This operation will be similar to that currently being conducted at the Linden facility.

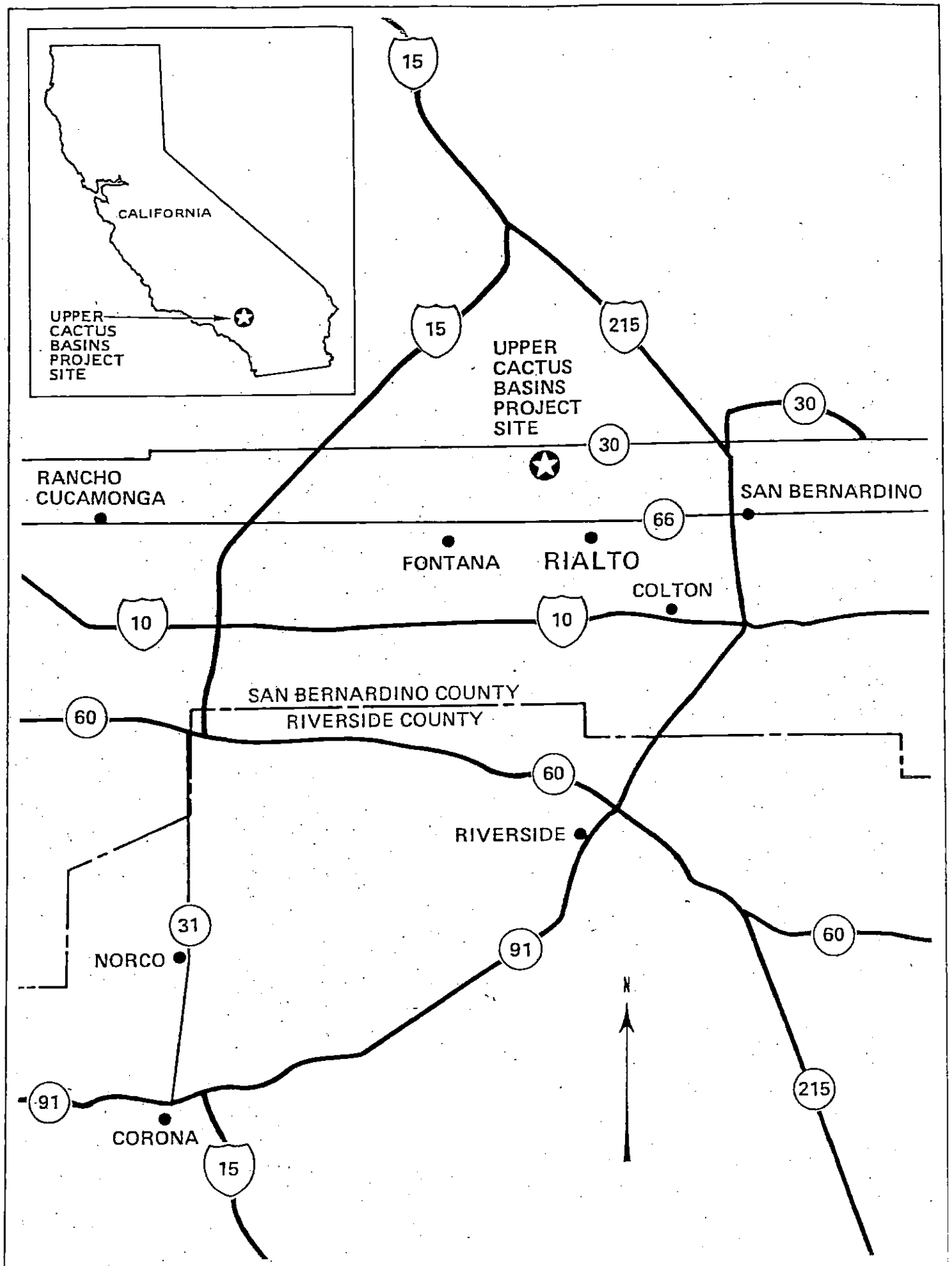


Figure 2.1 - 1 REGIONAL LOCATION MAP

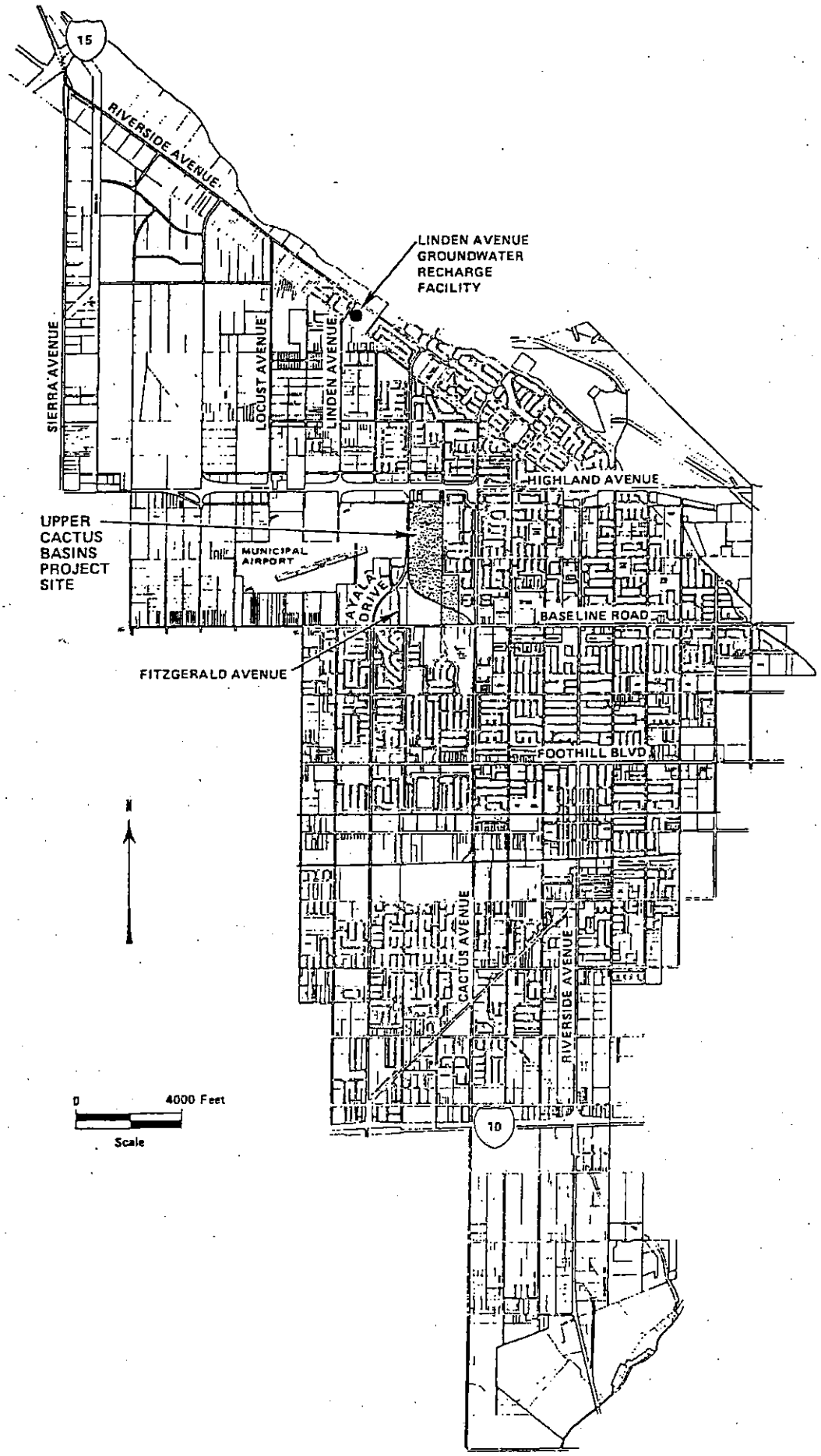


Figure 2.1 - 2 PROJECT LOCATION MAP

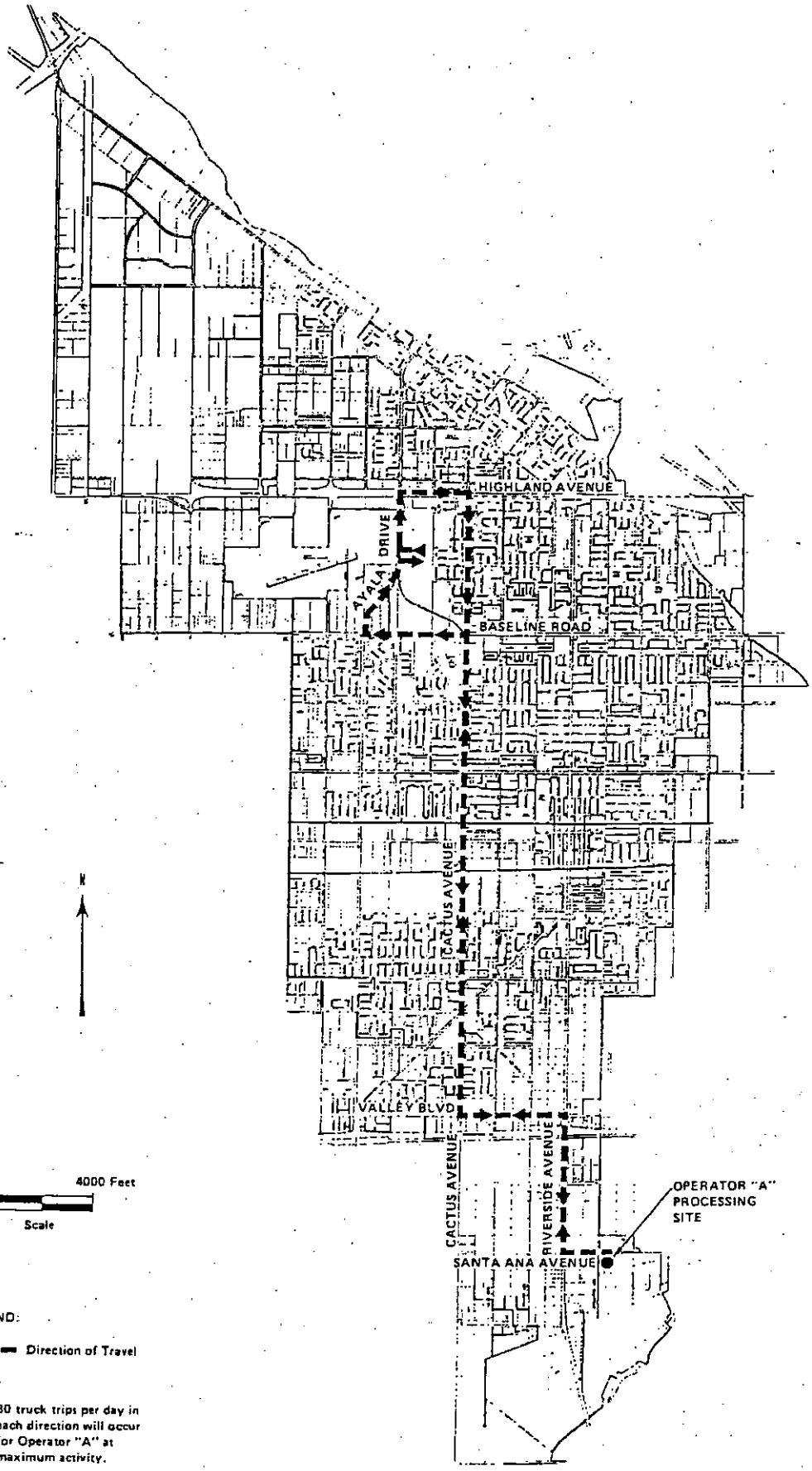


Figure 2.4 - 1 TRUCK ROUTE FOR OPERATOR "A".

TABLE 2.4-1
PROJECT CHARACTERISTICS

Project Name: Upper Cactus Basins

Location: City of Rialto, County of San Bernardino
East half of Section 34, Township 1 North, Range 5 West

Excavation Period: Estimated 10 years, intermittent activity corresponding with local demand for aggregate resource

Work Schedule: Weekdays, 7 a.m. to 4 p.m. (a)

Material Handling:
Total material removed = 3.0 million cubic yards
Maximum daily extraction rate = 3,000 cubic yards

Aggregate Extraction Equipment: (b)
Operator A (load and haul to own processing site)
1 front-end loader (5 cubic yards)
10 truck-trailer rigs (25 cubic yards)
1 water truck
Operator B (screen, load, and haul to point of use)
2 front-end loaders (5 cubic yards)
5 truck-trailer rigs (25 cubic yards
1 water truck
1 portable aggregate screening plant (two screens) with conveyors
1 built-in diesel power unit (estimated 35 horsepower)

Basin Specifications:

	Occupied Area	Storage Capacity	100-year Flood Peak Outflow
Basin A	35 acres	425 acre-feet	N/A
Basin B	32 acres	310 acre-feet	N/A
Basin C	41 acres	330 acre-feet	1,244 cubic feet per second

Channel Specifications: (c)
Concrete lined
Rectangular, maximum width = 20 feet, maximum depth = 12 feet
Maximum flow capacity = 5,125 cubic feet per second
Construction period = 6 month period during 1989

Notes:
(a) Major equipment operations for extraction to start at 7 a.m. Maintenance operations could start at 6 a.m., and include such activities as fueling, lubrication, filling of water truck, and minor repair of on-site equipment. This schedule is assumed for analytical purposes; different hours of operation may be required as a condition of project approval.

(b) Equipment list corresponds to the assumed maximum daily extraction rate.

(c) Channel length is from south side of Highland Avenue to inlet to Basin C. Will also include overflow channels into Basins A and B.

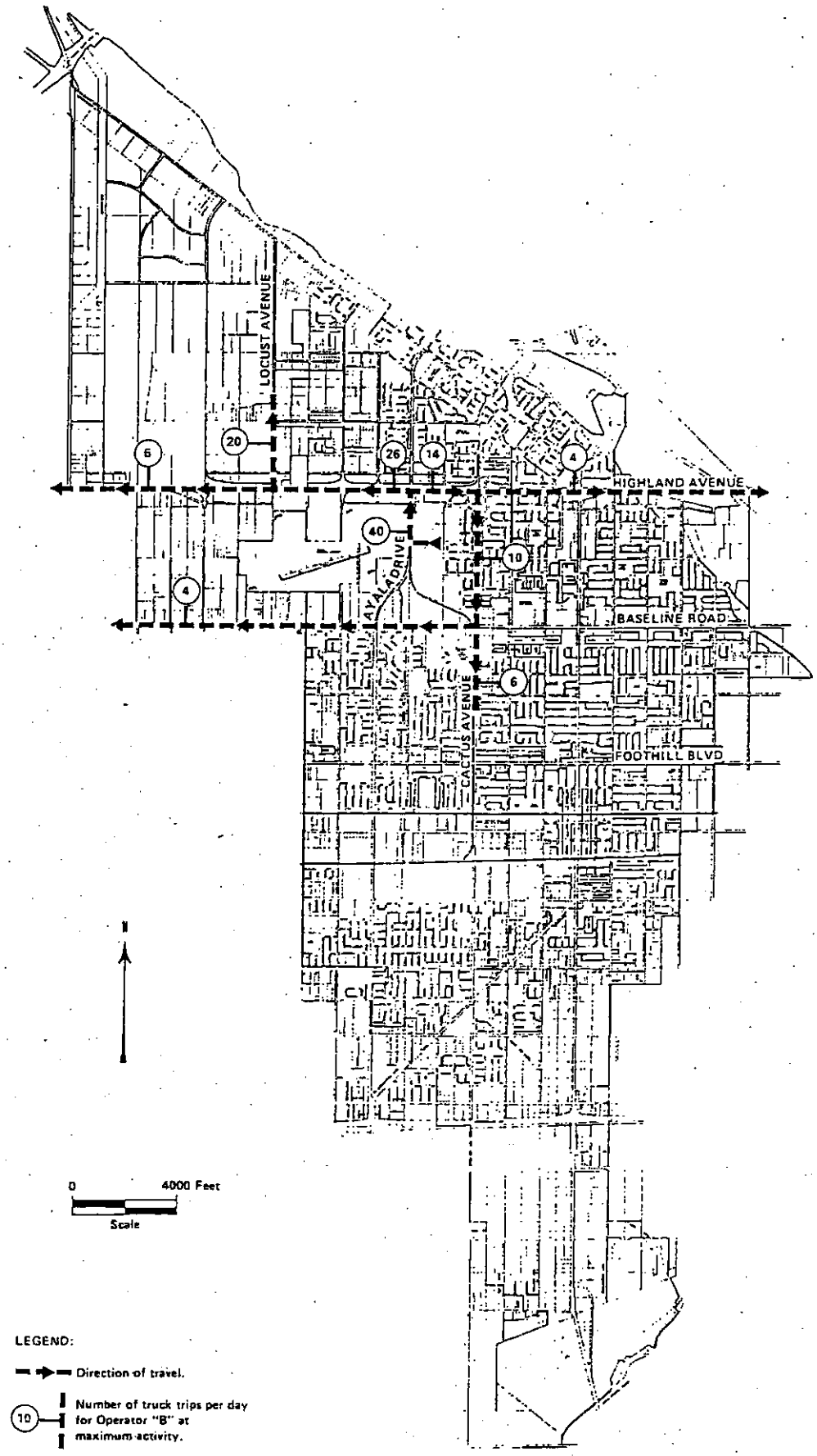


Figure 2.4 - 2 OUTBOUND TRUCK ROUTES FOR OPERATOR "B".

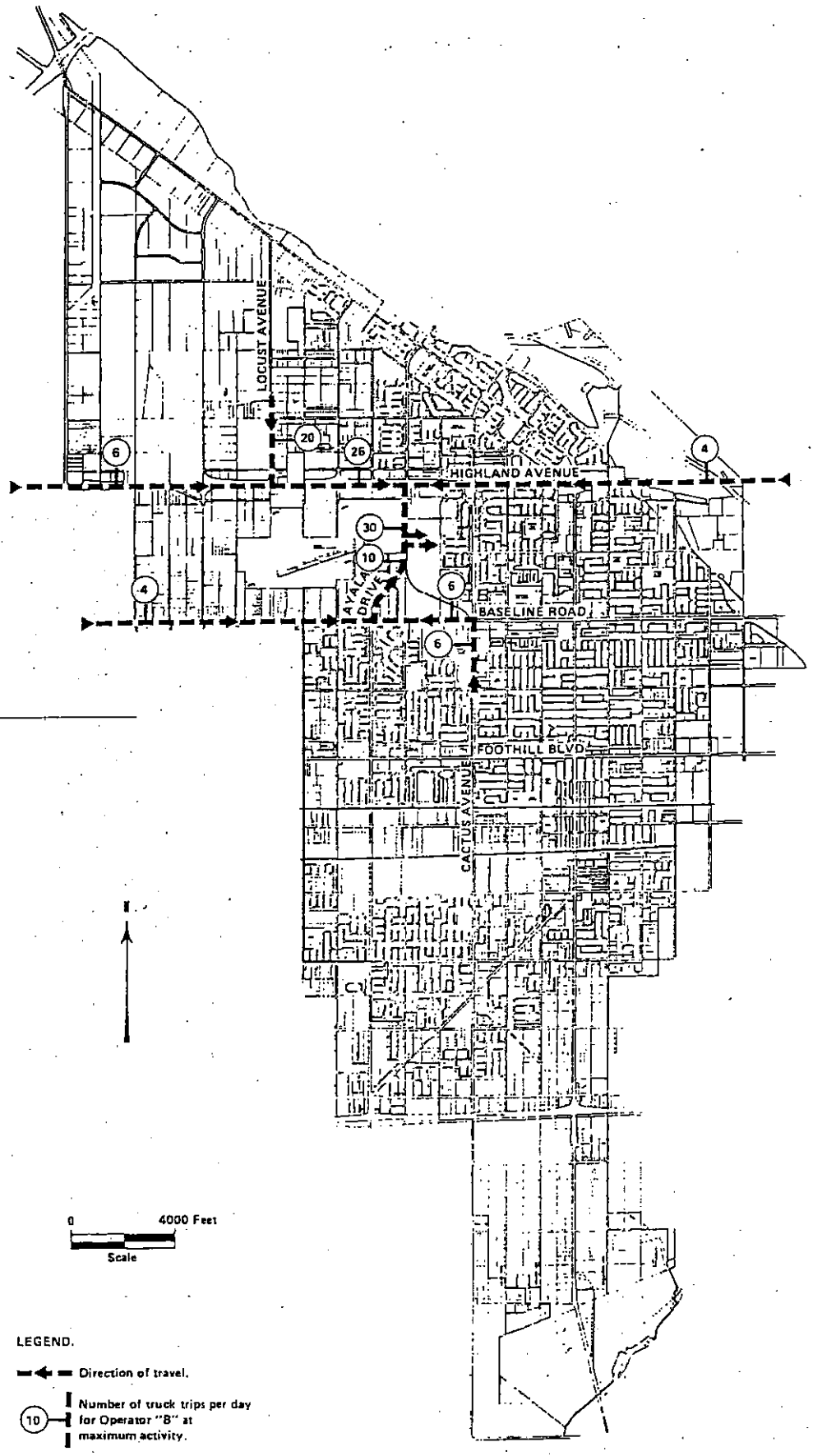


Figure 2.4 - 3 INBOUND TRUCK ROUTES FOR OPERATOR "B".

Aggregate resources, i.e., sand and gravel, removed during the excavation of the proposed basins will be used to meet a strong market demand resulting from the projected local growth and associated construction.

Definition of Need

Projected growth within the City of Rialto will result in the need for two major infrastructure improvements related to water resources: 1) additional flood protection and 2) additional water supply. Both of these issues are discussed in the Updated General Plan and associated Master Environmental Assessment (MEA) and EIR adopted by the City Council in 1985.

The need for additional flood protection arises because development will increase the amount of impervious area which will increase the magnitude of flood peak flows and the volume of storm runoff. The Rialto Channel receives most of the storm runoff within the City and is currently unable to convey the peak flow from a 100-year flood event under existing conditions. (Note: A 100-year flood event for a particular drainage is that event having a statistical probability of occurring on average once per 100 years; it does not imply that only one such event will occur every 100 years, or that there will be a 100-year period between such storms.) Potential improvements to the Rialto Channel drainage system are currently under study by the County Flood Control District in an update of the County Comprehensive Storm Drain Plan. However, as long as the Rialto Channel has inadequate capacity, City policy is that new development must be accompanied by flood control improvements that prevent any increase in peak flow in the Rialto Channel. Completion of the Upper Cactus Basins has been determined by the County Flood Control District to be the most cost-effective means of offsetting flood hazard impacts due to projected new development in northern Rialto.

The need for additional water supply arises from increased usage accompanying new growth. According to the 1985 General Plan MEA and EIR, additional artificial groundwater recharge of the Rialto aquifer is necessary to meet future increases in water usage. This is required as the aquifer is the main source of supply and does not have the capacity to meet demand by natural recharge alone. A benefit of artificial groundwater

recharge of SWP water is that during wet years when surplus SWP water is available, it can be percolated into the aquifer and stored for later withdrawal during dry years.

2.2 Regional and Project Planning Background

Population growth and new development in the City of Rialto is controlled through the land use planning and zoning decisions by the City Council and Planning Commission with the current General Plan used as guidance. As mentioned earlier, the General Plan indicated a clear need for drainage improvements. Detailed planning for improvements in the Rialto Channel drainage is currently in progress as part of the update of the County Flood Control District's Comprehensive Storm Drain Plan. That update has involved coordination among the County Flood Control District and the Cities of Rialto and Fontana. At various points in time, key aspects of the Comprehensive Storm Drain Plan were coordinated with the U.S. Army Corps of Engineers, the City of Colton and the California Department of Transportation.

2.3 Proposed Project Location

The proposed project will be situated in the north-central portion of the City of Rialto in the east half of Section 34, Township 1 North, Range 5 West (see Figure 2.1-2). The project site plan is shown in Figure 2.3-1 (pocket map). The property is owned by the County Flood Control District, and includes approximately 140 acres. An area of 20.3 acres in the southwest portion of the property will be reserved for future park development by the City of Rialto. This will be accomplished through a lease, sale or joint use agreement between the County and City.

The area to the west of the project site across Ayala Drive contains the Rialto Municipal Airport. A strip of undeveloped land approximately 540 feet wide lies between Highland Avenue and the northern edge of the proposed project right-of-way. This strip of land includes a right-of-way for future development of Easton Street. The area to the east of the project site contains single family residences. The area to the south of

the project site across Baseline Road is mostly vacant and includes additional County Flood Control District property.

2.4 Project Characteristics

The proposed Upper Cactus Basins project involves construction of three major components: 1) three unlined retention basins (Basins A, B and C), 2) a rectangular concrete channel approximately 3,450 feet in length extending from the south side of Highland Avenue to Basin C, and 3) a system of basin inlet and outlet structures to route storm runoff in a controlled manner.

Construction of a pipeline to convey SWP water from the Linden Avenue groundwater recharge facility to the Upper Cactus Basins is not part of this project and therefore not considered to be within the scope of this report. Construction of drainage facilities to convey runoff to the Upper Cactus Basins are likewise also not considered to be within the scope of this report.

The project can logically be subdivided into three main aspects: 1) construction of the basins and channel, 2) operation of the facility for flood control purposes, and 3) operation of the facility for artificial recharge of retained storm runoff and SWP water to the groundwater system. Each of these is discussed separately below.

Construction

Excavation of the basins and channel will be done under contract by the County Flood Control District with private excavators (sand and gravel operators). Basin C is nearly completed at the present time and only minor final excavation and shaping of side slopes and levees will be required. The areas to be occupied by Basins A and B are presently undisturbed and will require major excavation for their construction.

The basins will be excavated one at a time beginning with Basin C and ending with Basin A. Approximately 3.0 million cubic yards of aggregate materials will be excavated and sold. The excavation period is expected to

involve up to 10 years (1989-1998). However, excavation activity will vary depending on the demand for aggregate materials in the Rialto area. Basin excavation could range from a minimum zero to a maximum 3,000 cubic yards per day. Channel excavation and concrete placement is expected to occur during the first year and involve a period of approximately 6 months. Inlet and outlet construction will occur for each basin as soon as the basin is considered functional in terms of flood control. Fencing of the entire project site perimeter will occur during the first year.

Aggregate material will be removed from the site in 18-wheel truck-trailer rigs, each having a net hauling capacity of approximately 25 cubic yards (cy). Two different types of operation are expected from the private excavators. The first type of activity, performed by Operator "A", will involve loading aggregate directly onto trucks and hauling the material to a privately owned, existing processing and storage site in south Rialto. The haul route corresponding with that operation is shown in Figure 2.4-1. The second type activity, those of Operator "B", will include screening the aggregate onsite and then the loading and hauling of the material directly to the point of use. Graded aggregate resulting from screening may be temporarily stored onsite until it is hauled to a point of use. The stockpile area is expected to involve no more than 0.25 acre. The haul route for this second type of excavator cannot be defined exactly since the points of use will be relatively widespread and somewhat unpredictable. However, it is expected that much of the demand will occur in the partially developed northern portions of the City of Rialto. The projected haul routes for this second type of excavator are shown on Figures 2.4-2 and 2.4-3. The projected equipment list and other operational parameters relating to both types of private excavators are listed in Table 2.4-1.

Haul routes are assumed to involve designated truck routes. Two other factors were also considered in the projection of haul routes. First, the route would be reasonably practical given the likely destinations. Second, left turns, particularly for loaded trucks, would be avoided to the extent possible for the purposes of safety.

Excavation of Basins A and B will be conducted in the following manner. Vegetation will be cleared in advance of the basin expansion and will be

SECTION 3.0

ENVIRONMENTAL SETTING, PROPOSED PROJECT IMPACTS AND MITIGATION

3.1 Geology, Topography and Soils

3.1.1 Environmental Setting

Geology

The following general description of local geology was derived primarily from U.S. Geological Survey Water Supply Paper 1419 by L.C. Dutcher and A.A. Garrett (USGS, 1963).

The project site is located on the Lytle Creek alluvial fan. The site is defined by the State Mining and Geology Board as a "regionally significant construction aggregate resource area."

Younger alluvium of the Recent epoch is exposed on the surface, and has a varying thickness of approximately 50 feet or less. The younger alluvium includes all the materials, except river channel deposits, laid down during the present cycle of alluviation. It is composed of gravel, sand, silt and clay derived from the San Gabriel Mountains.

Older alluvium of the Late Pleistocene epoch underlies the younger alluvium. Its thickness in the general area is several hundred feet. These deposits are the primary water-bearing zone below the project site, and are composed of gravel, sand, silt and clay.

Unconsolidated continental deposits of the Early Pleistocene and Late Pliocene epochs underlie the older alluvium. These deposits are also composed of gravel, sand, silt and clay and are somewhat compacted in discontinuous lenticular bodies. The deposits yield water to wells but generally at rates that are less than those for older alluvium.

Consolidated continental deposits of the Pliocene epoch underlie the unconsolidated deposits, and are virtually nonwater-bearing. In the

extreme northern part of the Rialto area, these deposits are believed to be reached by water wells at depths of 650 to 800 feet. The driller's log for the City water well near the intersection of Highland Avenue and Ayala Drive provides the following general stratigraphic information:

Depth in Feet	Description
0 to 105	Gravel and boulders
105 to 132	Cemented sand, gravel and boulders
132 to 1,000	Various layers of sand, gravel and boulders separated by layers of sandy clay
1,000 to 1,010	Hard clay
1,010 to 1,022	Cemented gravel and boulders

Water was first found during drilling in 1961 at a depth of 430 feet.

Major northwestward-trending faults, together with several associated subsidiary faults, cross the Rialto area. The San Jacinto fault and the Rialto-Colton fault are of primary concern, mostly because they act as barriers to groundwater movement and separate the principal groundwater basins in the area. Because the faults are closely associated with groundwater systems, detailed discussion of their location and characteristics has been included in Section 3.2.1.

The San Jacinto fault passes the project site approximately 1.5 miles to the northeast, and is well documented as an active fault. The project site is not within the Alquist-Priolo Special Study Zone associated with the San Jacinto fault zone. However, the site could be subjected to strong ground shaking during a major earthquake. The maximum probable earthquake for the San Jacinto fault is estimated to be Richter magnitude 7.5 (San Bernardino County, 1974).

The Rialto-Colton fault passes the project site approximately one mile to the southwest, but has no known surface expression to confirm its presence. Its position is inferred from hydrologic and subsurface geologic evidence. This fault is considered to be inactive (Bowman, personal communication, 1988).

Topography

The project site is primarily a gently sloping (less than 2%) alluvial plain. A gravel pit (Future Basin C) exists at the southern end of the site. This pit is currently dug to levels of approximately 25 to 30 feet below surrounding grade, with relatively steep (approximately 2:1 to 3:1) side slopes. Several small shallow drainage channels currently cross the site.

Soils

The soils of the project site have been described by the U.S. Department of Agriculture Soil Conservation Service (SCS) in their Soil Survey of the Southwest, San Bernardino County (SCS, 1979). The soils in the Rialto area generally consist of a Tujunga-Soboba association. These soils are deep, coarse-grained and excessively drained soils on level to moderately level slopes. The soils are associated with alluvial fans and usually have high amounts of gravel or sand. These soils are often only fair for agricultural production due to their coarse texture and low levels of nutrients. However, some soils in this association can be excellent for citrus and grapes and are considered farmlands of state-wide importance.

The only soil type on the proposed project site is the Tujunga gravelly loamy sand on nearly level slopes. This is a soil of alluvial fans developed from granitic outwash. The topsoil layer is composed of a dark, loamy sand which has a limited nutrient (nitrogen) content. The subsoil is generally composed of 15-30% fine gravels with some cobbly lenses. Since the soils are highly permeable, water runoff is low and the erosion hazard is slight. Most of the soils in the region are subject to severe wind erosion. However, these soils have a reduced wind erosion potential due to the large amount of gravel in these sands. Generally, these areas have few engineering limitations except for the high permeability and low to moderate compressibility of the soils.

The SCS has rated suitability of the soils in the area for intensive agriculture use based on factors such as drainage, soil structure and texture. These factors are combined into a general ranking system called

a Storie index (SCS, 1979). The Tujunga gravelly loamy sand has an index of only 34 due to nutrient level limitations. These soils are only fairly well suited for agricultural production of small grains and pasture.

In addition to the Storie index, the SCS has developed criteria (SCS, n.d.) for prime, unique and state-wide important farmlands in California as part of the implementation of the farmland protection policy (SCS, 1984). The Tujunga gravelly loamy sand has not been placed into any of these highly productive categories by the SCS (Moore, 1988).

3.1.2 Proposed Project Impacts

Geology

Approximately 3.0 million cubic yards of sand and gravel will be extracted for off-site uses as a result of the project. This is considered an acceptable use of the resource because the State Mining and Geology Board has defined the site as a "regionally significant construction aggregate resource."

Project design criteria are considered to be adequate to prevent the occurrence of geologic hazards. Basin side slopes will range from 2:1 to 4:1. Previous experience with local gravel pits and percolation basins indicates that these slope designs do not result in slope failure problems. Local subsidence is not expected due to the percolation characteristics of the upper alluvial material and the extreme depth (over 250 feet) to groundwater zones.

Although the site could be subjected to strong ground shaking from an earthquake along the nearby San Jacinto fault, the side slope design and distance to the nearest structures (residences to the east) are believed to be adequate to prevent structural damage in the event of seismic-induced slope failure (Bowman, personal communication, 1988).

Topography

The project site's topography will be significantly modified by the construction of two additional basins (A and B) with depths of approximately 30 to 40 feet below the top of the levees. Levee heights will be slightly above existing grade. Modifications to the existing gravel pit (Basin C) will consist of further excavation, ranging from approximately 13 feet in the northern portion to approximately 3 feet in the southern portion, and sideslope shaping along the northern and eastern perimeter.

The land set aside for a proposed park, located in the southwestern portion of the project site, will not be modified during the course of this project. Development of the park site will occur at an unspecified future date, as funding allows.

Soils

The removal of approximately 140 acres of Tujunga gravelly loamy sand will not have a significant impact on agricultural productivity in the region. This is because the soils are considered marginal farmland, and the site's land use designations are consistent with flood control developments and sand and gravel extraction.

These soils generally have only a moderate erosion potential in an undisturbed state. However, in the initial clearing stages of the project, increased water erosion may occur due to the exposed soils. As the basins are developed this should be greatly reduced since side slopes can then be stabilized. Also, with large areas exposed in the basins and a potential fines stockpile temporarily onsite, there could be severe wind erosion hazards (see Section 3.7.2, Air Quality Impacts).

3.1.3 Mitigation

Geology

No mitigation measures are proposed beyond the project's design criteria.

Topography

No mitigation measures are proposed.

Soils

To mitigate the potential erosion impacts, an erosion control and revegetation plan should be prepared. This plan would be consistent with the County's grading ordinance and mine reclamation requirements. The plan should detail methods for reducing water erosion from the side slopes of the basins, measures to reduce wind erosion and procedures for revegetating areas above the basin high water line (excluding roadways) with drought tolerant native plant species. Dust control is discussed further in Section 3.7.3 (Air Quality, Mitigation). Revegetation is discussed further in Section 3.3.3 (Biological Resources, Mitigation).

3.2 Water Resources

The following discussion on water resources has been divided into surface water and groundwater sections. Information on the interaction between the two systems is presented within the groundwater system discussions.

3.2.1 Environmental Setting

Surface Water

The project site is located within the Rialto Channel drainage, which is tributary to the Santa Ana River. Figure 3.2-1 illustrates the contributing drainage to Basin C at the present time, and the contributing drainage to Basins A, B, and C as it will exist in the future with planned storm drain systems in place. The present contributing drainage is approximately 620 acres, and it will increase to approximately 4,200 acres in the future. Basin C currently has no drain or spillway outlet, so any overflow would occur by overtopping of Baseline Road with flow continuing to the Rialto Channel. Basins D and E, referred to as the Lower Cactus

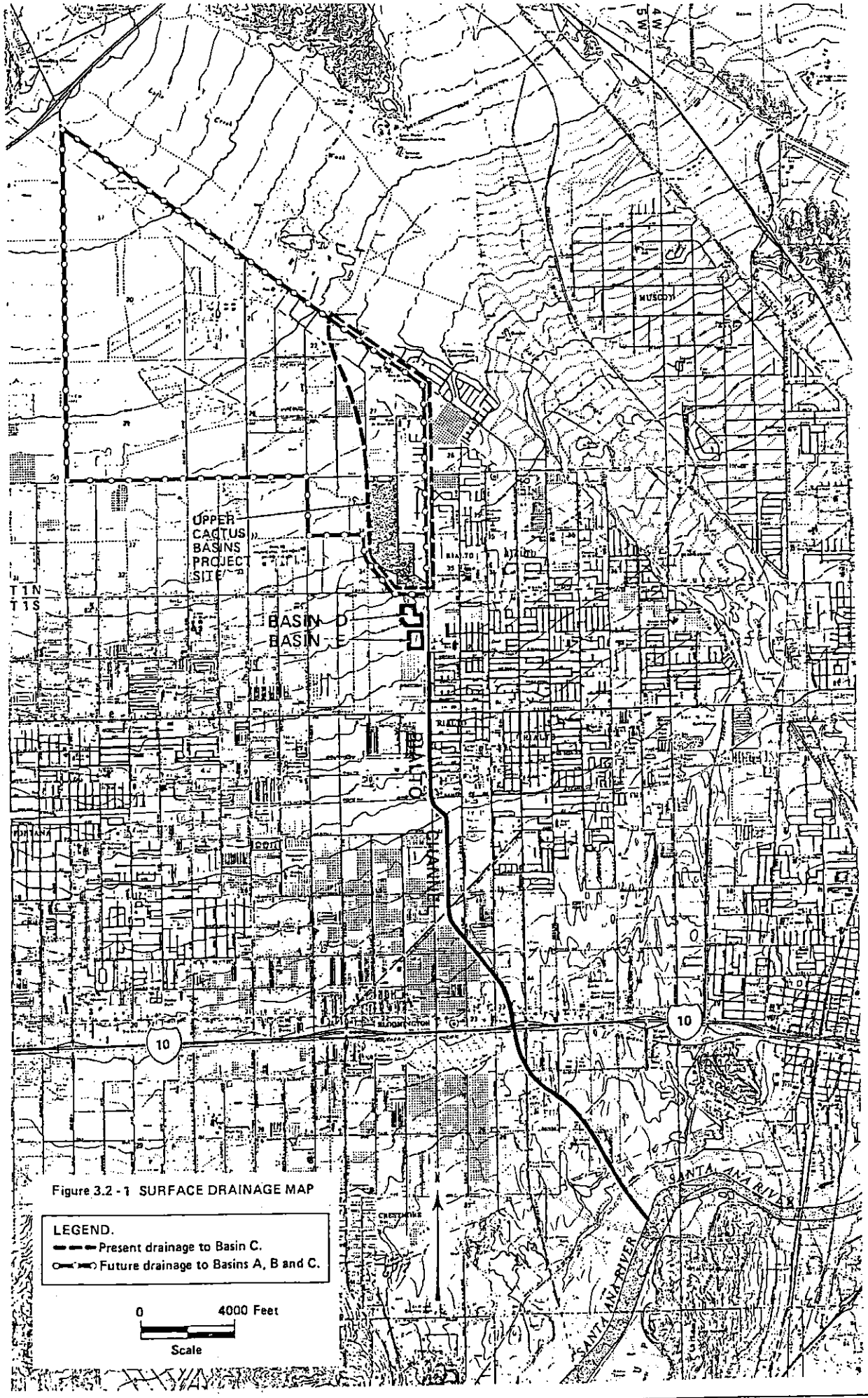


Figure 3.2 - 1 SURFACE DRAINAGE MAP

Basins, currently exist and will be connected hydraulically with Basin C in the future. Improvements to the Rialto Channel, including the implementation of the proposed project, are the subject of the County Flood Control District's Comprehensive Storm Drain Plan for the Rialto Channel drainage.

The existing major problem for the Rialto Channel is that it is undersized relative to 100-year flood peak flows. The problem is particularly severe at the point where the channel passes under Interstate 10. The 100-year flood peak flow into Basin C under current conditions is estimated to be 406 cubic feet per second (cfs). Basin C currently has a negligible effect on reducing the 100-year flood peak flow at the Interstate 10 crossing because it retains only a very small portion of the total runoff in the Rialto Channel drainage.

An accurate estimate of average annual runoff retained by Basin C under current conditions is not available. Given that the contributing drainage is slightly less than one square mile and is on an alluvial fan with impervious area of approximately 23 percent, it would be expected that the amount of runoff is very small, particularly in relation to the baseflow of the Santa Ana River at the Riverside Narrows.

No water quality data are available for surface runoff to Basin C under existing conditions. It would be expected that surface water quality is comparable to groundwater quality in the local area; i.e., total dissolved solids concentrations of 200 to 300 milligrams per liter. It is probable that minute quantities of common urban runoff pollutants, such as oil and grease, are present. Groundwater quality data for wells in this area do not indicate any contamination by trace metals, pesticides, herbicides or industrial chemicals, so it is likely that these contaminants are present at insignificant concentrations in local surface runoff.

Groundwater

The groundwater system below the project site is the Colton-Rialto basin. The basin can be divided into two sub-basins, the Rialto sub-basin and the

Colton sub-basin, based primarily on the boundary as defined in the 1961 adjudication of the "Rialto Basin". This report will utilize the term, Rialto sub-basin, to correspond with the legal boundaries defined in that court action and shown in Figure 3.2-2. The following description will focus primarily on the Rialto sub-basin because of the relationship between the project action and the requirements of the 1961 adjudication. Information about this and other relevant groundwater-related court actions is presented in Section 3.2.2 with the analysis of impacts.

As discussed in Section 3.1.1, the Rialto sub-basin is separated from the Bunker Hill basin to the east and the Chino basin to the west by several faults that act as virtually complete barriers to groundwater movement in strata underlying the younger alluvium. The locations of the faults and groundwater barriers relating to the Rialto sub-basin are shown in Figure 3.2-2. The Rialto-Colton fault mentioned in Section 3.1.1 is referred to as the Rialto-Colton barrier to be consistent with Dutcher and Garrett's discussions (USGS, 1963), which are the primary source of the descriptions of hydrogeologic boundaries and groundwater movement presented in this report.

The Rialto sub-basin is bounded on the east by the San Jacinto fault and Barrier E, and on the west by the Rialto-Colton Barrier and Barrier H. Barrier J hydrologically bounds the sub-basin on the north, although the legal boundary was defined to be at the foot of the San Gabriel Mountains.

The southern boundary of the Rialto sub-basin is only legal in nature, since the Colton sub-basin extends further to the southeast across the Santa Ana River and up Reche Canyon.

Groundwater movement in the Rialto sub-basin is from the northwest to the southeast. The State Department of Water Resources (DWR, 1971) estimated that average annual subsurface flow from the Bunker Hill basin to the Colton-Rialto basin was as follows:

- Segment 1 from foot of San Gabriel Mountains to Barrier J — 3,700 ac-ft

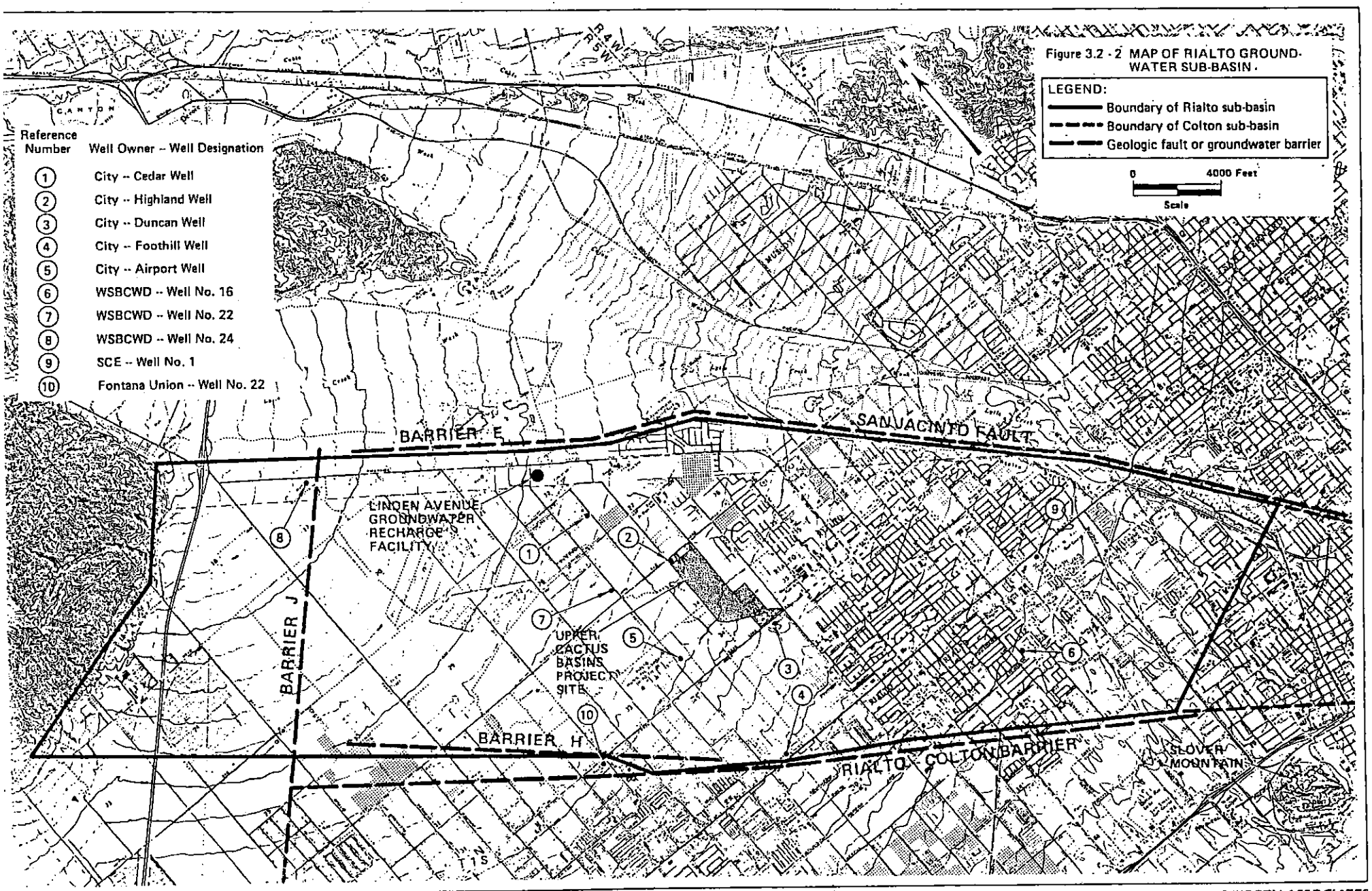


Figure 3.2 - 2 MAP OF RIALTO GROUND-WATER SUB-BASIN.

HARMSWORTH ASSOCIATES

- Segment 2 from Barrier J to the Colton Narrows portion of the Santa Ana River 3,000 ac-ft
- Segment 3 where the Santa Ana River and Warm Creek cross the San Jacinto fault 10,600 ac-ft

Subsurface flow through Segment 1 probably continues directly across to the Chino basin. Subsurface flow through Segment 2 is directed to the southeast after it enters the Rialto sub-basin, and continues into the Colton sub-basin. At Segment 3 the San Jacinto fault causes subsurface flow in the older alluvium to move upward until it passes over the barrier via the younger alluvium. Outflow from the Colton sub-basin is through two segments -- between the southern end of the Rialto-Colton Barrier and Slover Mountain and between Slover Mountain and the foot of Riverside Mesa immediately south of the Santa Ana River.

In general, recharge of the Rialto sub-basin occurs through deep percolation of precipitation in pervious areas, subsurface inflow across the San Jacinto fault, and artificial groundwater recharge by SBVMWD at the Linden Avenue spreading basins. Deep percolation of precipitation for the entire Colton-Rialto basin in 1990 was estimated by the DWR to be 9,200 acre-feet (DWR, 1986). This value was not divided into sub-basin amounts, so no estimate is available for the Rialto sub-basin alone. The portion of the San Jacinto fault designated as Segment 2 in the above discussion corresponds reasonably well with the Rialto sub-basin boundary. Therefore, the value of 3,000 acre-feet per year of subsurface inflow is probably applicable. Artificial recharge at the Linden Avenue spreading basins averages approximately 5,000 acre-feet per year, and has occurred since 1981.

Discharge from the Rialto sub-basin occurs generally by pumping from wells and by subsurface outflow to the Colton sub-basin. The August 1, 1987 Report of Watermaster for the Colton-Rialto basin indicated that the following verified extractions occurred from the Rialto sub-basin:

Entity	1981-1985 Average
Fontana Union Water Company	881 ac-ft
City of Rialto	1,706 ac-ft
Southern California Edison Company	200 ac-ft
West San Bernardino County Water District	1,366 ac-ft
TOTAL	4,153 ac-ft

No estimate of subsurface outflow to the Colton sub-basin is available.

It is apparent from the above descriptions of recharge and discharge that relatively little detail is known about the Rialto sub-basin. One result of this is that a value for safe yield has not yet been established. Recent water level hydrographs for sub-basin wells indicate that water levels rose rapidly from 1981 through 1986, ranging from approximately 40 to 90 feet of change. Water levels have been stable for these wells between 1986 and the present time (December 1987). It is generally concluded that the rise in water levels related mostly to the artificial recharge activities by SBVMWD which began in 1981. However, more recently discharge has apparently equaled the combined natural and artificial recharge.

There appears to be sufficient dry storage capacity in the Colton-Rialto basin to allow considerable increases in artificial recharge. The DWR estimated that the entire basin had a dry storage capacity of 996,000 acre-feet in April 1984 (DWR, 1986).

Groundwater quality within the Rialto sub-basin is generally considered to be good. Recent water quality data for currently producing wells owned by the City of Rialto and the West San Bernardino County Water District (WSBCWD) are provided in Table 3.2-1. Native groundwater has relatively low levels of total dissolved solids (TDS) and has no trace metals above State or Federal drinking water standards. Nitrate is present at relatively high concentrations in certain wells, but is not above the State standard of 10 milligrams per liter (mg/l). Use of certain other wells in the Rialto sub-basin was discontinued in the past due to nitrate concentrations above the State standard for public drinking water supplies.

TABLE 3.2-1

WATER QUALITY DATA FOR RIALTO SUB-BASIN

	City of Rialto Wells					West San Bernardino County Water District Wells		
	Cedar	Highland	Duncan	Foothill	Airport	No. 16	No. 22	No. 24
	5/11/87	5/11/87	5/11/87	5/11/87	5/19/87	3/24/87	5/15/87	6/18/86
Total Dissolved Solids	222.9	202.7	192.2	248.4	194.1	236	288.8	240
Specific Conductance (umhos/cm)	350	340	310	400	340	340	460	330
Total Alkalinity as CaCO3	139.3	131.6	129.9	138.9	133.3	135.0	183.6	126.9
Total Hardness as CaCO3	144.8	139.6	133.6	162.8	139.2	140.8	201.2	136.4
pH, field (standard units)	8.10	8.01	8.09	8.08	8.26	8.17	7.82	7.86
Calcium	50.4	41.1	44.0	56.7	45.4	44.0	62.8	39.1
Magnesium	4.5	7.9	6.5	6.6	5.2	4.9	9.5	9.4
Sodium	9.9	9.9	9.9	12.2	9.5	10.0	14.0	7.6
Potassium	2.8	2.1	2.5	2.2	2.6	1.7	3.8	2.1
Bicarbonate	170.8	160.5	158.4	169.4	162.6	164.7	224.0	154.8
Chloride	4.0	3.1	2.9	5.8	2.6	1.7	9.4	1.2
Sulfate	12.4	15.9	13.8	19.1	15.8	18.1	11.5	22.1
Arsenic	<0.02	--	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Barium	<0.1	--	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Cadmium	<0.005	--	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Chromium	<0.01	--	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Copper	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Fluoride	0.4	0.4	0.4	0.4	0.4	0.25	0.5	0.37
Iron	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Lead	<0.01	--	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Manganese	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Mercury, total phase	<0.001	--	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Selenium	<0.005	--	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Silver	<0.01	--	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Zinc	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Nitrate as N	1.9	1.2	1.5	6.1	1.2	0.3	7.7	0.9
Turbidity (NTU)	--	--	--	--	--	1.2	--	0.2
Color (color units)	--	--	--	--	--	<5	--	<5
MBAS - Detergents	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05

Notes: 1) All constituents are in units of milligrams per liter, except as noted. 2) All constituents are dissolved phase (filtered sample), except mercury, pH, specific conductance, turbidity, color and detergents.

The groundwater in the Rialto sub-basin is also relatively free from contamination by pesticides and herbicides or industrial chemicals. The data on these constituents are not presented in this report because they are voluminous. Individuals wishing to review these data should contact the State Department of Health Services Public Water Supply Branch in San Bernardino. Extensive groundwater sampling for these constituents was initiated in 1984 after passage of Assembly Bill 1803 (AB 1803). Pesticides and herbicides have not been detected in samples from any of the drinking water supply wells in the sub-basin. The only industrial chemical found at concentrations above State drinking water action levels was tetrachloroethylene, also known as perchloroethylene or PCE. State action levels are based on very conservative toxicological data and represent a concentration at which the health risk is negligible (Department of Health Services, 1986). PCE is an industrial and dry-cleaning solvent with a State action level of 4 micrograms per liter (ug/l). Production from the two wells which indicated the presence of PCE was suspended immediately after data revealed an exceedance of the State action level, and water quality monitoring has continued to the present. None of the Rialto sub-basin wells currently used for public drinking water supply exceed State action levels for the AB 1803 constituent list.

The quality of water imported for artificial recharge of the Rialto sub-basin is also considered to be of good quality and free from pesticides, herbicides and industrial chemicals. The Linden Avenue spreading basins have received imported water from the Devil Canyon turnout of the California Aqueduct since 1981. Water quality data for the Devil Canyon location over the period 1981 through 1986 are summarized in Table 3.2-2. Generally, much more SWP water would be spread during wet years such as 1983 than normal years, and very little would be spread during dry years. Since minimum values for inorganic constituents, such as TDS, tend to correspond with wet years, relatively greater volumes of good quality SWP water are spread at the Linden Avenue facility. It is apparent through comparison of Tables 3.2-1 and 3.2-2 that the SWP water has consistently lower nitrate concentrations than native groundwater, and that TDS concentrations during wet years are lower than for native groundwater.

TABLE 3.2-2

WATER QUALITY DATA FOR STATE WATER PROJECT AT DEVIL CANYON

ANNUAL MEAN VALUES, 1981-1986

	1981	1982	1983	1984	1985	1986
Total Dissolved Solids	262	231	107	153	217	266
Specific Conductance (umhos/cm)	485	386	164	264	364	431
Total Alkalinity as CaCO3	76	64	49	58	74	70
Total Hardness as CaCO3	103	95	47	69	89	99
pH, field (standard units)	8.2	7.8	7.4	7.5	8.0	7.7
Calcium	20.5	21.0	13.3	16.0	20.2	20.5
Magnesium	12.5	10.3	3.3	7.1	9.4	11.6
Sodium	50.3	38.5	12.4	25.8	40.2	48.2
Potassium	3.1	5.7	2.2	2.3	3.2	3.5
Chloride	66.4	49.6	10.3	26.8	49.2	67.3
Sulfate	43.2	44.8	10.8	27.9	33.5	37.3
Arsenic	0.00	0.00	0.00	0.00	0.00	0.00
Copper	0.00	0.01	0.01	0.00	0.01	0.00
Fluoride	0.2	0.1	0.2	0.1	0.2	0.2
Iron	0.01	0.01	0.02	0.01	0.01	0.01
Lead	0.00	0.00	0.00	0.00	0.00	0.00
Manganese	0.00	0.00	0.01	0.00	0.00	0.01
Mercury, total phase	0.000	0.000	0.000	0.000	0.000	0.000
Selenium	0.00	0.00	0.00	0.00	0.00	0.00
Zinc	0.00	0.01	0.01	0.01	0.01	0.01
Ammonia as N	0.00	0.00	0.00	0.02	0.03	0.00
Nitrite as N	0.006	0.007	0.002	0.003	0.005	0.007
Nitrate as N	0.52	0.81	0.22	0.30	0.38	0.56
Total Organic Nitrogen as N	0.62	0.61	0.44	0.53	0.64	0.36
Orthophosphate as P	0.05	0.14	0.04	0.05	0.07	0.10
Total Phosphorus as P	0.09	0.17	0.06	0.08	0.12	0.13
Turbidity (NTU)	2	2	3	2	1	2
Suspended Solids	3.0	2.7	4.7	4.2	3.2	3.9
Color (color units)	8	8	5	3	4	4

Notes: 1) All constituents are in units of milligrams per liter, except as noted. 2) All constituents are dissolved phase (filtered sample), except mercury, suspended solids, pH, specific conductance, turbidity and color. 3) Values of zero generally mean that the concentrations were very near or below the analytical method's lower limit of detection.

The DWR collects samples for pesticides and herbicides analyses from the California Aqueduct at Tehachapi. The February and March 1987 DWR data indicate that none of these constituents were present above State action levels. The Metropolitan Water District of Southern California (MWD) collects samples for pesticide, herbicide and industrial chemical analyses at several SWP distribution locations in southern California, including Devil Canyon. The 1986 and February 1987 MWD data indicate that none of these constituents were present in concentrations above State action levels.

3.2.2 Proposed Project Impacts

Surface Water

Flood control aspects of the proposed project will modify the surface water flow regime of the upper Rialto Channel drainage. Basins A, B and C, when completed, will act as retention basins to reduce downstream peak flows of flood events and to retain a maximum of 1,065 acre-feet of runoff during a single flood event. The engineering design criteria for the basins are defined such that peak outflow from Basin C for the 100-year flood under fully developed conditions (1,244 cfs) will be approximately equal to the combined 100-year flood peak flows that would occur at the present time from the project's contributing drainage. In other words, the effect of development in northern Rialto on downstream flood potential will be offset by implementation of the proposed project. It is also planned that construction of Basins A, B and C will be phased so that it keeps pace with the effects of new development in the contributing drainage. In this way, both interim and final downstream flood potential will remain relatively constant at the present conditions. It should be noted that the design criteria for the Upper Cactus Basins have been set to be consistent with planned improvements throughout the Rialto Channel drainage. The flood control effects of the proposed project are considered to be a significant beneficial impact because they are consistent with aspects of the City's General Plan and Northwest Rialto Specific Plan that relate to future development and infrastructure requirements.

As mentioned above, the Upper Cactus Basins will also act to retain runoff that would flow to the Santa Ana River without the proposed project. This will occur because the contributing drainage to the basins will be increased, and the basins' storage capacity will be expanded. The effect of runoff retention on the surface water flow regime is not considered to be a significant impact for two reasons. First, the proposed project's contributing drainage is negligible compared to that of the upper Santa Ana River. Second, agreements between water agencies and municipalities for maintenance of the base flow of the Santa Ana River at the Riverside Narrows exclude storm runoff from the base flow determination. (These agreements are discussed in more detail in the groundwater impacts section.)

The development of the Upper Cactus Basins is expected to have an insignificant effect on downstream surface water quality. The basins will act as sediment and debris traps, which will cause a minimal reduction in the amount of such material reaching the Santa Ana River. Retention itself will eliminate an undetermined, but presumably small, amount of relatively high quality (low total dissolved solids concentration) water that would reach the Santa Ana River without the proposed project.

The basin and channel construction activities will not have any significant impacts on downstream surface water flow regimes and quality, because Basin C will continue to retain minor storm runoff as it currently does.

Artificial recharge operations may result in a slight increase in the base flow of the Santa Ana River at the Riverside Narrows, which would be considered an insignificant beneficial impact. Further details on this topic are provided in the groundwater impacts discussion.

In summary, the significant surface water impacts involve only the beneficial effect of eliminating increases in flood potential that would otherwise result from planned development in northern Rialto.

Groundwater

The assessment of the significance of groundwater impacts relates primarily to: 1) projected demand for local groundwater supply, 2) a complex series of interrelated court actions and settlements among water agencies and municipalities using the upper and lower Santa Ana River groundwater basins, and 3) various regulatory standards for protection of groundwater quality. Each of these topics will be discussed briefly before the impact assessment is presented.

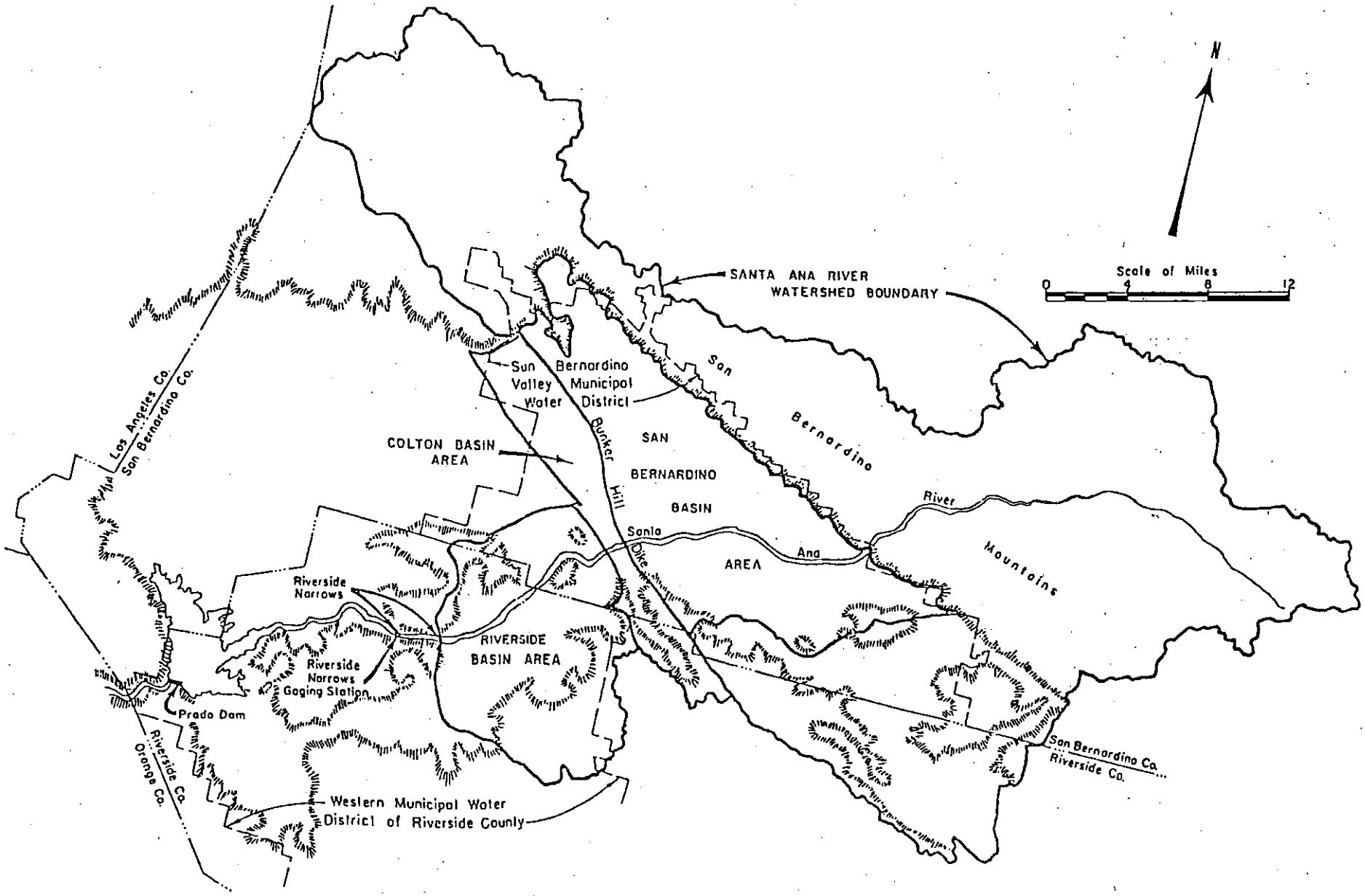
Projected Demand: As mentioned in Section 2.1, the City's General Plan projected that local demand for domestic water supply would increase greatly with new development. Several local water agencies are currently studying possible solutions to the projected shortages. The study participants include City of Rialto, SBVMWD, WSBCWD, Marygold Mutual Water Company, City of San Bernardino, Fontana Water Company and Riverside Highland Water Company. The preliminary study results indicate that local agencies have already begun to experience supply problems and do not expect to be able to meet projected demands without additional supplies. Reliance on the Colton-Rialto basin for this additional supply would require "substantial amounts of spreading of State Project water" in addition to current recharge by natural and artificial means (NBS/Lowry, 1988). Direct use of additional SWP water has the disadvantage that supplies would be greatly reduced during drought conditions. Therefore, recharge of SWP water to an aquifer (having additional dry storage capacity) during wet years and withdrawal during dry years is considered to be a viable means of maintaining a dependable water supply. This practice is often referred to as "conjunctive use" of an aquifer.

Importation of additional water supply other than SWP water would have to be viable in terms of the current legal agreements among the local water agencies and municipalities. The study cited above identified treated groundwater from the Bunker Hill pressure zone within the City of San Bernardino as a feasible and desirable alternative for additional local water supply (NBS/Lowry, 1988). Necessary contractual agreements, pipelines and pump stations for this alternative do not currently exist.

Court Judgments and Settlements: Groundwater pumping from the Colton-Rialto basin is controlled by the terms of several court judgments and settlements. These terms generally involve requirements for minimum base flow of the Santa Ana River at various locations, lowest permissible static water levels for specific wells, and obligations for artificial recharge of imported water to aquifer(s) when extractions exceed the natural safe yield of the aquifer(s). Figure 3.2-3 illustrates various boundaries, locations and areas that are of relevance to the following discussion.

The case of Orange County Water District vs. City of Chino, et al. (Case No. 117628) was settled in 1969 by a stipulated judgment. One stipulation relates to minimum base flow of the Santa Ana River below Prado Dam. However, the more important stipulation of relevance to this project is that "SBVMWD each year shall be responsible at Riverside Narrows for not less than 13,420 acre-feet of Base Flow plus one-third of any cumulative debit...". (Base Flow is defined as surface flow less storm flow.) There are also stipulations and specifications for adjustment of flow requirements based on TDS concentrations (DWR, 1986).

The case of Western Municipal Water District vs. East San Bernardino County Water District, et al. (Case No. 78426) was also settled in 1969. One stipulation obligates SBVMWD to provide imported water for replenishment of the "San Bernardino Basin Area" (aquifers upstream of the San Jacinto fault, also known as the Bunker Hill Dike where the fault crosses the Santa Ana River) at least equal to the amount by which extractions for use in San Bernardino County exceed those during the five-year period, 1959-1963, "adjusted as may be required by the natural safe yield of the San Bernardino Basin Area...". Another stipulation makes SBVMWD responsible for extractions in the "Colton Basin Area" (the Colton-Rialto basin) as follows: "Extractions from the Colton Basin Area and that portion of the Riverside Basin Area within San Bernardino County, for use within San Bernardino Valley (Municipal Water District) shall not be limited. However, except for any required replenishment by Western (Municipal Water District), San Bernardino Valley (Municipal Water



SOURCE: Judgement for Case No. 78426, Western Municipal Water District versus East San Bernardino County Water District, et al.; 1969.

Figure 3.2 - 3 UPPER SANTA ANA RIVER WATERSHED AND GROUNDWATER BASINS.

District) shall provide the water to maintain the static water levels in the area, as determined by wells numbered 1S/4W-21Q3, 1S/4W-29H1, and 1S/4W-29Q1 at an average level no lower than that which existed in the fall season of 1963..." (DWR, 1986).

The Rialto sub-basin was adjudicated in 1961 (Case No. 81624). That judgment stipulated the amount of water that each of the involved parties was entitled to extract from the sub-basin in each year. Three index wells, numbered 1S/5W-3A1, 1S/5W-2K1 and 1S/5W-12L1, were designated. Extractions are not limited as long as the average springtime static water level of the index wells is above 1,002.3 feet above mean sea level. When levels fall below that value, then stipulated maximum extraction amounts for each involved party will apply.

In summary, extraction from or artificial recharge to the Rialto sub-basin relates to aquifer water levels as well as base flow at the Riverside Narrows. This situation exists because of the interaction of groundwater systems underlying the Santa Ana River and the river's base flow, e.g., a considerable drawdown in aquifer water levels would reduce base flow. In recent years, the water levels of index wells mentioned above have remained above the stipulated minimum levels that would restrict extractions. Also, base flow at the Riverside Narrows has been consistently more than 13,420 acre-feet per year, primarily due to discharge of treated wastewater effluent from plants operated by the Cities of San Bernardino, Colton and Rialto.

Regulatory Standards for Groundwater Quality: The two sets of regulatory standards of relevance to this project involve: 1) beneficial uses and groundwater quality objectives defined by the Regional Water Quality Control Board for the Santa Ana River Basin (SARWQCB), and 2) a series of State and Federal standards and criteria related to protection of public drinking water supplies.

The defined present or potential beneficial uses for the Rialto and Colton sub-basins are municipal and domestic supply, agricultural supply, industrial service supply and industrial process supply. The only defined

groundwater quality objectives for the Rialto and Colton sub-basins are TDS concentrations of 200 mg/l and 400 mg/l, respectively (SARWQCB, 1983). These are of extreme importance because they are critical to the determination of requirements set by SARWQCB for National Pollutant Discharge Elimination System (NPDES) permits and Waste Discharge Requirements (WDRs) which regulate groundwater and surface water pollution. The State Water Resources Control Board and Regional Boards are currently developing policies for control of non-point source pollution and expect to begin implementing the policies in late 1988 (R. Turner, 1988). New regulatory requirements resulting from passage of the Federal Clean Water Act Amendments of 1987 will be implemented in the near future to control water quality impacts of urban storm runoff. The SARWQCB will require most industries by 1990 and municipalities by 1991 to file an application for an NPDES permit for stormwater discharges. The primary concern of the SARWQCB during review of these applications will be releases of volatile hydrocarbons and heavy metals, as well as the potential for release of fuel during accidental spills and fuel spill residuals after cleanup (R. Turner, 1987).

Primary and secondary drinking water regulations have been promulgated by the State (California Administrative Code, Title 22, Chapter 15) and the Environmental Protection Agency (Code of Federal Regulations, Title 40, Parts 141, 142 and 143). There are additional State laws, such as AB 1803 discussed earlier, that regulate various constituents not included in the primary and secondary standards. Since groundwater pumped from the Rialto sub-basin is used for public drinking water supply without extensive treatment, most of the drinking water regulations are directly applicable to assessment of the aquifer's water quality.

Impact Assessment: Potential impacts to the Rialto sub-basin and downgradient aquifers relate to the artificial recharge aspect of the proposed project. In terms of groundwater quantity, the project will create a beneficial impact in that water supply objectives of the local agencies can more easily be met given the projected increases in local water demand. Expansion of SBWMWD's artificial recharge capacity is considered an appropriate application of the conjunctive use principle

because of available dry storage capacity in the aquifer and the ease of delivery of SWP water to the project site. Percolation of native storm runoff is also a beneficial impact to the aquifer since that water is not considered in the base flow requirement at Riverside Narrows. Net losses of recharge to aquifers immediately above and below Prado Dam due to the retention of storm runoff at the project site are considered to be negligible relative to the total available runoff for the Prado Dam drainage. Increased local artificial recharge is also considered to be compatible with the various legal judgments and settlements applicable to the use of groundwater within the upper Santa Ana River basin.

Increased recharge of the Rialto sub-basin through percolation of SWP water is not expected to have an adverse impact on groundwater quality. Tables 3.2-1 and 3.2-2 illustrated that the TDS concentration of SWP water during wet years (e.g., 107 mg/l in 1983) when most recharge would be done was lower than the existing TDS concentrations for producing wells, and is also lower than the sub-basin's water quality objective for TDS (200 mg/l) set by the SARWQCB. SWP water has consistently had nitrate concentrations that are below those of Rialto sub-basin well water. Therefore, artificial recharge with SWP water will improve the existing situation with respect to this constituent. No contamination by pesticides, herbicides and industrial chemicals would be expected from the SWP water based on sample data collected by DWR and MWD.

There are some water quality concerns related to percolation of local urban storm runoff. The Upper Cactus Basins coupled with future development and storm drain improvements will modify the nature of runoff infiltration. Runoff that previously infiltrated over a dispersed area in the contributing drainage will infiltrate after it reaches the basins, since future storm drains will be impermeable. This runoff will, in the future, contain unknown levels of contaminants typically found in urban runoff from residential, commercial and light industrial areas, such as heavy metals and volatile hydrocarbons. The future implementation of regulatory requirements for urban storm runoff and non-point source pollution control is expected to effectively limit water quality impacts

due to these contaminants. Therefore, an adverse, but probably insignificant, impact to the Rialto sub-basin's water quality is likely due to increased percolation of local urban storm runoff.

A more serious concern involves the potential accidental release of hazardous materials into the future storm drain system feeding into the Upper Cactus Basins. The SARWQCB has regulatory authority through issuance of NPDES permits and WDRs to require appropriate measures for spill containment (e.g., berms) where a given source is actually discharging a regulated waste or has the potential for waste discharge. However, there are currently many potential sources for accidental releases of hazardous materials within the SARWQCB's jurisdiction that are not regulated by these permits, primarily because the SARWQCB does not have sufficient staff or funding to exhaustively identify all potential sources (B. Paine, 1988). The County Hazardous Materials Field Services Division within the Department of Environmental Health Services is responsible for inspection of businesses that generate any amount of hazardous waste or store more than 55 gallons or 500 pounds of hazardous materials. The Division does aggressively seek to identify new potential sources, but is limited by having only 14 inspectors currently available. The Division, through its inspection program, requires businesses meeting the above criteria to prepare contingency plans for emergency situations, identify types and amounts of hazardous materials on the premises, and install appropriate secondary containment for hazardous material or waste storage areas. The Division also provides advice to businesses on general storage procedures for chemicals (S. Van Stockum, 1988). The regulatory authorities of the SARWQCB and the County Hazardous Materials Field Services Division are considered appropriate to ultimately ensure very remote possibilities of accidental releases of hazardous materials or wastes. However, limited availability of funds and staff for both agencies hinders their ability to identify all of the significant potential sources and require appropriate spill prevention, containment and clean-up programs. Therefore, it is likely that important potential pathways for contamination of the Rialto sub-basin will remain under the existing situation. If an accidental release ever occurs and reaches the

storm drain system, it would flow rapidly to the basins and percolate into the aquifer. Contamination levels exceeding state and federal drinking water standards or state action levels would prevent use of well(s) for public drinking water supply.

3.2.3 Mitigation

Surface Water

No mitigation measures are required. Compliance with requirements of the State Division of Water Rights is assumed.

Groundwater

Protection of the water quality of the Rialto sub-basin is a very important issue because of reliance on the aquifer as a public drinking water supply. There are several ways in which the City of Rialto and the County Flood Control District could provide support to mitigate potential groundwater quality impacts. These include:

- Improve communication between the City of Rialto and the County Hazardous Materials Field Services Division. A list of new business licenses and relevant information on the new businesses could be routinely transmitted by the City to the Division for their review. The Division is currently able to provide the City with lists and maps of facilities that the Division is aware of and inspects.

- Various City of Rialto departments, e.g., police and fire, could assist the Division in their efforts to require timely compliance by local businesses.

- The City of Rialto police officers could be trained with assistance from the Division and the SARWQCB to be alert to actual spill situations during their routine patrols, and report such situations to the appropriate agency. This could reduce the response time for containment and cleanup in certain situations.

- The use of pesticides and herbicides within or near the basins should be carefully controlled to avoid inadvertent groundwater contamination. Both the County Flood Control District and the City of Rialto Recreation, Parks and Social Services Department could contact the County Agricultural Commissioner's office for advice on the timing, type and application rate of pesticides and herbicides.

3.3 Biological Resources

The proposed project site is located on the widespread alluvial fan area of Lytle Creek. Although flood flows from the creek have been generally eliminated from the area, local soils and vegetation are still typical of alluvial environments. Particularly unique is the alluvial fan sage scrub plant community which contains a mixture of chaparral species washed down from higher elevations and more common elements of the coastal sage scrub community. This community is limited in distribution to the floodplains along the San Gabriel and San Bernardino Mountains. Previous biological surveys in the region include: the Rialto airport expansion EIR (MBA, 1985), the Northwest Rialto Specific Plan biological assessment (Marsh, 1985), the La Cuesta biological assessment (Marsh, 1987) and surveys in Lytle Creek (Feldmeth et al., 1985) and Colton Wash (PSBS, 1985).

To determine the existing vegetation and wildlife on the project site a field reconnaissance was conducted on February 6, 1988 from 0900 to 1600 hours. During the survey, the entire site was traversed on foot and the composition of each plant community was determined. A complete list of the plant species observed onsite is found in Appendix D, Table D-1. Wildlife expected or observed is shown on Table D-2.

3.3.1 Environmental Setting

The southern part of the project site adjacent to Baseline Avenue contains a gravel pit. The northern part of the project area is composed of native vegetation although the area appears to have been previously disturbed by sheep grazing, off-road vehicle (ORV) activity and illegal dumping. The vegetation on site consists of a holly-leaved cherry phase of alluvial fan

sage scrub, a California buckwheat phase of alluvial fan sage scrub, adventive grassland and ruderal (disturbed) communities. The distribution of vegetation on the project site is shown in Figure 3.3-1. The following section will describe each of these vegetation communities and the wildlife habitats found on the project site.

Vegetation

Holly-leaved Cherry phase of Alluvial Fan Sage Scrub: The center portion of the property contains an alluvial sage scrub community that is typified by holly-leaved cherry (*Prunus ilicifolia*) shrubs. This is a very open community with large grassy areas between the shrubs. Other shrubs which are commonly found in this area include squawbush (*Rhus trilobata*), redberry (*Rhamnus crocea*), California buckwheat (*Eriogonum fasciculatum*), California sagebrush (*Artemisia californica*), Mexican elderberry (*Sambucus mexicana*), buckbrush (*Ceanothus cuneatus*), matchweed (*Guiterrezia bracteata*) and chamise (*Adenostoma fasciculatum*). The margins of these scrub thickets contain a scattered shrub cover composed of black sage (*Salvia mellifera*), cotton-thorn (*Tetradymia comosa*), white sage (*Salvia apiana*), valley cholla (*Opuntia parryi*) and showy penstemon (*Penstemon spectabilis*). Open grassy areas dominated by ripgut brome (*Bromus diandrus*), red brome (*Bromus rubens*) and foxtail fescue (*Festuca megalura*) form large open areas between the shrubs. These areas also contain wildflowers and subshrubs especially deer weed (*Lotus scoparius*), fiddleneck (*Amsinckia intermedia*) common cryptantha (*Cryptantha intermedia*) slender buckwheat (*Erigonum gracile*), and wild heliotrope (*Phacelia distans*). In and along some of the small washes are found more mesic species including butterweed (*Senecio douglasii*), scale broom (*Lepidospartum squamatum*) and mulefat (*Baccharis glutinosa*), arroyo willow (*Salix lasiolepis*) and holly-leaved cherry seedlings.

California Buckwheat Phase of Alluvial Fan Sage Scrub: The proposed park site and off-site areas continuing to Baseline Road contains an area dominated by California buckwheat. This area could be considered a coastal sage scrub community isolated from the more diverse holly-leaved cherry areas. However, Cox (1980) and Marsh (1985, 1987) have both

LEGEND:

CS - Holly-leaved cherry phase of Alluvial fan sage scrub
BS - California Buckwheat phase of Alluvial fan sage scrub
GR - Adventive grassland
RU - Ruderal (Disturbed)
Study Boundary

0 400 Feet
Scale

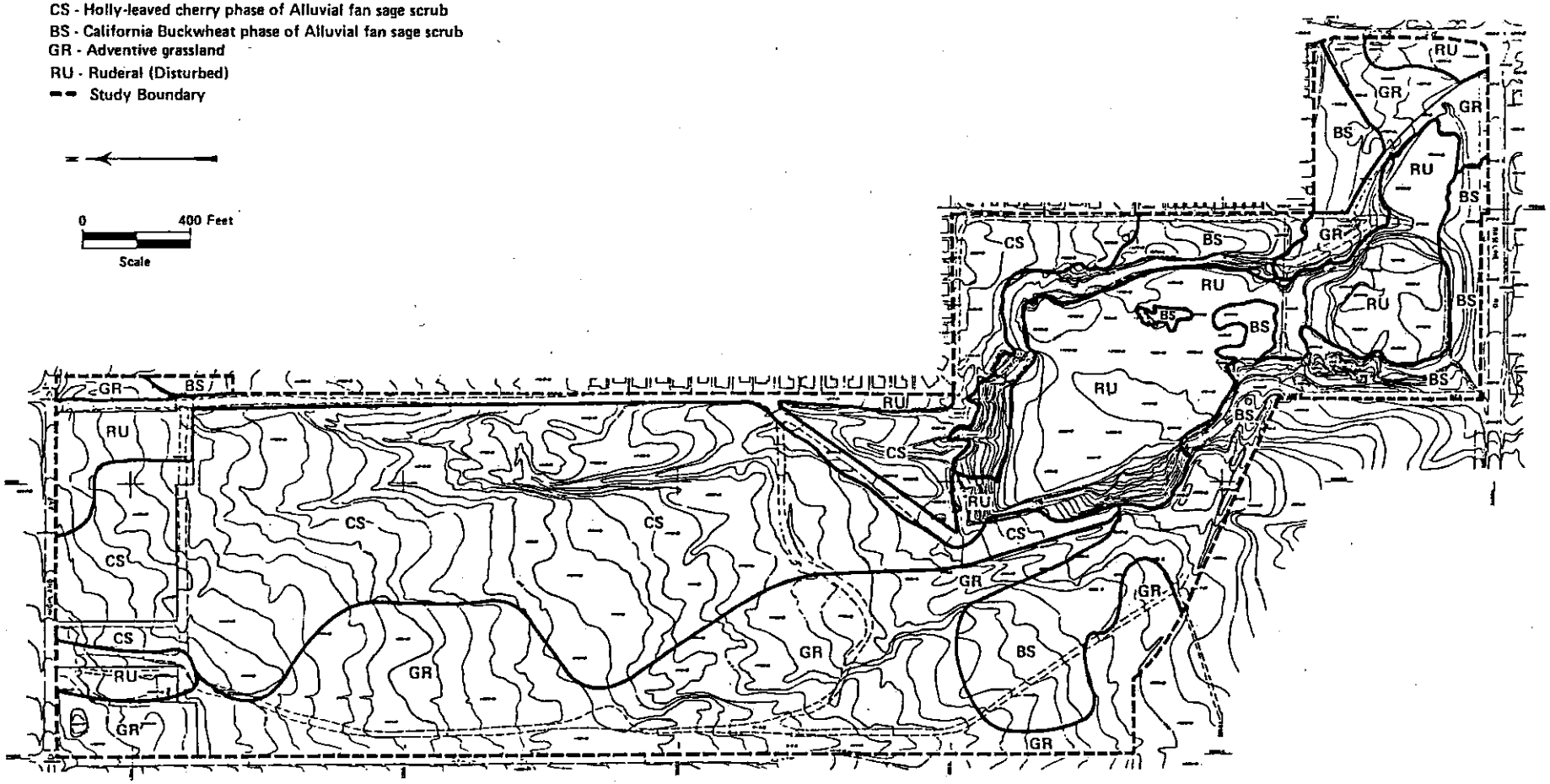


Figure 3.3 - 1 - EXISTING VEGETATION MAP

described dense buckwheat stands as a commonly occurring phase of the alluvial fan sage scrub community. Therefore, this area is considered as part of the plant communities influenced by alluvial activity in the region.

Besides California buckwheat, California sagebrush often co-dominates to form dense stands on the site. A few other shrubs such as black sage, showy penstemon and white sage are occasionally found scattered throughout the buckwheat stands.

In this community there are often small grassy openings which contain red brome, foxtail fescue, coast prickly pear (Opuntia littoralis), common cryptantha, summer mustard (Brassica geniculata) and other annuals.

Adventive Grassland: The area located beside Ayala Drive and at the corner of Cactus Avenue and Baseline Road contains an adventive grass land which is dominated by naturalized Eurasian grasses. This area typically contains dense stands of ripgut brome, foxtail fescue, slender wild oat (Avena barbata), red brome, summer mustard, red-stemmed filaree (Erodium cicutarium), Mediterranean schismus (Schismus barbatus), smooth cat's ear (Hypochoeris glabra), and pigmy-sand weed (Crassula erecta). Some shrubs and sub-shrubs including California buckwheat, deerweed and California sagebrush are often scattered throughout the grassland areas. These areas have probably been created from clearing and grazing of previous stands of alluvial sage scrub habitat.

Ruderal: The roadside and bottom of the existing gravel pit have a flora associated with disturbed areas. These sites often contained ripgut brome or red brome with a very dense covering of smooth cat's ear. Other areas contain scattered horehound (Marrubium vulgare), Indian tree tobacco (Nicotiana glauca), Russian thistle (Salsoa iberica) and cocklebur (Xanthium strumarium). The bottom of the gravel pit has a scattered cover of California buckwheat mixed with cocklebur, dove weed (Eremocarpus setigerus), California croton (Croton californicus) and red-stemmed filaree.

Wildlife

The project site forms an important area for various wildlife species, especially birds, due to diversity of shrub cover and grassy areas on the site. Despite the previous disturbances, the area retains much of the native vegetation. Especially important are the groves of holly-leaved cherry which are attractive to many species due to the abundant fruit crop. The occasional open water in the gravel pit is also important to various water fowl species and amphibians on the site.

The California treefrog, western toad and slender salamander would be the only amphibians anticipated to occur in the pit area. Reptiles expected on the project site include side-blotched lizard, San Diego horned lizard, western fence lizard, western whiptail, western skink, gopher snake and western rattlesnake.

Bird species observed using the project site include those species which prefer dense shrub cover including California thrasher, California quail, bushtit, brown towhees, bewick's and house wrens, red-shafted flickers and white-crowned sparrows. Birds usually found in more open areas such as western meadowlarks and loggerhead shrike were also found. When the fruits of the holly-leaved cherry are ripe, a much greater number of birds and other wildlife will be attracted to this food source. The disturbed gravel pit is unique because it occasionally contains areas of open water. In the pit, cinnamon teal, western gull, water pipits and killdeer were observed.

Representative small mammals for this site would include Audubon cottontail, black-tailed hare, beechy ground squirrel and Botta's pocket gopher. Mice and rats especially the San Diego pocket mouse, California mouse, cactus mouse, deer mouse, southern grasshopper mouse and house mouse would be expected. Typical carnivores found on the site include domestic dogs and cats which were frequently observed, striped skunk, long-tailed weasel and coyote. Deer may also be occasionally found browsing on the large shrubs, although with the recent growth trends in the area this considered to be an unlikely event.

Communities and Species of Concern

This section will discuss the plant communities identified as significant by the California Department of Fish and Games (CDFG), Natural Diversity Data Base (NDDB), as described in Holland (1986) or those habitats which are potentially protected by state (CDFG 1603) or federal (Corps of Engineers 404) permits. Plant or animal species of concern to the U.S. Fish and Wildlife Service (USFWS), the CDFG and NDDB, as summarized in the NDDB List of Special Animals (NDDB, 1987) and Plants (NDDB, 1984) and their potential to occur onsite or within the region are also discussed. Other lists consulted include the California Native Plant Society (1984), Remsen (1978), Tate (1986) and Williams (1986).

To determine the potential of any community or species of concern to occur within the region a report was generated for the Devore, Fontana and San Bernardino North 7-1/2 minute quadrangles (NDDB, 1988) from the NDDB's data base. Recent EIRs and other biological surveys including MBA (1985), Marsh (1985, 1987), PSBS (1985) and USFWS (1985, 1987) were reviewed to determine any other potential species of concern which may have been identified the region.

The results of the literature review for the plant and animal species of concern are found in Tables 3.3-1. The following section will discuss the potential significant biological resources which may be found on the project site.

The project site contains a plant community of concern which is the alluvial fan sage scrub or Riversidian alluvial fan sage scrub (Holland, 1986). The community is unique in that it often contains a very diverse assemblage of chaparral and coastal sage scrub plant species. Alluvial sage scrub has a distribution limited to the alluvial fans and washes along the north facing slope of the San Gabriel and San Bernardino mountains (Cox, 1980; Hanes, 1976). In fact, the vegetation along the washes at the eastern end of the San Gabriel and along the San Bernardino mountains appears to have a composition that is unique from the vegetation

TABLE 3.3-1
PLANT AND ANIMAL SPECIES POTENTIALLY OF CONCERN
IN THE STUDY AREA

Scientific Name	Status	Notes
Centrostegia leptoceras Slender-horned spine flower	CE, FE	Known populations occur at: o Devore in old wash terraces o Cajon Creek near the Glen Helen campground site
Eriastrum densifolium ssp sanctorum Santa Ana woolly-star	CE, FE	Known populations include: o Devore o West side of Lytle Creek south of Highland Avenue o North end of Muscoy
Phyronsoma coronatum blainvillei San Diego horned lizard	CSC, FC2	One individual observed onsite Other known localities include: o Cajon Wash o Lytle Creek o San Sevaine Canyon o Etiwanda Canyon
Cnemidophorus hyperthrus Orange-throated whiptail	CSC, FCS	Potentially in area? Noted by USFWS (1985)
Cathartes aura Turkey vulture	NAS	Resident. Has been observed near the site (MBA, 1985)
Elanus caeraleus Black-shouldered kite	CP	Resident. Has been reported in the region (PSBS, 1985)
Circus cyaneus Northern harrier	CSC	Winter visitant. Observed onsite.

TABLE 3.3-1 (continued)

Scientific Name	Status	Notes
Accipter striatus Sharp-shinned hawk	CSC	Winter visitant expected in the region.
Accipter cooperii Cooper's hawk	CSC	Resident. Has been reported in the general area.
Buteo lineatus Red-shouldered hawk	NAS	Resident expected in woodland (windrow) areas.
Aquila chrysaetos Golden eagle	CSC	Uncommon resident. Has been reported near the site (MBA 1985)
Falco mexicana Prairie falcon	CSC	Visitant. Reported (PSBS 1985) in region.
Tyto alba Common barn-owl	NAS	Resident. Has been noted in the region (Marsh, 1987).
Thryomanes bewickii Bewick's wren	NAS	Resident observed onsite.
Poliptila melanura californica Black-tailed gnatcatcher	CSC, F2	Potentially in the area?
Lainus ludovicianus Loggerhead shrike	NAS	Resident observed onsite.

TABLE 3.3-1 (continued)

Scientific Name	Status	Notes
Spizellia belli belli Bell's sage sparrow	LC	Resident. Subspecies appears to be restricted to alluvial fan sage scrub.
Perognathus longimembris Los Angeles pocket mouse	CSC	Potentially in region? Not listed in Vaughn (1956) or other references for the area.
Euderma maculatum Spotted bat	CSC, FC2	Potentially in the region?
Taxidea taxus American badger	CSC	Potentially in the region?

CE Listed as endangered by California.
CP Protected by the California Department of Fish and Game.
CSC California Department of Fish and Game species of special concern.
FE Listed as federally endangered.
FC2 Listed as a candidate for federal listing as threatened or endangered.
LC Species of local concern.
NAS National Audubon Society Blue List.

on rest of the San Gabriel mountains. Noticeably different are the large stands of holly-leaved cherry which are found in the San Bernardino alluvial sage scrub areas. Due to its limited distribution and the subsequent loss of habitat resulting from housing developments, channelization for flood control and sand and gravel mining projects, the community is considered rare and endangered by the NDDB.

This community also serves as the habitat for two federally endangered plant species -- the slender-horned spine flower (Centrostegia leptoceras) and the Santa Ana woolly-star (Eriastrum densifoluium sanctorum). These species are normally found on open, sandy benches containing alluvial sage scrub (USFWS, 1987). The nearest known population areas are the Glen Helen regional park for the slender-horned spine flower and in Lytle Creek near Highland Avenue for the Santa Ana woolly-star. None of these species has been observed on previous biological surveys in the project vicinity (MBA, 1985; Marsh, 1985, 1987; Feldmeth et al., 1985). The site survey did not locate any Santa Ana woolly-star, which would have been identifiable on the site at the time of the field survey. The slender horned spine flower is normally found on undisturbed sandy benches with little grass cover. Suitable habitat was not noted on the site, however, this species would not be identifiable at the time of the field survey. In addition, there have been recent reports of this species growing in areas dominated by annual grasses (Sanders, 1988).

As noted in Table 3.3-1, several animal species of concern could occur on the project site. A single juvenile San Diego horned lizard was observed on the western margin of the gravel pit near the proposed park site. Little is known about the population status of this species in the study region (Wear, 1988). However, the species is becoming very uncommon due to increased urban expansion. The population size of the San Diego horned lizard on the site is not currently known. The other species of concern observed on the site included the northern harrier, Bewick's Wren and loggerhead shrike. These species are included on the Audubon blue list, which is developed as a 'watch list' of species that have declining population.

3.3.2 Proposed Project Impacts

The proposed development of the Upper Cactus Basins coupled with the future development of the proposed park site will result in the removal of virtually all of the existing vegetation on the project site. Of the total site area of 140 acres, the following existing vegetation acreages will be removed:

45 acres	Holly-leaved cherry phase alluvial fan sage scrub
17 acres	California buckwheat phase alluvial fan sage scrub
45 acres	Adventive grassland
28 acres	Ruderal
135 acres	

Approximately 5 acres of existing vegetation (holly-leaved cherry phase and California buckwheat phase alluvial fan sage scrub) will remain adjacent to the northeast corner of Basin C. In the determination of the acreages given above, it was assumed that the proposed Easton Street right-of-way adjacent to the northern property boundary is included in the vegetation removal area, whereas the vegetation within the medium-density residential zoned areas and the County Flood Control District easement between Highland Avenue and the proposed Eastern Street right-of-way will not be affected by the proposed project action.

The most significant impact would be the removal of the holly-leaved cherry phase of alluvial fan sage scrub. Examination of aerial photographs and previous reports (Marsh, 1985, 1987; MBA, 1985) indicate that these cherry "woodlands" have a very limited distribution within the study area and their loss would be considered a locally significant impact. Although the California buckwheat area is not as significant in habitat value or species diversity as the cherry "woodland," it is still part of the alluvial fan sage scrub community which is becoming increasingly rare. Therefore, the loss of this California buckwheat area would also be considered locally significant. In addition, the project would contribute to the regionally significant loss of alluvial fan sage scrub community that is occurring in the Rialto, Fontana and San Bernardino area. The removal of the adventive grassland and ruderal plant communities would be considered an adverse, but insignificant, impact.

The project site does not appear to contain habitat suitable for the slender-horned spine flower. However, the potential for the species to occur on the site cannot be positively determined since surveys were not conducted at the proper time for identification of this species. Therefore, the potential impacts, if any, to this species cannot be confirmed at this time.

Construction of the basins will result in the potential loss of the resident wildlife on the site, and the displacement of the many visitants which currently forage on the site. This will contribute to the regional loss of suitable wildlife habitat available in the study region. The site will be retained in open space after construction is completed, however, and will provide some habitat for wildlife in the region. In addition, the percolation of SWP water by SBVMWD will provide a beneficial impact since water will often be present much of the year. This will attract a large variety of water fowl, gulls and other water-dependent species.

The San Diego horned lizard will be impacted by the project since the individual was located near Basin C. It is assumed that at least several lizards exist on the property. However, no quantitative impact determination can be made at this time. Surveys were not conducted at the breeding season when individuals would be more visible, and intensive effort to locate individuals was not conducted. The impacts to this species are considered to be significant due to the declining number and continued loss of habitat for this species in the project region.

The project will have some potential indirect impacts besides those direct impacts associated with the loss of habitat. The introduction of invasive, exotic plant species could degrade wildlife habitat within the basins. Therefore, such species should be avoided during revegetation of the project site. Other potential impacts including increased fugitive dust and noise associated with the aggregate extraction are not expected to significantly affect biological resources due to limited amount of native habitat in the vicinity of the project.

3.3.3 Mitigation

The loss of alluvial fan sage scrub cannot be mitigated by any on-site alternatives of the proposed project. Therefore, the loss of community will be an unavoidable impact of the proposed project. It is recommended that the impacts be partially mitigated by the preservation of at least 45 acres of equivalent alluvial fan sage scrub at another location. Preferably, this would be accomplished in an area that could "pool" the mitigation offsets of this and other projects into a potential alluvial fan sage scrub reserve. Potential locations for such an area include Lytle Creek, San Sevaine Creek and Cucamonga Creek.

The landscaping of the slopes with native plant species, especially those important to wildlife, would be an additional mitigation measure to offset the impacts. An erosion control and revegetation plan should be developed by the County Flood Control District and submitted for approval to the County Office of Planning. These plans should, at a minimum, be in compliance with the County grading code and/or surface mining reclamation policies. The erosion control plan should include, but not be limited to:

- Specifications for grading the basin slopes to at least a 2:1 or greater. Preferably the slopes should be benched to provide additional location for plantings. At a minimum, the slopes should be serrated to provide suitable habitats for plant growth.

- Procedures for salvage and use of topsoil, if available.

- Specifications for the control of erosion, gully formation and head cutting. These would include, but not be limited to, culverts, energy dissipators, slope drains and intercepter ditches.

- Maintenance procedures for the basins, detailing when sediment would be removed from the basins and to where it would be removed.

- Develop interim revegetation procedures to reduce water and wind erosion during temporary shutdown of extraction activities. This would include removal of fines stockpiles, regrading of slopes and temporary

revegetation. The revegetation will consist of grasses, forbs, and/or subshrubs. These could include blando brome, foxtail fescue, deerweed and lupines. This cover crop will be replaced, and the final revegetation plan implemented as soon as relevant portions of the site reach their final design grade. Final revegetation should involve all areas above the basins' high water line that are not required to remain as cleared roadways.

Specifications for the final revegetation plan will detail procedures for replanting or seeding of trees, shrubs, forbs and grasses on the slopes and terraces of the basins. This plan should include:

- Specifications for the seed mixture or plantings to be used, pounds of seed or number of seedlings per acre, type of mulch application rate, etc.

Potential fugitive dust and noise impacts would be minimized by procedures outlined in the air quality and noise mitigation sections (3.7.3 and 3.8.3, respectively).

The potential loss of the San Diego horned lizard could be potentially mitigated by a more detailed population survey and transplant program. However, it is not known whether an on-site or off-site transplant program would be feasible. Therefore, no mitigation is currently proposed for impacts to this species.

3.4 Cultural Resources and Paleontology

3.4.1 Environmental Setting

A cultural resources records search for the project site was completed by the San Bernardino County Museum Archaeological Information Center in January 1988. Results of the records search indicate that two structure sites were shown on the 1901 U.S. Geological survey quadrangle map. That map was based on surveys performed during 1893-1894. The first structure site (Site #1) is

located just south of Highland Avenue near the intersection of Highland Avenue and Spruce Avenue. Field reconnaissance by a historic archaeologist indicates that this site is presently highly disturbed and very unlikely to qualify as a significant historic resource under CEQA or National Register of Historic Places criteria. The second structure site (Site #2) was mapped as being near the northwest corner of the intersection of Cactus Avenue and Baseline Road. Site #2 appears to have been completely removed during prior land-altering activities.

The potential for significant paleontological resources is believed to be quite low in an alluvial fan area such as that for the project site.

3.4.2 Proposed Project Impacts

No significant impacts on cultural or paleontological resources are expected as a result of the proposed project actions. However, a remote possibility for discovery of significant subsurface deposits on the site remains.

3.4.3 Mitigation

Archival investigations on Site #1 are currently being conducted to make final determinations on significance of potential impacts. This information will be provided in the Final EIR.

In the event that a potentially significant cultural or paleontological subsurface deposit is discovered during project excavation, it is recommended that excavation in the area be temporarily suspended until a qualified professional has the opportunity to assess the deposit and develop appropriate mitigation measures.

3.5 Land Use

3.5.1 Environmental Setting

Development in West San Gabriel Valley is largely residential, reflecting its importance as a source of affordable housing for those who work in the greater Los Angeles and Orange County areas. The West Valley is also

emerging as a major industrial center, particularly for sectors requiring large contiguous sites and access to regional transportation systems. Substantial undeveloped land also characterizes the region.

Land uses in the City of Rialto somewhat mirror this profile. Over forty percent of the City's land area is vacant or in agriculture. Residential development and transportation facilities including streets and highways serving this development comprise over three-quarters of all improved land (City of Rialto, 1985b).

Existing Land Use

The 140-acre project site is located in an unimproved portion of the Rialto Flood Control Channel drainage that has been partially excavated to retain runoff from nearby areas. Adjacent development includes single family residences to the east and northeast and the Rialto Municipal Airport to the west. Also west and southwest are new light industrial uses including general purpose industrial buildings comprising the Airport Industrial Park. Vacant land surrounds the balance of the project site including existing flood control basins to the south.

The larger study area extending north and west from the proposed site contains substantial tracts of vacant land. Much of this area's residential development occurs relatively close to the site, north of Highland Avenue to Riverside Avenue between Ayala Drive and Cactus Avenue and, to a lesser extent, west of Ayala Drive to Locust Avenue. Areas west of Locust Avenue and north of Highland Avenue to their respective city boundaries are sparsely developed in industrial and large-lot, rural residential uses. Most industrial activity occurs along Baseline Road forming the southern boundary of the Rialto Municipal Airport and north of Highland Avenue along Locust Avenue. This latter area contains precast concrete plants, metal fabricators and auto dismantling yards. Other non-residential uses north of Highland Avenue and west of Locust Avenue include open storage for a fireworks manufacturer and two large land fills. No significant concentrations of commercial development appear in the study area.

Four schools are within 3,000 feet of the project site, the nearest being Eisenhower High School located 1,500 feet east of the site along Baseline Road.

Existing Zoning

The project site is zoned single family residential (R-1C) and restricted manufacturing (M-1R). The latter is a small southernmost parcel of approximately 20 acres formed by an abandoned Santa Fe railroad right-of-way and Baseline Road. Proposed flood control improvements extend into both zones; the proposed park use is exclusively in the R-1C zone. Zone designations for adjacent lands are M-1R to the west and southwest and single family to the north and south (R-1B).

Study areas lands to the north of the project site are also zoned variously for single family development. In the area formed by Cactus, Highland, Locust and Riverside Avenues, residential zones range from R-1A to R-1C, the former concentrated mainly south along Riverside Avenue. Northwest of this area, north of Avenue "D", is land also zoned for residential development through Northwest Specific Plan regulations. South of this area and north of Highland Avenue is zoned M-2 except for a strip along Highland east of Alder Avenue (M-1) and a very small residential island along Mango Avenue (R-1A). South of this area to Baseline Road and east to the project site, including the Rialto Municipal Airport, is zoned M-1R.

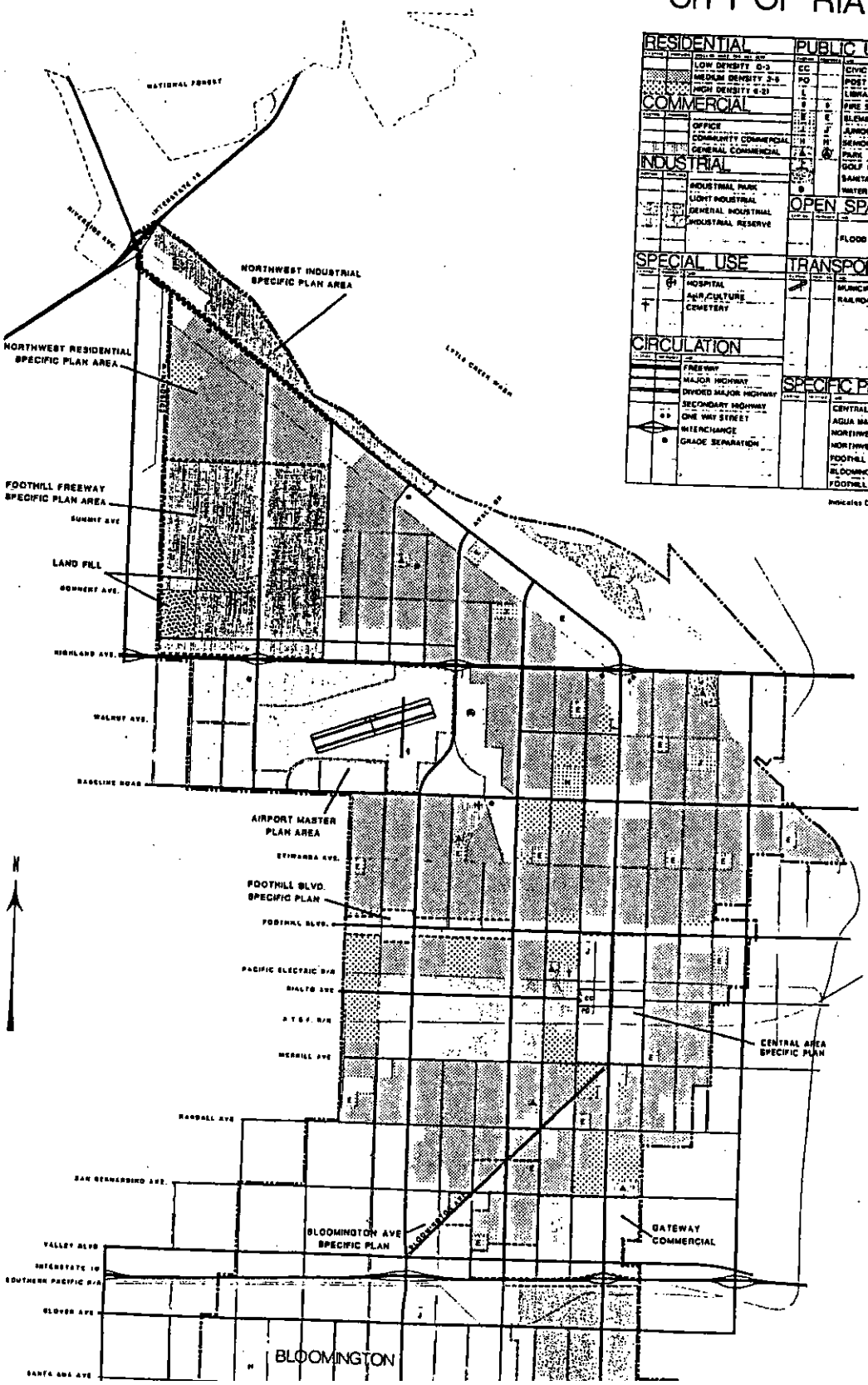
Land Use Plans

The Land Use Policy Map of the General Plan for the City of Rialto (see Figure 3.5-1) designates the project site "parks and open space." Medium density (single family residential) development is planned for areas to the north, east and south of the site. The area along and to the west of the project including the Rialto Municipal Airport and contiguous lands carries a plan map designation of light industrial.

More distant areas to the northwest of the project site include the Northwest Rialto Specific Plan area. The subject Specific Plan respects

GENERAL PLAN

CITY OF RIALTO



the underlying General Plan category of medium density residential proposing an ultimate development of 2,530 dwelling Units (City of Rialto, 1987). Between this Specific Plan area and the Rialto Municipal Airport lies a large tract shown as industrial reserve on the General Plan Policy Map.

The San Bernardino County General Plan matches the City's plan closely with respect to designations for the project site (RCN--Rural Conservation) and adjacent residential and industrial areas. Only in the potential project service area to the northwest do the plans diverge. Specifically, the County plan shows a large section of industrial land use north of Highland Avenue from Locust Avenue east to Ayala Drive. The plan also designates both very low density residential (RES-1 or 1 du/ac) and industrial uses in the Northwest Rialto Specific Plan Area (San Bernardino County, 1986).

3.5.2 Proposed Project Impacts

The proposed flood control project is permitted in the R-1C and M-1R zones as a public use. Aggregate extraction requires a Conditional Development Permit from the City of Rialto. Likewise, the proposed park is permitted in the R-1C zone.

The proposed project is also consistent with the Rialto General Plan. Moreover, it is not anticipated that the project will induce any off-site changes to the General Plan.

Differences between the City and County General Plans are not significant for Rialto since County plans are meant to be illustrative for incorporated areas.

Airport Land Use Compatibility

The proposed project has been shown to be consistent with both the present zoning of the property and the General Plan designation for the area. This compatibility clearly defines the project's consistency with the overall development plans and policies of the City. A further land use

issue remains regarding the operational compatibility of the property with that of the Rialto airport. This issue is of concern because of current airport activities and further due to future intended uses as outlined in the Airport Master Plan. The Plan outlines a scenario for development which will substantially increase the airport's operations level. Therefore, it is necessary for the project to be compatible with both current and future operations.

The most significant questions regarding the compatibility of the two land uses is where either will interfere with the normal operation of the other. Since the type of activity proposed for the project site is relatively passive, there is little that the airport could do which would interfere with its operation. Therefore, the focus must be directed toward determining whether the project will affect the airport's operation.

During construction of the flood control basin considerable amounts of dust are expected to be generated. Dust can, under certain conditions, pose a hazard to aviation primarily by reducing visibility. Since the normal flight path for aircraft landing at Rialto bring them over the project site, this can present a potential problem. The greatest potential problem exists during the development of Basin A which is closest to the landing track of aircraft. However, as local wind patterns would tend to disperse project-generated dust to the east or south, this impact is not expected to be significant. Although the reduced visibility is expected to be a relatively short-term condition, if dust becomes a flight hazard additional site watering may help.

After basin construction has been completed the potential impact of site-generated dust will be significantly reduced if not eliminated. The level of reduction will be dependent on the type of revegetation program instituted and degree of site maintenance.

The second potential threat to flight safety is obstructions which may be placed onsite. Again, this is primarily a concern during the construction of the basins when excavation equipment is onsite. The maximum height of any on-site equipment is not expected to exceed 15 to 16 feet, this being

the portable screening unit used by Operator B. This unit would be located away from the airport's designated clear zone and should not pose a threat to air operations. During initial development the screen would be located at grade. After sufficient material has been removed from Basin B, and later Basin A, the screen would be moved to the basin floor. Since the basin depth is more than thirty feet, the unit should not protrude above the ground surface, and no flight obstruction would exist.

After the basins have been completed, the only features onsite which may extend above the ground surface will be vegetation planted during reclamation activities. If any plantings other than ground covers or shrubs are used, which can grow to appreciable heights, care must be exercised to avoid clear zone intrusions.

A third factor which may affect compatibility is the presence of birds at the site. Since the basins are to be used for percolation, water can be expected to be present for considerable periods. This standing water, although relatively shallow, is likely to attract various avian species which can pose a threat to aircraft operations. Some species may use the ponds for extended periods and become acclimated to frequent aircraft overflights. However, migratory water fowl species which use the ponds for relatively short periods may not adjust. It is these species which pose the greatest threat. If they come startled, take flight and intercept a descending aircraft, a nonstandard landing may be required.

The project also poses some distinct advantages in terms of land use compatibility. These advantages are seen in the area of airport-related noise and site drainage. In each case, the airport will derive some level of benefit from the project's development.

The noise contours for the present and future airport operations (MBA, 1985) indicate that the northern portion of the project site will be subject to sound levels between 60 and 70 dBA CNEL. This level is normally unacceptable for new residential developments but poses no problem for the proposed project. Based on current zoning, the property could be developed as single family residential which would be likely to result in considerable complaints about airport operations. By developing

the property as planned, not only is this condition avoided, but existing residential areas along Cactus Avenue are given a buffer zone.

The airport will also derive a benefit from the project in the area of drainage. A less complicated and less costly system can be developed to control the airport drainage if the Upper Cactus Basins are developed.

In summary, the development of the project could lead to temporary, but controllable, impacts from dust generation and intrusions of flight paths. Birds which may use the site will pose a potential threat to safety, but the level of impact is not definable. Finally, the airport will derive benefits from the project in the form of a permanent buffer zone and a less costly drainage system.

3.5.3 Mitigation

Project proponents will obtain a conditional development permit per conditions of the municipal zoning code.

Airport-Related Mitigation Measures

The threat to aviation safety posed by project-generated dust should be minimal. However, since an adverse condition could arise, the following measures should be considered beyond those already incorporated into project design:

- If visibility is reduced significantly and poses a threat to safe aircraft operations, as determined by the Airport Manager, additional site watering will be required. If the condition persists, excavation activities will be halted until more favorable weather conditions occur.

- No point source of dust capable of generating a concentrated plume will be located in Basin A or in a location proximate to the flight path such that a hazardous condition results.

- Disturbance areas will be kept to a minimum, and revegetation will occur as soon after construction activities are completed as possible.

The impacts which could result from clear zone intrusion are expected to be minimal. However, the following measures should be considered:

- No semi-permanent excavation equipment will be located on the project site without consultation with the Airport Manager with regard to clear zone penetration.

- Revegetation plans will be submitted to the Airport Manager for approval.

- If revegetation includes trees which could penetrate the clear zone, the County Flood Control District will perform adequate maintenance to insure that no air space violation occurs.

The threat posed by birds using the basins as a refuge cannot be quantified, but is an obvious potential hazard. Therefore, unless it can be demonstrated to the Airport Manager's satisfaction that no threat exists, the following should be considered:

- Basin A will not be used by SBVMWD for percolation during periods of water fowl migration. This condition does not apply to flood runoff retention in Basin A.

3.6 Traffic and Circulation

3.6.1 Environmental Setting

Access to the project site is provided by Ayala Drive, Fitzgerald Avenue, Baseline Road, Highland Avenue, and Cactus Avenue (See Figures 2.1-1 and 2.1-2).

Ayala Drive, which abuts the western edge of the project site, is a north-south street designated as a major arterial (100-foot right-of-way, 72-foot pavement width, 4 lanes) in the City of Rialto General Plan. The segment of Ayala Drive between Baseline Road and Highland Avenue is currently two lanes wide with a short section improved to a four-lane

pavement width near the intersection with Fitzgerald Avenue. South of Baseline Road the street name changes to Cedar Avenue. Ayala Drive and Cedar Avenue currently have a weight restriction as indicated by a sign stating "Commercial Vehicles Over 5 Tons Prohibited".

Fitzgerald Avenue is a two-lane, north-south street located southwest of the project site. It provides a connection between Ayala Drive and Baseline Road through an industrial area which is presently being developed. It is undesignated in the General Plan but has been constructed as a commercial street (60-foot right-of-way, 44-foot pavement width, 2 lanes).

Baseline Road is a two-lane, east-west highway located south of the project site. It is classified as a major arterial in the General Plan (100-foot right-of-way, 72-foot pavement width, 4 lanes). Although Baseline Road presently has only two lanes, the segment of roadway between Ayala Drive and Cactus Avenue has been improved to its fully planned width on the south side.

Highland Avenue (State Route 30) is a two-lane, east-west highway located north of the project site. This Caltrans facility is earmarked to be reconstructed as a freeway in the future to provide a connection between San Bernardino and Interstate 210 in La Verne. This project is currently in the planning phase; however, the year for construction has not been designated.

Cactus Avenue is a two-lane, north-south facility located east of the project site. It is classified as a major arterial (100-foot right-of-way, 72-foot pavement width, 4 lanes) in the General Plan. Although Cactus Avenue is striped for only two lanes, the segment between Baseline Road and Highland Avenue has sufficient pavement width for four lanes. Cactus Avenue is designated as a truck route.

Foothill Boulevard (State Route 66) is a two-lane, east-west highway located approximately one mile south of the project site. This Caltrans facility is designated as a major arterial (110-foot right-of-way, 96-foot pavement width, 4 lanes).

Locust Avenue is a two-lane, north-south roadway extending north from Highland Avenue approximately 1-1/2 mile west of the project site. It is designated as a major arterial (100-foot right-of-way, 72-foot pavement width, 4 lanes) in the General Plan.

There are two signalized intersections in the project area: Highland Avenue at Cactus Avenue and Baseline Road at Cactus Avenue. The other three key intersections in the immediate project vicinity are controlled with stop signs on the minor streets, i.e., on Ayala Drive at Highland Avenue, on Ayala Drive at Baseline Road, and on Fitzgerald Avenue at Baseline Road.

Daily and peak hour traffic volume data for the study area roadways were obtained from the City of Rialto, City of Fontana, Caltrans, and by actual peak hour counts conducted by Stevens-Garland Associates in February, 1988. The existing traffic volumes are summarized on Table 3.6-1, which shows the average daily, morning peak hour, and afternoon peak hour volumes. Values for Locust Avenue were estimated based on data from the Northwest Rialto Specific Plan.

Truck counts conducted by Stevens-Garland Associates indicate the following truck percentages:

Roadway	Truck %
Baseline Road	4%
Highland Avenue	10%
Cactus Avenue	10%
Ayala Drive	1%

The City of Rialto has several designated truck routes: Cactus Avenue (north of Valley Boulevard), Valley Boulevard, Riverside Avenue (south of Valley Boulevard), and parts of Baseline Road. Additionally, State Routes 30 (Highland Avenue) and 66 (Foothill Boulevard) are used as truck routes. All truck movements in Rialto must use these routes as much as possible and minimize travel on other roadways.

Table 3.6-1

EXISTING TRAFFIC VOLUMES

Roadway/Location	Average Daily Traffic Volume	Peak Hour Traffic Volume AM	Peak Hour Traffic Volume PM
Ayala Drive			
North of Baseline Road	2,500	270	210
North of Fitzgerald Avenue	3,000	320	250
South of Highland Avenue	3,000	320	250
Fitzgerald Avenue			
North of Baseline Road	500	50	40
Baseline Road			
West of Ayala Drive	13,000	1,070	1,270
West of Cactus Avenue	14,000	960	1,360
East of Cactus Avenue	15,000	1,050	1,490
In Fontana	12,000	1,000	1,200
Highland Avenue (SR 30)			
West of Ayala Drive	11,900	1,010	1,080
West of Cactus Avenue	13,000	1,110	1,280
East of Cactus Avenue	13,700	1,310	1,450
East of Sierra Avenue	10,800	1,050	1,150
Cactus Avenue			
South of Baseline Road	7,000	530	800
North of Baseline Road	8,000	540	850
South of Highland Avenue	7,000	470	760
Foothill Boulevard (SR 66)			
At Cactus Avenue	19,700	1,600	1,750
Locust Avenue			
North of Highland Avenue	1,400	120	140

Truck operations in Rialto are required to obtain a permit from the City which specifies the vehicle type, nature of the load, axle weight, loaded weight, and intended route. The fee for a permit is $10/day or $200/year for each vehicle.

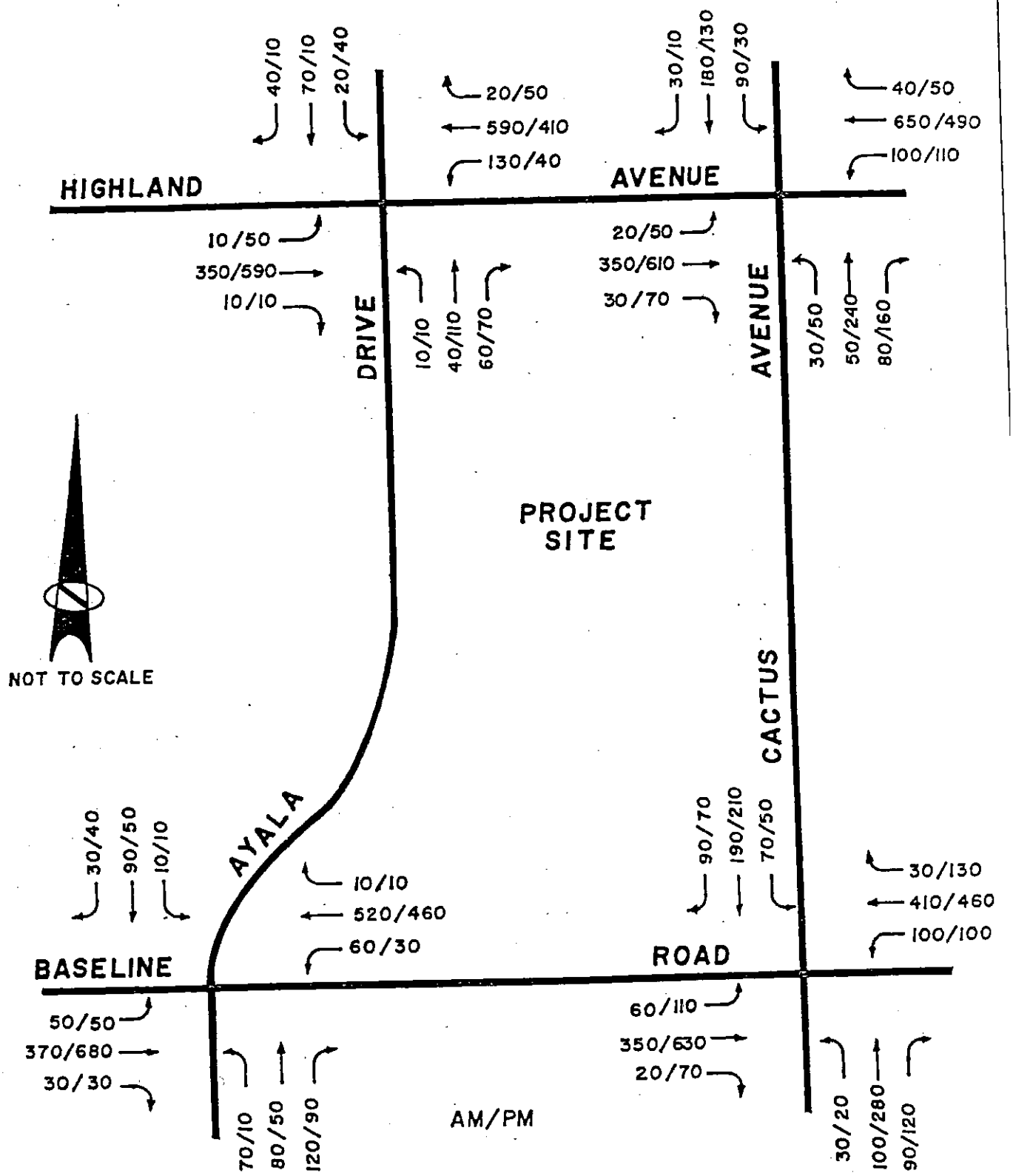
Intersection counts were taken at the four key intersections in the project vicinity during the morning and afternoon peak hours. The results of the counts are shown in Figure 3.6-1. Using these traffic volumes, the intersection capacity utilization (ICU) values and levels of service have been determined. ICU is the ratio of an intersection's traffic volumes to the intersection's theoretical vehicular capacity considering turning movements, conflicting traffic and lane configuration. Level of service (LOS) is a qualitative measure of traffic conditions as determined by such indicators as vehicle delay, driver comfort, and the ICU value. It ranges from LOS A (little or no congestion) to LOS F (jammed conditions) with LOS C or better typically considered as acceptable.

Table 3.6-2 shows the existing ICU values and levels of service at the four intersections during the morning and afternoon peak hours. The calculations reflect a passenger car equivalency (PCE) factor of 2, which implies that a truck utilizes twice the capacity of an automobile. Table 3.6-2 indicates that all four intersections currently operate at LOS C or better.

TABLE 3.6-2

EXISTING INTERSECTION LEVELS OF SERVICE

Intersection	AM Peak Hour ICU	AM Peak Hour LOS	PM Peak Hour ICU	PM Peak Hour LOS
Cactus Avenue At Highland Avenue	0.67	B	0.68	B
Cactus Avenue At Baseline Road	0.46	A	0.70	C
Ayala Drive At Highland Avenue	0.60	B	0.63	B
Ayala Drive At Baseline Road	0.56	A	0.57	A



SOURCE: Stevens-Garland 1988

FIGURE 3.6-1 EXISTING PEAK HOUR TRAFFIC VOLUMES

Traffic volumes on the study area roadways are expected to increase in the future due to general area-wide growth and the cumulative impacts of other development in the project vicinity. It has been assumed that the annual increase in traffic volumes will be approximately six percent per year (based on historic growth trends). Additionally, there are two proposed developments which would have an impact on study area traffic volumes: an industrial park which is currently under construction along Fitzgerald Avenue (approximately 10 acres near completion) and the development proposed in the Northwest Rialto Specific Plan area.

3.6.2 Proposed Project Impacts

The traffic impacts associated with the project would occur during the construction phase, as construction of the basins and channel requires the transport of large quantities of extracted material. Trucks would be used to haul excavated aggregate material away from the site and to transport concrete to the site.

As described in Section 2.4, approximately three million cubic yards of aggregate material must be excavated and sold. This process is expected to occur over a ten year period (1989-1998). The excavation activity will vary each day depending on the demand for aggregate material, with the maximum level of production estimated at 3,000 cubic yards per day. Aggregate material will be removed from the site in 18-wheel truck-trailers with an average hauling capacity of 25 cubic yards, which results in 120 truck loads on a maximum day of production.

At certain times during the construction phase there would also be the need to transport concrete to the site. The duration of this activity is expected to be 1 to 2 months during 1989 for channel construction, and a few days during future years for construction of spillways from Basins A and B. It is possible that the transport of concrete to the site could occur simultaneously with a peak day of aggregate removal from the site, therefore, this scenario has been used as a worst case analysis. The delivery of concrete has been estimated to result in 16 trucks per day on a peak day of activity (see Section 3.7.2 for further details).

Table 3.6-3 summarizes the project's traffic generation characteristics for each type of vehicle expected to serve the project site during construction. The numbers represent a worst-case scenario reflecting maximum excavation and concrete demands. The trucking activities would occur from 7:00 a.m. till 4:00 p.m. on weekdays. As shown the project could potentially generate as many as 280 truck trips per day (140 round-trips) and 35 trips during the peak hour.

The project-generated traffic was geographically distributed onto the roadway network based on the assumed destinations and travel routes for each type of vehicle. As discussed in Section 2.4, there are two categories of aggregate hauling trucks. Operator "A" will haul the material directly to a processing site in south Rialto along the route specified on Figure 2.4-1. Operator "B" will haul the material to various destinations which will be determined by the demand for the product. The projected haul routes for Operator "B" are shown on Figures 2.4-2 (outbound) and 2.4-3 (inbound). It has been assumed that the cement trucks and miscellaneous traffic will approach and leave the site on the same route as Operator "A". All access to and from the site is planned to be on Ayala Drive.

Based on the traffic generation and distribution assumptions outlined above, the project-generated traffic was assigned to the roadway network in the study area. The volume of project traffic expected to occur on each roadway segment has been estimated as summarized in Table 3.6-4 for average daily and peak hour traffic. The most heavily used roadways will be Ayala Drive and Cactus Avenue. In almost all cases, trucks will approach the site from the south on Ayala Drive from Baseline Road and leave the site on northbound Ayala Drive to Highland Avenue. This results in right-turns-only into and out of the site from Ayala Drive while minimizing left turns at other locations.

An analysis of traffic impacts was conducted by quantifying the before-and-after traffic conditions on the study area roadways for the scenarios with and without the project. Two analysis years were assessed: the initial year of excavation (1989) and the final year of

TABLE 3.6-3

PROJECT-GENERATED TRAFFIC

Vehicle Type	Daily Traffic Round-Trip	Daily Traffic One-Way	Peak Hour Traffic
Aggregate Hauling Truck			
Operator A	80	160	20
Operator B	40	80	10
Cement Truck	16	32	4
Miscellaneous	4	8	1
Total Traffic	140	280	35

TABLE 3.6-4

PROJECT TRAFFIC ON EACH ROADWAY SEGMENT

Roadway/Location	Project-Generated Traffic	
	Daily	Peak Hour
Ayala Drive		
North of Baseline Road	110	15
North of Fitzgerald Avenue	110	15
South of Highland Avenue	170	20
Baseline Road		
West of Ayala Drive	10	2
West of Cactus Avenue	110	15
In Fontana	10	2
Highland Avenue		
West of Ayala Drive	50	5
West of Cactus Avenue	120	15
East of Cactus Avenue	10	2
East of Sierra Avenue	10	2
Cactus Avenue		
South of Baseline Road	210	25
North of Baseline Road	110	15
South of Highland Avenue	110	15
Locust Avenue		
North of Highland Avenue	40	5

excavation (1998). The 1989 traffic volumes with and without the project and the percent increase in traffic that would result are shown on Table 3.6-5. Table 3.6-6 shows the same information for the year 1998. The most significant impact would occur on Ayala Drive.

The before-and-after ICU values and levels of service at the four key intersections in the study area were determined for the 1989 study year, as shown on Table 3.6-7. Three of the four intersections are expected to experience a slight increase in ICU. One intersection changes from LOS A to LOS B (Ayala Drive at Baseline Road) while the other three intersections remain at the same LOS. All of the intersections are LOS C or better, which represents acceptable traffic conditions. The afternoon peak hour was not assessed because the excavation operations are planned to stop at 4:00 p.m. prior to the beginning of the afternoon peak hour.

Another traffic impact associated with the project is the potential for decreased safety on the study area roadways. Because of the concentrated level of truck activity and the additional number of trucks turning onto and off of high-speed roadways, there would likely be an increased accident risk, particularly on Ayala Drive at the site access and on Highland Avenue and Baseline Road at the Ayala Drive intersections.

The traffic impacts associated with the project are summarized below:

SUMMARY OF TRAFFIC IMPACTS

- The project is estimated to generate approximately 280 truck trips (140 round trips) and 35 peak hour trips (18 round trips) on a day of maximum construction/excavation activity.

- The construction/excavation phase is expected to have a 10 year duration (1989 to 1998) with operating hours of 7:00 a.m. to 4:00 p.m. Monday through Friday.

- Site access is planned to be from Ayala Drive.

TABLE 3.6-5

PROJECT IMPACT ON DAILY TRAFFIC VOLUMES (1989)

Roadway/Location	Daily Traffic Volumes (1989) Without Project	With Project	% Increase
Ayala Drive			
North of Baseline Road	2,650	2,760	4.2
North of Fitzgerald Avenue	3,200	3,310	3.4
South of Highland Avenue	3,200	3,370	5.3
Baseline Road			
West of Ayala Drive	13,800	13,810	0.1
West of Cactus Avenue	14,800	14,910	0.7
In Fontana	12,700	12,710	0.1
Highland Avenue			
West of Ayala Drive	12,600	12,650	0.4
West of Cactus Avenue	13,800	13,920	0.9
East of Cactus Avenue	14,500	14,510	0.1
East of Sierra Avenue	11,400	11,410	0.1
Cactus Avenue			
South of Baseline Road	7,400	7,610	2.8
North of Baseline Road	8,500	8,610	1.3
South of Highland Avenue	7,400	7,510	1.5
Locust Avenue			
North of Highland Avenue	1,500	1,540	2.7

TABLE 3.6-6

PROJECT IMPACTS ON DAILY TRAFFIC VOLUMES (1998)

Roadway/Location	Daily Traffic Volumes (1998) Without Project	With Project	% Increase
Ayala Drive			
North of Baseline Road	4,500	4,610	2.4
North of Fitzgerald Avenue	5,400	5,510	2.0
South of Highland Avenue	5,400	5,570	3.1
Baseline Road			
West of Ayala Drive	23,400	23,410	neg.
West of Cactus Avenue	25,200	25,310	0.4
In Fontana	21,600	21,610	neg.
Highland Avenue			
West of Ayala Drive	21,400	21,450	0.2
West of Cactus Avenue	23,400	23,520	0.5
East of Cactus Avenue	24,700	24,710	neg.
East of Sierra Avenue	19,400	19,410	0.1
Cactus Avenue			
South of Baseline Road	12,600	12,810	1.7
North of Baseline Road	14,400	14,510	0.8
South of Highland Avenue	12,600	12,710	0.9
Locust Avenue			
North of Highland Avenue	4,900	4,940	0.8

TABLE 3.6-7

PROJECT IMPACT ON INTERSECTION LEVELS OF SERVICE

Intersection	ICU/Level of Service (1989-A.M.) Without Project	With Project
Cactus Avenue At Highland Avenue	0.71/C	0.71/C
Cactus Avenue At Baseline Road	0.48/A	0.52/A
Ayala Drive At Highland Avenue	0.64/B	0.66/B
Ayala Drive At Baseline Road	0.59/A	0.60/B

- Traffic impacts would occur primarily on Ayala Drive, Cactus Avenue, Highland Avenue, and Baseline Road.

- Ayala Drive is currently posted with a 5 ton weight restriction, while project-generated trucks may weigh as much as 40 tons. Accelerated pavement and base damage could occur.

- There will be localized traffic and safety impacts due to trucks accelerating and decelerating on Ayala Drive at the project's entrance/exit location.

- Traffic flow and safety on Highland Avenue (SR 30) may be affected by project-generated trucks entering the highway from Ayala Drive.

- Traffic flow and safety on Baseline Road may be affected by project-generated trucks decelerating to turn right onto Ayala Drive.

3.6.3 Mitigation

There are several mitigation measures which could be implemented to alleviate the impacts of the project-generated truck traffic. They are:

- Minimize the level of trucking activity during the peak commuting periods.

- Reconstruct Ayala Drive so that its pavement, base, and sub-base can carry the anticipated axle loads.

- Provide acceleration/deceleration lanes on northbound Ayala Drive at the site entrance/exit.

- Improve the intersection of Ayala Drive at Highland Avenue to have a right turn lane and an acceleration lane for eastbound Highland Avenue.

- Provide a deceleration lane on westbound Baseline Road at Ayala Drive.

- Install flashing beacons at the intersections of Ayala Drive at Highland Avenue, Ayala Drive at Baseline Road, and Ayala Drive at the site access with yellow lights on the major road and red lights on the minor road.

- Install warning sign(s) stating "Trucks Entering Highway" on Highland Avenue in advance of the Ayala Drive intersection.

- Provide alternative site access from Baseline Road and/or Highland Avenue if Ayala Drive is not upgraded to carry the anticipated loads.

- Provide sufficient on-site parking and circulation area to accommodate trucks entering and exiting the site and waiting to be loaded.

3.7 Air Resources

The following sections provide a description of the meteorologic/air quality environment of the project area, an analysis of the impacts to local air quality which are likely to occur and, where not included in project design, a discussion of measures for the reduction of potential adverse project effects. The evaluation of impacts includes quantification of total project emissions where sufficient construction and/or operational characteristics are available.

3.7.1 Environmental Setting

Meteorology/Climatology

The climatic conditions of the region in which the proposed project will be located are controlled by meteorologic factors on both a synoptic (1,000 to 2,500 km) and local (8 to 160 km) scale. On a synoptic scale the dominant factors controlling local conditions include the semi-

permanent Pacific and Great Basin high-pressure cells, the Aleutian Low and the cold water California current. The interaction of these features determines, to a large extent, annual weather conditions. The dominance of one feature over the others can cause low annual precipitation and drought-like conditions while another can cause extremely wet winters with associated landslides and flooding. Under normal conditions the combination of these meteorologic features tend to temper local weather such that extremes of temperature and precipitation are relatively infrequent.

The air flow of the area is controlled mainly by four synoptic functions. The first of these occurs during the late spring as the Pacific high drifts north and intensifies; southwesterly to westerly flow becomes the dominant pattern. This continues until mid to late fall when occasionally strong northeast to easterly flow occurs as the result of high-pressure systems over the Great Basin and a corresponding low-pressure system in Mexico. When these systems coincide, the result is a strong easterly flow off the California desert.

The easterly flow, commonly referred to as a Santa Ana wind, is a hot, dry, foehn-like desert wind (Huschke, 1980) which occurs primarily in the fall and early winter, but may be observed into the spring season. Also typical of these winds is low humidity. Relative humidities frequently drop to 20% and have been recorded below 10% during periods of sustained easterly flow. This compares to the coastal regions average of between 60 and 70%. This extreme low humidity and an accompanying high temperature, which occur just prior to the winter rainy season, produce an extreme fire hazard during late summer and fall which is common to much of California.

The third synoptic factor occurring at this time is created by hurricanes spawned off the coast of Mexico which add their influence as southeasterly to southerly flow and may bring substantial precipitation. However, their influence is usually infrequent and rarely significant. The last major synoptic influence is provided by winter storms. The progression of cyclonic systems during the winter not only provides the greater portion of annual precipitation but also brings periods of strong northwesterly flow.

Meso- or local scale features which significantly influence local climatology include land/sea breeze air circulation, valley/upslope circulation and local topography. These features are primarily related to local wind patterns but also affect the transport of heat, moisture and, as will be discussed later, air pollution.

The first feature, land/sea breeze circulation, has a strong influence on local wind patterns. Along coastal regions, when the land surface is heated during the day, especially in the summer, air overlying the cooler sea surface flows inland or onshore. This sea breeze is generally confined to a relatively shallow layer and seldom attains a velocity greater than 10 mph. Inversely, at night the land surface becomes cooler than the sea which results in an opposite flow. This land breeze or offshore flow is usually much weaker than the sea breeze extending through a less shallow layer and seldom extends more than 5 to 6 miles to sea.

The valley/upslope circulation is similar in character to the land/sea breeze in that it is also a thermally driven system. As valley or canyon surfaces are heated during the day the overlying air becomes buoyant and begins to rise. At night the flow is reversed as cool, high-density air at higher elevations cascades down the valley walls.

Local topographic features act to channel air flow in the South Coast Air Basin, and also strongly influence local precipitation. Thus, two locations a short distance apart can have radically different wind directions at the same time under the same meteorologic influence. Precipitation differences are typically related to changes in elevation, loosely proportional to increases in altitude.

The effects of the meteorologic features described above can be clearly seen in the local wind flow pattern as shown in Table 3.7-1. This table presents a summary of hourly averaged winds at Rialto Airport between August 1979 and October 1982.

The general air flow pattern throughout the day (0000-2400) over the entire monitoring period was dominated by wind centered around the west-southwest. A secondary maximum is evident for winds out of the north.

TABLE 3.7-1

WIND FREQUENCY AND AVERAGE SPEED BY DIRECTION
RIALTO AIRPORT: AUGUST 1979-OCTOBER 1982

Wind Direction	Time of Day 0000-0600 A	0000-0600 B	0600-1200 A	0600-1200 B	1200-1800 A	1200-1800 B	1800-2400 A	1800-2400 B	0000-2400 A	0000-2400 B
N	16.3	11.5	9.2	18.6	8.3	20.3	11.7	13.6	11.4	15.1
NNE	15.5	8.3	6.1	16.5	2.9	14.8	9.7	8.7	8.5	10.4
NE	10.8	5.6	3.1	7.0	1.7	11.6	6.5	6.5	5.5	6.5
ENE	6.9	4.7	3.5	5.0	1.1	6.8	3.2	5.7	3.7	5.2
E	2.6	4.5	3.3	4.7	0.7	5.8	1.4	4.8	2.0	4.7
ESE	1.7	4.2	2.4	4.0	0.6	7.2	1.0	5.3	1.4	4.6
SE	1.5	4.8	3.9	3.8	0.8	5.7	1.2	4.3	1.9	4.3
SSE	1.8	5.5	4.8	4.1	1.1	5.2	1.5	5.0	2.3	4.7
S	1.4	4.1	4.4	3.9	1.2	4.4	1.6	4.9	2.2	4.2
SSW	1.9	5.5	5.8	4.7	2.4	6.8	2.4	5.0	3.1	5.3
SW	2.6	6.1	17.8	5.2	13.8	8.0	4.4	6.2	9.7	6.4
WSW	6.1	6.8	15.3	5.6	43.2	10.7	17.4	7.6	20.5	8.8
W	5.0	5.9	4.5	5.2	14.0	9.8	14.0	6.3	9.4	7.4
WNW	5.1	4.0	1.9	4.7	2.2	6.4	7.6	4.5	4.2	4.6
NW	3.8	4.3	1.5	4.7	1.3	6.4	4.6	4.7	2.8	4.8
NWN	7.8	7.6	2.9	12.0	3.4	14.8	5.5	8.5	4.9	9.8
CALM	10.1		10.4		2.2		7.0		7.4	
TOTAL	100.0	6.4	100.0	6.6	100.0	10.5	100.0	7.0	100.0	7.6

A) Frequency of wind (%) or given direction.
B) Average wind speed (mph) for given direction.

This conforms to the overall pattern of synoptic flows in southern California and terrain channeling.

The land/sea breeze and upslope/valley circulation become evident when the daily winds are broken into six-hour segments. Looking first at the hours from 0000-0600 it can be seen that winds from the north-northwest and northeast are dominant accounting for 50% of all observations. This corresponds to air draining down the mountain slopes (valley flow) and the land breeze effect. By the mid-morning period (0600-1200) this flow has weakened considerably, and winds with a southwest to west-southwest direction are dominant (33%). By afternoon when solar heating is at its maximum, winds are centered on a west-southwest direction. This direction alone accounts for more than 43% of all wind during the six-hour period, further 71% of afternoon observations were recorded between southwest and west. This shows the strength of the synoptic onshore flow. By nightfall, the winds have begun their shift back to the north and drainage conditions are reestablished.

A review of wind speeds also shows a general diurnal pattern of low wind velocities at night and maximas during the afternoon. The wind speeds for the northerly direction also show the significant influence of Santa Ana conditions. Under such conditions, airflow is channeled through local valleys which can enhance speeds considerably.

The result of synoptic and mesoscale factors is the production of a climate classified as dry summer subtropic or Mediterranean (Koppen, 1931). Regions within this climate zone are characterized by hot, dry summers with relatively mild winters. Skies are mostly clear from mid-summer through autumn. Heavy cloud cover and fog occur primarily during spring and early summer when stratus clouds associated with the marine layer move in from the west.

Precipitation occurs mainly in the winter with approximately 54% of the mean annual total falling between December and February and 80% between November and March. The U.S. Geological Survey (1969) projected the long-term normal precipitation of 16 inches for the Rialto/San Bernardino

area which agrees favorably with the 30-year mean (1951-1980) of 15.68 reported by NOAA. However, large year-to-year variations are common.

Monthly mean temperatures ranging from a low of 52.9°F to a high of 79.3°F in January and July, respectively. Mean daily temperatures have a greater spread with minimums of 39.4°F reported for December and January and a maximum of 97.6°F reported for July. On an annual basis, mean daily maximums, minimums and monthly mean temperatures are respectively 80.2, 49.3 and 64.8°F. A record high temperature of 117°F was reported on September 13, 1971 with a corresponding low of 22°F reported on December 21, 1968. Extreme high temperatures such as that recorded in 1971 are usually the result of high-pressure systems over the Great Basin and a corresponding low-pressure system in Mexico.

Air Pollution Meteorology

The regional and local air quality of the South Coast Air Basin is controlled primarily by three natural factors or combination thereof: 1) terrain, 2) dominant onshore flow, and 3) atmospheric inversions. The first factor is static but plays a significant role by placing a natural barrier to the dispersion of air contaminants in the path of the primary wind flow. The second factor provides the driving mechanism for both air pollution transport and pollutant dispersion. As this mechanism has been shown to be a predominantly onshore flow, air pollution which has its origin in the industrial areas along the coast and immediately inland, is driven toward the natural terrain barrier presented by factor 1, thereby severely limiting horizontal dispersion. The effect of this can be seen as a gradual degradation of air quality from coastal areas inland. This is most evident in the photochemical pollutants such as ozone. The South Coast Air Basin's largest air quality problems in terms of ozone can be seen at monitoring stations located at the foot of local mountains from Newhall to San Bernardino.

The third factor, inversions, limit the dispersion of air pollution on a vertical scale. Inversions can be classified as being in one of two general groups defined by whether they are 1) aloft or 2) surface based.

Inversions aloft are probably the most critical factor in the degradation of regional air quality. The condition is defined by a vertical temperature profile which initially conforms to standard conditions, i.e., temperature decreases with height. At some heights above the ground, the temperature begins to increase. This height is called the base of the inversion. This temperature increase continues through an unspecified layer after which temperatures return to a standard condition. The inversion layer is typically very stable and acts as a cap to the vertical dispersion of pollutants.

The general effects of inversions aloft on pollutant dispersion can be best explained by the action of stack plumes. Two types of plumes have been identified as being characteristic of inversions aloft. These are the 1) fumigation and 2) trapping plumes. In both cases emissions are confined below the base of the inversion, and mixing is severely limited.

The surface-based inversion is significantly different as it may not affect the emissions of elevated sources. Plumes are characterized as either lofting or fanning, with gaseous pollutants remaining airborne for great distances. Particulate matter on the other hand tends to fall out. While plume concentrations remain high, little effluent reaches the ground until the inversion is broken by surface heating. Surface-based inversions do, however, pose a problem to the dispersion of emissions at low levels. Emissions from sources such as automobiles are effectively trapped in a shallow surface layer which may result in isolated areas of poor air quality.

The surface-based inversion is generated by radiative cooling which generally occurs at night and while it may result in isolated hot spots, it is not as important as inversions aloft when overall regional air quality is concerned. Inversions aloft tend to occur during the day and act much like a lid on a kettle. When combined with the prevailing onshore flow of the South Coast Air Basin and the terrain barrier both east and north of the metropolitan area, the result is occasional unhealthful air quality in the foothills and inland areas such as San Bernardino and Riverside.

This is especially true for photochemical pollutants such as ozone. Ozone is created by a reaction of hydrocarbons, nitrogen oxides and sunlight. Factors that increase the ambient concentration of the two pollutants by limiting both vertical and horizontal dispersion also allow the sun time to carry out the complex reactions required to produce ozone.

Existing Air Quality

The basis for determining the significance of air quality impacts generated by a proposed project are the state and federal ambient air quality standards. These standards define the level of air quality deemed necessary to protect the public health and welfare with an adequate margin of safety.

The federal standards were established in 1971 by the Environmental Protection Agency (EPA). The EPA allows states to adopt standards of their own as long as they are at least as stringent as those issued at the federal level. California, due to the complexity of its air quality situations and problems, adopted AAQS prior to the federal government. The current standards used by the federal government and the State of California are listed in Tables 3.7-2 and 3.7-3.

While no ambient air quality data are available for the project site, the South Coast Air Quality Management District (SCAQMD) has operated a number of monitoring stations in the general project area. Unfortunately, these stations have been moved periodically which makes analysis of long-term trends difficult, at best. The two stations nearest the project site are located in San Bernardino and Fontana. During the period from 1977 to 1986 the San Bernardino station was relocated twice and the Fontana station once. Tables 3.7-4 through 3.7-9 present data for each station, respectively, over the ten-year period.

The San Bernardino station's data indicate that since 1978 the federal and state standards for carbon monoxide, nitrogen dioxide and sulfur dioxide have not been exceeded and only equaled once (nitrogen dioxide, 1980). However, the same cannot be said for ozone or suspended particulates.

TABLE 3.7-2

NATIONAL AMBIENT AIR QUALITY STANDARDS
(All Concentrations in ug/m^3 Unless Otherwise Noted)

Pollutant[a]	Averaging Time[b]	Primary Standard	Secondary Standard
Sulfur Dioxide	Annual Arithmetic Mean	80	--
	24-hour	365	--
	3-hour	--	1,300
Particulate Matter	Annual Geometric Mean	75	60
	24-hour	260	150
Carbon Monoxide	8-hour	10 milligrams/m^3	10 milligrams/m^3
	1-hour	40 milligrams/m^3	40 milligrams/m^3
Ozone	1-hour	235	235
Lead	Maximum Arithmetic Mean averaged over a calendar quarter	1.5	1.5

(a) The standard for hydrocarbons was deleted in January 1983 (48 FR 628, January 5, 1983).

(b) For all averaging times except for annual means, the concentrations may be exceeded once per year.

TABLE 3.7-3

CALIFORNIA AMBIENT AIR QUALITY STANDARDS

Air Pollutant	Concentration	District Method
Ozone	0.10 ppm, 1-hr avg.	Ultraviolet Photometry
Carbon Monoxide	10 ppm, 12-hr. avg. 40 ppm, 1-hr. avg.	Non-dispersive Infra-red Spectrophotometry
Nitrogen Dioxide	0.25 ppm, 1-hr. avg.	Gas Phase Chemilumin-escence
Sulfur Dioxide	0.25 ppm, 24-hr. avg. with Ozone 0.10 ppm, 1-hr. avg. or TSP 100 ug/m^3, 24-hr. avg. 0.5 ppm, 1-hr. avg.	Ultraviolet Fluorescence
Total Suspended Particulates (TSP)	60 ug/m^3 annual geometric mean 100 ug/m^3, 24-hr. avg.	High Vol. Sampling
Sulfates	25 ug/m^3, 24-hr. avg.	High Vol. Sampling Turbidimetric Barium Sulfate
Lead	1.5 ug/m^3, 30-day avg.	High Vol. Sampling Atomic Absorption
Hydrogen Sulfide	0.03 ppm, 1-hr. avg.	Cadmium Hydroxide STRactan
Non-Methane Hydrocarbon	--	--
Vinyl Chloride	0.010 ppm, 24-hr. avg.	Gas Chromatography
Ethylene	0.10 ppm, 8-hr. avg. 0.50 ppm, 1-hr. avg.	--
Visibility Reducing Particulates	Insufficient amount to reduce the prevail-ing visibility to less than 10 miles at rela-tive humidity less than 70% 1 obs.	--

TABLE 3.7-4

FONTANA-FOOTHILL AIR QUALITY MONITORING SUMMARY - 1977-1981
(Days standards were exceeded and maximum concentrations for periods shown)

Pollutant/Standard	1981	1980	1979	1978	1977(1)
Ozone					
1-HR 0.10 ppm	180	181	197	177	ND
1-HR 0.12 ppm	147	146	164	151	ND
1-HR 0.20 ppm	73	84	95	98	98
Max. 1-HR Conc. (ppm)	0.35	0.42	0.42	0.42	0.39
Carbon Monoxide					
1-HR 20 ppm	0	0	1	0	0
8-HR 9 ppm	0	0	3	1	0
Max. 1-HR Conc. (ppm)	15.0	19.0*	20.0	13.0	10.0
Max. 8-HR Conc. (ppm)	7.60	8.50*	9.80	9.80*	8.40
Nitrogen Dioxide					
1-HR 0.25 ppm	0	1	0	3	0
Max. 1-HR Conc. (ppm)	0.19*	0.25*	0.18*	0.30*	0.19
Sulfur Dioxide					
1-HR 0.50	0	0	0	0	0
24-HR 0.05 ppm	0	0	0	0	8
Max. 1-HR Conc. (ppm)	0.11*	0.11	0.11*	0.14*	0.40
Max. 24-HR Conc. (ppm)	0.019*	0.018	0.038*	0.048*	0.132
Suspended Particulates					
24-HR 100 ug/m^3	39/56	29/51	40/60	31/58	46/56
24-HR 260 ug/m^3	2/56	5/51	1/60	4/58	5/56
Max. 24-Hr (ug/m^3)	372	417	320	379	316
Particulate Lead					
1-MO 1.5 ug/m^3	0/12	0/12	0/12	0/12	1/10
3-MO 1.5 ug/m^3	0/4	0/4	0/4	0/4	ND
Max. 1-MO (ug/m^3)	0.52	0.86	1.20	1.19	3.15
Max. 3-MO (ug/m^3)	0.46	0.61*	0.99*	0.99	ND
Particulate Sulfate					
24-HR 25 ug/m^3	5/56	5/53	11/60	12/58	31/52
Max. 24-HR (ug/m^3)	42.4	40.0	32.8	51.7	30.2

Source: CARB 1978-1982.

TABLE 3.7-5

FONTANA-FOOTHILL AIR QUALITY MONITORING SUMMARY - 1982-1986
(Days standards were exceeded and maximum concentrations for periods shown)

Pollutant/Standard	1986	1985	1984	1983	1982 (1)
Ozone					
1-HR 0.10 ppm					23
1-HR 0.12 ppm					8
1-HR 0.20 ppm					1.0*
Max. 1-HR Conc. (ppm)					0.20*
Carbon Monoxide					
1-HR 20 ppm					0
8-HR 9 ppm					0
Max. 1-HR Conc. (ppm)					5.0*
Max. 8-HR Conc. (ppm)					3.50*
Nitrogen Dioxide					
1-HR 0.25 ppm					0
Max. 1-HR Conc. (ppm)					0.17*
Sulfur Dioxide					
1-HR 0.50					0
24-HR 0.05 ppm					0
Max. 1-HR Conc. (ppm)					0.06*
Max. 24-HR Conc. (ppm)					0.016*
Suspended Particulates					
24-HR 100 ug/m^3					8/20
24-HR 260 ug/m^3					2/20
Max. 24-Hr (ug/m^3)					212
Particulate Lead					
1-MO 1.5 ug/m^3					0/5
3-MO 1.5 ug/m^3					0/2
Max. 1-MO (ug/m^3)					0.37*
Max. 3-MO (ug/m^3)					0.33*
Particulate Sulfate					
24-HR 25 ug/m^3					0/20
Max. 24-HR (ug/m^3)					14.4

(1) Station deactivated in May of 1982.

Source: CARB 1983-1987.

TABLE 3.7-6

FONTANA - ARROW HWY AIR QUALITY MONITORING SUMMARY - 1982-1986
(Days standards were exceeded and maximum concentrations for periods shown)

Pollutant/Standard	1986	1985	1984	1983	1982(1)
Ozone					
1-HR 0.10 ppm	164	162	179	152	109
1-HR 0.12 ppm	121	126	136	127	88
1-HR 0.20 ppm	42	48	45	56	33
Max. 1-HR Conc. (ppm)	0.31	0.34	0.32	0.32	0.31*
Carbon Monoxide					
1-HR 20 ppm	0	0	0	0	0
8-HR 9 ppm	0	0	0	0	0
Max. 1-HR Conc. (ppm)	6.0	5.0	6.0	10.0	8.0*
Max. 8-HR Conc. (ppm)	5.90	4.00	4.40	5.10	4.40*
Nitrogen Dioxide					
1-HR 0.25 ppm	0	0	0	0	0
Max. 1-HR Conc. (ppm)	0.18	0.14	0.16	0.16	0.18*
Sulfur Dioxide					
1-HR 0.50	0	0	0	0	0
24-HR 0.05 ppm	0	0	0	0	0
Max. 1-HR Conc. (ppm)	0.02	0.02	0.03	0.06	0.14*
Max. 24-HR Conc. (ppm)	0.010	0.009	0.010	0.014	0.19*
Suspended Particulates					
24-HR 100 ug/m^3	37/12	33/12	38/12	33/12	31/12
24-HR 260 ug/m^3	2/60	2/61	1/60	1/60	2/59
Max. 24-Hr (ug/m^3)	378	312	317	273	272
Particulate Lead					
1-MO 1.5 ug/m^3	0/12	0/12	0/12	0/12	0/12
3-MO 1.5 ug/m^3	0/4	0/4	0/4	0/4	0/4
Max. 1-MO (ug/m^3)	0.17	0.22	0.34	0.39	0.53
Max. 3-MO (ug/m^3)	0.16	0.18	0.28	0.35	0.46
Particulate Sulfate					
24-HR 25 ug/m^3	0/60	0/61	0/60	1/60	3/59
Max. 24-HR (ug/m^3)	18.1	16.4	23.8	33.1	32.5

(1) Station began operation in May 1982

Source: CARB 1983-1987.

TABLE 3.7-7

SAN BERNARDINO AIR QUALITY MONITORING SUMMARY - 1977-1981
(Days standards were exceeded and maximum concentrations for periods shown)

Pollutant/Standard	1981(1)	1980	1979	1978	1977(2)
Ozone					
1-HR 0.10 ppm	164	163	164	164	ND
1-HR 0.12 ppm	134	130	140	139	ND
1-HR 0.20 ppm	53	72	62	72	68
Max. 1-HR Conc. (ppm)	0.36	0.36	0.34	0.36	0.34*
Carbon Monoxide					
1-HR 20 ppm	0	0	0	0	0
8-HR 9 ppm	0	0	0	0	2
Max. 1-HR Conc. (ppm)	10.0*	11.0	10.0	13.0	15.0
Max. 8-HR Conc. (ppm)	6.00*	8.10	7.00	8.50	12.1
Nitrogen Dioxide					
1-HR 0.25 ppm	0	1	0	0	0
Max. 1-HR Conc. (ppm)	0.20*	0.25*	0.16*	0.14*	0.23
Sulfur Dioxide					
1-HR 0.50	0	0	0	0	0
24-HR 0.05 ppm	0	0	0	0	3
Max. 1-HR Conc. (ppm)	0.02*	0.03	0.08*	0.09	0.35
Max. 24-HR Conc. (ppm)	0.010*	0.012	0.035*	0.041	0.067
Suspended Particulates					
24-HR 100 ug/m^3	41/57	33/54	36/60	32/58	33/58
24-HR 260 ug/m^3	5/57	12/54	2/60	4/58	2/58
Max. 24-Hr (ug/m^3)	450	445	290	357	414
Particulate Lead					
1-MO 1.5 ug/m^3	0/12	0/12	0/12	1/12	4/12
3-MO 1.5 ug/m^3	0/4	0/4	0/4	1/4	ND
Max. 1-MO (ug/m^3)	0.86	1.30	1.49	3.33	1.83
Max. 3-MO (ug/m^3)	0.72	1.05	1.24*	2.55	ND
Particulate Sulfate					
24-HR 25 ug/m^3	2/57	10/55	6/60	6/58	1/58
Max. 24-HR (ug/m^3)	38.8	42.8	31.7	47.1	28.5

(1) Station relocated.
(2) Incomplete year of data.

Source: CARB 1978-1982.

TABLE 3.7-8

SAN BERNARDINO AIR QUALITY MONITORING SUMMARY - 1982-1986
(Days standards were exceeded and maximum concentrations for periods shown)

Pollutant/Standard	1986(1)	1985	1984	1983	1982
Ozone					
1-HR 0.10 ppm	33	155	173	147	144
1-HR 0.12 ppm	20	111	125	117	111
1-HR 0.20 ppm	1	30	36	49	38
Max. 1-HR Conc. (ppm)	0.25*	0.27	0.30	0.32	0.30
Carbon Monoxide					
1-HR 20 ppm	ND	0	0	0	0
8-HR 9 ppm	ND	0	0	0	0
Max. 1-HR Conc. (ppm)	ND	9.0*	9.0	9.0	10.0
Max. 8-HR Conc. (ppm)	ND	5.30*	5.10	5.40	6.90
Nitrogen Dioxide					
1-HR 0.25 ppm	ND	0	0	0	0
Max. 1-HR Conc. (ppm)	ND	0.15*	0.20	0.19	0.19
Sulfur Dioxide					
1-HR 0.50	ND	0	0	0	0
24-HR 0.05 ppm	ND	0	0	0	0
Max. 1-HR Conc. (ppm)	ND	0.02*	0.03	0.02	0.02
Max. 24-HR Conc. (ppm)	ND	0.010*	0.010	0.010	0.011
Suspended Particulates					
24-HR 100 ug/m^3	13/25	33/60	37/57	27/55	32/60
24-HR 260 ug/m^3	0/25	1/60	0/57	0/55	0/60
Max. 24-Hr (ug/m^3)	212	277	219	233	191
Particulate Lead					
1-MO 1.5 ug/m^3	0/5	0/12	0/12	0/12	0/12
3-MO 1.5 ug/m^3	0/2	0/4	0/4	0/4	0/4
Max. 1-MO (ug/m^3)	0.23	0.31	0.47	0.52	0.62
Max. 3-MO (ug/m^3)	0.17	0.20	0.33	0.41	0.52
Particulate Sulfate					
24-HR 25 ug/m^3	0/25	0/60	0/57	1/55	2/60
Max. 24-HR (ug/m^3)	14.6	19.4	23.4	27.1	29.6

(1) Station relocated in May 1986.

Source: CARB 1983-1987.

TABLE 3.7-9

SAN BERNARDINO FOUR AIR QUALITY MONITORING SUMMARY - 1982-1986
(Days standards were exceeded and maximum concentrations for periods shown)

Pollutant/Standard	1986(1)	1985	1984	1983	1982
Ozone					
1-HR 0.10 ppm	116				
1-HR 0.12 ppm	88				
1-HR 0.20 ppm	40				
Max. 1-HR Conc. (ppm)	0.30*				
Carbon Monoxide					
1-HR 20 ppm	0				
8-HR 9 ppm	0				
Max. 1-HR Conc. (ppm)	9.0*				
Max. 8-HR Conc. (ppm)	6.70				
Nitrogen Dioxide					
1-HR 0.25 ppm	0				
Max. 1-HR Conc. (ppm)	0.18*				
Sulfur Dioxide					
1-HR 0.50	0				
24-HR 0.05 ppm	0				
Max. 1-HR Conc. (ppm)	0.05				
Max. 24-HR Conc. (ppm)	0.012				
Suspended Particulates					
24-HR 100 ug/m^3	25/35				
24-HR 260 ug/m^3	1/35				
Max. 24-Hr (ug/m^3)	385				
Particulate Lead					
1-MO 1.5 ug/m^3	0/6				
3-MO 1.5 ug/m^3	0/3				
Max. 1-MO (ug/m^3)	0.20				
Max. 3-MO (ug/m^3)	0.19*				
Particulate Sulfate					
24-HR 25 ug/m^3	0/35				
Max. 24-HR (ug/m^3)	17.8				

(1) Station Began operation in June 1986.

Source: CARB 1983-1987.
table 3.7-2

Ozone has continued to show consistent violations of both state and federal standards with the maximum one-hour concentration observed at about 0.30 PPM. Likewise, suspended particulates continue to exceed the state and federal standards. However, there appears to be some indication of improvement.

It is interesting to note that while progress in reaching the suspended particulate standard has been slow, the same is not true of particulate lead and particulate sulfate. Standards for these pollutants have not been exceeded more than once per year since 1978 and 1983, respectively.

The pattern presented by the Fontana data is nearly identical. Again, the major air quality problems are seen to be ozone and suspended particulates. Ambient ozone appears to be holding at a maximum of about 0.32 PPM and particulates slightly higher than at San Bernardino.

3.7.2 Proposed Project Impacts

The analysis of impacts to air quality which are likely to result from the proposed project will focus on the construction phases as no sources of air contaminants will be located onsite during the operations phase. The analysis which follows presents a quantification of project emissions under a worst-case scenario. This scenario has been developed primarily from information presented in Section 2.0, Project Description. However, as no specific information is available on the exact phasing of construction activities, numerous assumptions have been required. The basic assumptions used in this analysis are presented in the following discussions. These discussions are followed by a detailed analysis of emissions for each assumed development phase and the project as a whole. Where questions arose regarding a particular activity, the analysis was directed toward a conservative scenario in terms of emissions generating potential. While this approach is likely to over-predict project effects, it was determined that over-, rather than under-prediction was appropriate.

Analysis Assumptions

The analysis of air quality impacts requires that a basic development scenario be prepared prior to project evaluation. It is preferable to have this scenario resemble the operation that is proposed as closely as possible. When specific operational characteristics are lacking, a scenario must be developed from the best project information available. The following describes the basic scenario used in this analysis.

The proposed project involves the construction of three flood control/ percolation basins and an inflow channel. Since the exact development schedule is unknown, one was assumed which involves three distinct construction phases as outlined below.

Phase I - Inflow Channel and Basin C

The initial phase of the project will include the construction of an inflow channel from Highland Avenue to Basin C, a distance of approximately 3,450 feet.

Phase II - Basin B

After the completion of Phase I, Basin B, in the middle of the property, will be constructed.

Phase III - Basin A

Finally, operations will move to the north end of the project site to construct Basin A.

In the following analysis it has been assumed that excavation of the channel and basins would proceed at a maximum rate of 3,000 cubic yards per day using a five day per week, eight hour per day operating schedule. These assumptions were required in part to determine the amount of time necessary for completion of each phase.

In the calculations of fugitive emissions occurring from site disturbance activities it was assumed that the total area of each basin was disturbed for the entire construction period. For example, on Table 2.4-1, Basin A is indicated as having an area of 35 acres. During the analysis it was assumed that vegetation was removed from all 35 acres at one time, and that the total area is under disturbance until the basin is completed. While this is probably not the case, no better estimate of the disturbance area could be provided.

These are the primary assumptions used in the analysis. Additional information is presented in the following sections on the simplifications made for each specific phase.

Phase I - Inflow Channel and Basin C Construction

The development occurring in Phase I will be divided into two elements, the channel and the basin. The channel will be constructed solely by Operator A. The construction of the basin, on the other hand, will involve both Operators A and B. The analysis of emissions generated during this phase were determined from the following scenario.

The construction phase will be initiated with activities at two locations, one near Highland Avenue and the other in the existing Basin C. Operator A will begin his activities at the northern heading while Operator B initiates activities in the Basin.

Operator A will begin the construction of the channel with excavation of what will ultimately be a concrete-lined, rectangular channel with maximum inside dimensions of 20 x 12 x 3,450 feet. To allow a channel this size, it is estimated that a trench 15 feet deep by 30 feet wide will be required. This size is necessary as the concrete side walls are expected to be 1 foot thick and working space to allow form placement is required.

Based on the dimensions of the channel, a total of 57,500 cubic yards of material will have to be removed. Using Operator A's maximum extraction rate of 2,000 cubic yards per day, the channel will take approximately 29 days to complete.

As the channel is being excavated in soils which will have a tendency to collapse, forms will be inserted immediately following excavation. The forms will be brought to the site on flat bed trailers and put into place by crane. Once a sufficient length of channel has been dug and formed, concrete will be poured.

Concrete will be brought to the site ready mixed in 11 cubic yard trucks. It is assumed that this will be done in a continuous operation over the eight-hour workday. The dimensions of the channel will require approximately 5,877.8 cubic yards of concrete which converts to nearly 535 truck trips.

After the concrete pouring has been completed, the channel will be left to cure. Subsequently, the forms will be removed and the working space backfilled. The total time required for channel construction including excavation, forming, concrete work and backfilling is expected to be approximately six months.

During the period when the channel is under construction, activity at Basin C will be confined to those of Operator B. Operator B will begin the final excavation of Basin C with a maximum removal rate of 1,000 cubic yards per day. A significant difference between the excavation activities of Operator A and B involves the post removal onsite processing of aggregate.

Operator A will extract the on-site resource, load it into trucks and transport it to an off-site location for any further processing. In contrast, Operator B will conduct primary processing of the extracted material onsite. This processing involves the separation of sand and gravel by means of a portable screen. The processing will create two on-site aggregate storage piles from which Operator B will subsequently transport to off-site locations. The storage piles will have a standard conical shape and a height not to exceed 15 feet. The total area required for these piles is approximately 0.25 acres.

When the inflow channel excavation has been completed, Operator A will move his equipment to Basin C to help with the basin's completion. When

both operators are working in Basin C, the maximum extraction rate of 3,000 cubic yards will be reached.

The total volume of material to be removed from Basin C is estimated at 360,000 cubic yards which, using the above development scenario, indicates that 140 working days will be required to complete the basin. This was determined from Operator B working alone in the basin for 30 days, accounting for 30,000 cubic yards of material, and both operators working for 110 days removing the remaining 330,000 cubic yards.

As indicated previously, the exact construction schedule is unknown. Therefore, the time required for construction has assumed that activities will be continuous until the basin and channel are completed. Using the five-day work week schedule, construction will take approximately 28 weeks or 0.538 years. This means that both the channel and basin will be completed in roughly the same time frame.

Phases II and III - Basins A and B

Following the completion of Basin C, project activities will shift to the middle of the site for construction of Basin B and later to the northern end of the site for excavation of Basin A. The development of these two basins will be the same except for length of time required for completion. The activities performed will differ only slightly from that at Basin C as outlined below.

The areas where Basins A and B are to be developed are currently covered by varying densities of vegetation. Before excavation can be initiated, this material will be removed and transported to a local landfill for disposal. For the following analysis it is assumed that the entire surface area of the basins to be developed is cleared at one time.

After a site has been cleared, excavation activities will begin at the maximum removal rate of 3,000 cubic yards per day. To achieve this rate both Operator A and B will be involved. Excavation will continue at this rate until the basins are completed.

The time required to construct the basins is directly dependent on the amount of material to be removed. For Basin A, it is estimated that 1.4 million cubic yards of sand and gravel will be extracted, while at Basin B, slightly less, 1.2 million cubic yards of material will be removed. Using the assumed extraction rate, Basin A will require 467 days for development, and Basin B will take an additional 400 days. Again using the five-day work week assumption this converts to 95.2 weeks (1.83 years) and 80 weeks (1.54 years), respectively.

Operators A and B will conduct their activities in a similar fashion as applied at Basin C. Operator A will remove all extracted material from the site for subsequent processing. Operator B will process extracted material onsite by separating sand and gravel. The separated material will be stockpiled for later transport offsite.

Total Project

During the three phases of the project a total of slightly more than 3 million cubic yards of material will be removed from the site. At the maximum extraction rate of 3,000 cubic yards per day, and assuming continuous excavation, the project will take a minimum 3.9 years to complete.

The emissions that will be generated from the project occur from two principal sources, the site itself due to disturbance of the ground and vehicular emissions associated with the haul trucks, cement trucks and other on-site equipment. A secondary set of emission sources includes the portable screen used by operator B and the aggregate storage piles. Site disturbance emissions have been calculated based on the area disturbed during each phase, number of working days for excavation and an EPA emission factor for this type of activity. Vehicular emissions are calculated based on the number of equipment pieces operating, length of operation, and in the case of cement and haul trucks, vehicle miles traveled. The last sources of project emissions, the portable screen used by Operator B and the associated storage pile, were estimated based on material throughput using EPA emission factors.

The equipment list used for each project phase, hours of operation, vehicle miles traveled and acreage disturbed are listed in Table 3.7-10. The emission factors used are also indicated in the table.

Emission Analysis

The emissions calculated for channel and Basin C, Basin B and Basin A construction are presented on Tables 3.7-11 through 3.7-15, respectively. A summary of project emissions is presented on Table 3.7-16.

The most substantial impacts to air quality result from the emission of particulate matter caused by site disturbance. Using the SCAQMD New Source Review thresholds listed below, it can be seen that the project emissions are significant. Even though the project's construction activity and associated emissions occur over a relatively short period,they will contribute to the air quality problem that exists in the area for total suspended particulates, and, therefore, should be viewed as a significant impact.

SCAQMD
New Source Review
Emissions Threshold

Pollutant	Emission Rate (lbs/day)
Carbon Monoxide	550
Sulfur Dioxide	150
Nitrogen Oxides	100
Particulate Matter	150
Reactive Organic Gases	75
Lead	3

TABLE 3.7-10
EMISSION FACTORS

SOURCE OF AIR CONTAMINANTS	UNITS	CARBON MONOXIDE	EXHAUST HYDROCARBON	NITROGEN OXIDES	SULFUR OXIDES	PART.
HAUL TRUCKS	LBS/MILE	0.0185	0.0065	0.0379	0.0071	0.0073
CEMENT TRUCKS	LBS/MILE	0.0185	0.0065	0.0379	0.0071	0.0073
FRONT END LOADERS	LBS/HOUR	0.5723	0.2495	1.8920	0.1819	0.1713
WATER TRUCKS	LBS/HOUR	1.8008	0.1914	4.1649	0.4542	0.2557
MOBILE CRANE	LBS/HOUR	0.6754	0.1529	1.6916	0.1426	0.1393
AGGREGATE SCREEN	LBS/TON					0.16
STORAGE PILE FORMATION	LBS/TON					0.13
STORAGE PILES	LBS/ACRE/DAY					13.2
SITE DISTURBANCE	LBS/ACRE/DAY					55.0

NOTES:
1) ROUND TRIP FOR HAUL AND CEMENT TRUCKS EQUALS 15 MILES.
2) ON SITE EQUIPMENT OPERATES 8 HOURS PER DAY.
3) SITE DISTURBANCE FACTOR REFLECTS 50% CONTROL EFFICIENCY FROM WATERING.

TABLE 3.7-11
EMISSION SUMMARY FOR CHANNEL CONSTRUCTION

DAILY EMISSIONS
(POUNDS/DAY)

SOURCE OF AIR CONTAMINANTS	NUMBER IN USE	CARBON MONOXIDE	EXHAUST HYDROCARBON	NITROGEN OXIDES	SULFUR OXIDES	PART.
HAUL TRUCKS	10	22.2	7.8	45.48	8.52	8.76
CEMENT TRUCKS	2	4.44	1.56	9.096	1.704	1.75
FRONT END LOADERS	1	4.5784	1.996	15.136	1.4552	1.37
WATER TRUCKS	1	14.4064	1.5312	33.3192	3.6336	2.05
MOBILE CRANE	1	5.4032	1.2232	13.5328	1.1408	1.11
AGGREGATE SCREEN						
STORAGE PILE FORMATION						
STORAGE PILES						
SITE DISTURBANCE	8					440.00
TOTAL		51.028	14.1104	116.564	16.4536	455.04

TOTAL PROJECT PHASE EMISSIONS
(TONS)

SOURCE OF AIR CONTAMINANTS	NUMBER IN USE	CARBON MONOXIDE	EXHAUST HYDROCARBON	NITROGEN OXIDES	SULFUR OXIDES	PART.
HAUL TRUCKS	10	0.33	0.12	0.68	0.13	0.13
CEMENT TRUCKS	2	0.07	0.02	0.14	0.03	0.03
FRONT END LOADERS	1	0.08	0.03	0.26	0.03	0.02
WATER TRUCKS	1	0.30	0.03	0.70	0.08	0.04
MOBILE CRANE	1	0.09	0.02	0.24	0.02	0.02
AGGREGATE SCREEN						
STORAGE PILE FORMATION						
STORAGE PILES						
SITE DISTURBANCE	8					9.24
TOTAL		0.88	0.23	2.02	0.28	9.48

TABLE 3.7-12
EMISSION SUMMARY FOR BASIN C CONSTRUCTION
FIRST 30 DAYS

DAILY EMISSIONS
(POUNDS/DAY)

SOURCE OF AIR CONTAMINANTS	NUMBER IN USE	CARBON MONOXIDE	EXHAUST HYDROCARBON	NITROGEN OXIDES	SULFUR OXIDES	PART.
HAUL TRUCKS	5	11.10	3.90	22.74	4.26	4.38
CEMENT TRUCKS	0	0.00	0.00	0.00	0.00	0.00
FRONT END LOADERS	2	9.16	3.99	30.27	2.91	2.74
WATER TRUCKS	1	14.41	1.53	33.32	3.63	2.05
MOBILE CRANE	0	0.00	0.00	0.00	0.00	0.00
AGGREGATE SCREEN	1000					160.00
STORAGE PILE FORMATION	1000					130.00
STORAGE PILES	0.23					3.04
SITE DISTURBANCE	41					2255.00
	TOTAL	34.66	9.42	86.33	10.80	2557.20

TOTAL PROJECT PHASE EMISSIONS
(TONS)

SOURCE OF AIR CONTAMINANTS	NUMBER IN USE	CARBON MONOXIDE	EXHAUST HYDROCARBON	NITROGEN OXIDES	SULFUR OXIDES	PART.
HAUL TRUCKS	5	0.17	0.06	0.34	0.06	0.07
CEMENT TRUCKS	0	0.00	0.00	0.00	0.00	0.00
FRONT END LOADER	2	0.14	0.06	0.45	0.04	0.04
WATER TRUCKS	1	0.22	0.02	0.50	0.05	0.03
MOBILE CRANE	0	0.00	0.00	0.00	0.00	0.00
AGGREGATE SCREEN	1000					2.40
STORAGE PILE FORMATION	1000					1.95
STORAGE PILES	0.23					0.05
SITE DISTURBANCE	41					33.83
	TOTAL	0.52	0.14	1.29	0.16	38.36

TABLE 3.7-13
EMISSION SUMMARY FOR BASIN C CONSTRUCTION
LAST 110 DAYS

DAILY EMISSIONS
(POUNDS/DAY)

SOURCE OF AIR CONTAMINANTS	NUMBER IN USE	CARBON MONOXIDE	EXHAUST HYDROCARBON	NITROGEN OXIDES	SULFUR OXIDES	PART.
HAUL TRUCKS	15	33.30	11.70	68.22	12.78	13.14
CEMENT TRUCKS	0	0.00	0.00	0.00	0.00	0.00
FRONT END LOADERS	3	13.74	5.99	45.41	4.37	4.11
WATER TRUCKS	2	28.81	3.06	66.64	7.27	4.09
MOBILE CRANE	0	0.00	0.00	0.00	0.00	0.00
AGGREGATE SCREEN	1000					160.00
STORAGE PILE FORMATION	1000					130.00
STORAGE PILES	0.23					3.04
SITE DISTURBANCE	41					2255.00
TOTAL		75.85	20.75	180.27	24.41	2569.38

TOTAL PROJECT PHASE EMISSIONS
(TONS)

SOURCE OF AIR CONTAMINANTS	NUMBER IN USE	CARBON MONOXIDE	EXHAUST HYDROCARBON	NITROGEN OXIDES	SULFUR OXIDES	PART.
HAUL TRUCKS	15	1.83	0.64	3.75	0.70	0.72
CEMENT TRUCKS	0	0.00	0.00	0.00	0.00	0.00
FRONT END LOAD	3	0.76	0.33	2.50	0.24	0.23
WATER TRUCKS	2	1.58	0.17	3.67	0.40	0.23
MOBILE CRANE	0	0.00	0.00	0.00	0.00	0.00
AGGREGATE SCREEN	1000					8.80
STORAGE PILE FORMATION	1000					7.15
STORAGE PILES	0.23					0.17
SITE DISTURBANCE	41					124.03
TOTAL		4.17	1.14	9.91	1.34	141.32

TABLE 3.7-14
EMISSION SUMMARY FOR BASIN B CONSTRUCTION

DAILY EMISSIONS
(POUNDS/DAY)

SOURCE OF AIR CONTAMINANTS	NUMBER IN USE	CARBON MONOXIDE	EXHAUST HYDROCARBON	NITROGEN OXIDES	SULFUR OXIDES	PART.
HAUL TRUCKS	15	33.30	11.70	68.22	12.78	13.14
CEMENT TRUCKS	0	0.00	0.00	0.00	0.00	0.00
FRONT END LOADERS	3	13.74	5.99	45.41	4.37	4.11
WATER TRUCKS	2	28.81	3.06	66.64	7.27	4.09
MOBILE CRANE	0	0.00	0.00	0.00	0.00	0.00
AGGREGATE SCREEN	1000					160.00
STORAGE PILE FORMATION	1000					130.00
STORAGE PILES	0.23					3.04
SITE DISTURBANCE	32					1760.00
TOTAL		75.85	20.75	180.27	24.41	2074.38

TOTAL PROJECT PHASE EMISSIONS
(TONS)

SOURCE OF AIR CONTAMINANTS	NUMBER IN USE	CARBON MONOXIDE	EXHAUST HYDROCARBON	NITROGEN OXIDES	SULFUR OXIDES	PART.
HAUL TRUCKS	15	6.66	2.34	13.64	2.56	2.63
CEMENT TRUCKS	0	0.00	0.00	0.00	0.00	0.00
FRONT END LOADERS	3	2.75	1.20	9.08	0.87	0.82
WATER TRUCKS	2	5.76	0.61	13.33	1.45	0.82
MOBILE CRANE	0	0.00	0.00	0.00	0.00	0.00
AGGREGATE SCREEN	1000					32.00
STORAGE PILE FORMATION	1000					26.00
STORAGE PILES	0.23					0.61
SITE DISTURBANCE	32					352.00
TOTAL		15.17	4.15	36.05	4.88	414.88

TABLE 3.7-15
EMISSION SUMMARY FOR BASIN A CONSTRUCTION

DAILY EMISSIONS
(POUNDS/DAY)

SOURCE OF AIR CONTAMINANTS	NUMBER IN USE	CARBON MONOXIDE	EXHAUST HYDROCARBON	NITROGEN OXIDES	SULFUR OXIDES	PART.
HAUL TRUCKS	15	33.30	11.70	68.22	12.78	13.14
CEMENT TRUCKS	0	0.00	0.00	0.00	0.00	0.00
FRONT END LOADERS	3	13.74	5.99	45.41	4.37	4.11
WATER TRUCKS	2	28.81	3.06	66.64	7.27	4.09
MOBILE CRANE	0	0.00	0.00	0.00	0.00	0.00
AGGREGATE SCREEN	1000					160.00
STORAGE PILE FORMATION	1000					130.00
STORAGE PILES	0.23					3.04
SITE DISTURBANCE	35					1925.00
TOTAL		75.85	20.75	180.27	24.41	2239.38

TOTAL PROJECT PHASE EMISSIONS
(TONS)

SOURCE OF AIR CONTAMINANTS	NUMBER IN USE	CARBON MONOXIDE	EXHAUST HYDROCARBON	NITROGEN OXIDES	SULFUR OXIDES	PART.
HAUL TRUCKS	15	7.78	2.73	15.93	2.98	3.07
CEMENT TRUCKS	0	0.00	0.00	0.00	0.00	0.00
FRONT END LOADERS	3	3.21	1.40	10.60	1.02	0.96
WATER TRUCKS	2	6.73	0.72	15.56	1.70	0.96
MOBILE CRANE	0	0.00	0.00	0.00	0.00	0.00
AGGREGATE SCREEN	1000					37.36
STORAGE PILE FORMATION	1000					30.36
STORAGE PILES	0.23					0.71
SITE DISTURBANCE	35					449.49
TOTAL		17.71	4.85	42.09	5.70	522.89

TABLE 3.7-16
AVERAGE DAILY (POUNDS/DAY) AND
TOTAL PROJECT EMISSIONS (TONS)

SOURCE OF AIR CONTAMINANTS	CARBON MONOXIDE	EXHAUST HYDROCARBON	NITROGEN OXIDES	SULFUR OXIDES	PARTICULATES
	DAILY EMISSION RATE (POUNDS/DAY)				
CHANNEL	51.03	14.11	116.56	16.45	455.04
BASIN C 30 DAYS	34.66	9.42	86.33	10.80	2557.20
BASIN C 110 DAYS	75.85	20.75	180.27	24.41	2569.38
BASIN B	75.85	20.75	180.27	24.41	2074.38
BASIN A	75.85	20.75	180.27	24.41	2239.38
	TOTAL EMISSIONS (TONS)				
CHANNEL	0.88	0.23	2.02	0.28	9.48
BASIN C 30 DAYS	0.52	0.14	1.29	0.16	38.36
BASIN C 110 DAYS	4.17	1.14	9.91	1.34	141.32
BASIN B	15.17	4.15	36.05	4.88	414.88
BASIN A	17.71	4.85	42.09	5.70	522.89
TOTAL	38.45	10.51	91.36	12.36	1126.93

A casual review of the SCAQMD thresholds and project emissions would indicate that a significant impact would also be indicated for vehicular emissions of NO_x. However, this may not, in fact, be the case. The reason for this conclusion is two fold. First, the vehicular emissions, primarily from haul trucks, could be reasonably expected to occur whether the project were developed or not. The operators would have to shift the location of their operation, but the emission could still be expected to occur. The second reason that a significant impact may not occur is that the emissions are spread over a larger area and not given as great an opportunity to reach concentrations which could adversely effect local air quality.

Further, the conservative nature of the analysis has assumed that vehicular sources of air contaminants are in operation effectively for a full eight hours per day. This may be overly conservative for the front-end loaders and water trucks which may operate for significantly shorter periods possibly as little as four hours per day. Such an operations reduction would bring emission levels well below the District thresholds.

3.7.3 Mitigation

The impacts which arise from the proposed action are primarily confined to the construction phase and can be divided into two categories defined by source of air contaminants. These two sources include the combustion contaminants emitted by fuel-burning equipment and fugitive dust emitted from the site and aggregate handling and storage piles. Presented below are sections identifying mitigation measures which are deemed appropriate for impact reduction for each category.

Fuel Combustion Sources

This source of air contaminants is not likely to result in a significant impact to local air quality. However, because of the South Coast air basin's historic problems with air quality, efforts should be made to limit emissions when feasible. The following measures should be included as conditions to project development:

- Construction equipment should receive routine maintenance to guarantee proper operation and emission levels within manufacturers' specifications.

- No equipment should be left running in an idle mode for more than five minutes. If conditions require equipment to be inactive for longer periods, they should be turned off.

Fugitive Dust

The greatest impacts to air quality arising from project activities occur in the area of fugitive dust. While it may not be possible to reduce these impacts to insignificance, substantial reductions in the quantity of emissions currently predicted are possible. The following discusses these measures which must be considered.

Site Disturbance: The single greatest source of project-related emissions occurs from site disturbance activities. Since emissions are a function of the size of the area disturbed, substantial reductions can be achieved by limiting this area. The impact assessment assumed that an entire basin area would be disturbed through the entire development period. By limiting this area to that minimum necessary for extraction activities, significant reductions in emissions will be achieved. For example, Basin A, with an area of 35 acres, is predicted to generate 1925 pounds of fugitive dust per working day. If the disturbance area were reduced to 10 acres, the emissions would drop to 550 pounds per day, a 71% reduction.

Additional measures which should be considered include the application of soil binding agents to exposed surfaces after excavation is complete but prior to revegetation activities, and revegetation should be initiated as soon after construction as possible.

Aggregate Handling and Storage Piles: The control measures available for dust from this source are somewhat limited. The most common and easiest measure is the use of water sprays. This can reduce the aggregate handling emissions to negligible levels and storage pile emissions by at least 50%. While no estimate of the dust emissions from haul trucks was

presented, they will be a source throughout the construction phase of the project. This source can be controlled effectively through the use of load covers. Limiting their operation during high wind may also be required.

3.8 Noise

3.8.1 Environmental Setting

Regional Setting

The ambient sound level of a region is defined by the total noise generated within the specific environment and is usually comprised of sounds emanating from natural and man-made sources. Noise levels monitored in a region tend to have wide spatial and temporal variation due to the great diversity of the contributing sources. This is especially true for the proposed project area with its blend of low-density to rural land uses adjacent to a complex mix of residential, commercial and institutional uses. The latter uses tend to be concentrated along major local arterials such as Highland Avenue and Baseline Road.

The distribution and intensity of land use in the area can be divided into three general zones. The area west of Sierra Avenue and north of Highland Avenue and the area north of Lytle Creek has a general rural character with relatively low use and large areas of open space. East of Sierra Avenue to approximately Cactus Avenue and north of Baseline Road is an area undergoing rapid change. While still predominantly open space, the trend to urbanization can be readily seen. The remaining area to the east of Cactus Avenue and south of Baseline Road is highly developed. These three general areas have a distinctly different set of sound sources and, therefore, ambient sound levels although the second area is rapidly becoming similar to the third.

Characterization of the project area is difficult due to the lack of actual field measurements. No data could be obtained for the rural portions of the project area, while for the more developed regions only limited data are available. For the areas immediately adjacent to the project site, ambient data are available from studies conducted for the

Rialto Airport. However, these data focus on sounds associated with aircraft operations and do not accurately reflect ambient conditions throughout the area. To characterize the ambient conditions of rural locations typical values for similar areas were obtained from literature sources.

The description of developed areas will be confined to the locations immediately adjacent to the proposed project site and local roadways. Data from the airport studies will be supplemented by noise model results using existing traffic conditions.

Remote/Rural Locations

The remote and rural locations of the study area have relatively low ambient sound levels, typically ranging from 30 to 50 decibels on an A-weighting scale(dBA). An A-weighted sound level is the one that is most commonly used in community noise assessments. The A-weighting is used to simulate the response the human ear would have to pure tones between 10 and 20,000 hertz. More information on sound level descriptors can be found in Appendix E.

These low sound levels are primarily due to the limited influence of human activity. In such areas, natural sound sources contribute the major portion of the total ambient sound level. Natural sources include aeolian sound (wind generated), birds and other wildlife, insects and the sound of running water at some locations. The degree of influence of each of these sources is highly dependent on the specific location in question.

Human activities in remote areas tend not to be isolated at one location and their contribution is generally short term. The current popularity of off-road vehicles (motorcycle and truck) has brought a new sound-generating source to many remote areas which has had a significant impact on ambient sound levels. However, as stated previously, these sources tend to have only short-term influence. Other man-made sources that can affect some remote locations include aircraft overflights. This source, which can have significant local influence, is likewise usually short term.

While no ambient noise level data could be obtained for the remote locations of the project study area, the typical values presented above have been observed by numerous investigators. (BBN, Inc., 1974, Cunniff, 1979.) To put these values in perspective, Figures 3.8-1 and 3.8-2 have been included for comparison purposes. Figure 3.8-1 presents the typical sound levels for various areas ranging from rural sites to location under airport flight paths. Figure 3.8-2 presents typical sound levels for various locations and activities and the expected human response.

Urbanized Locations

The more urbanized locations of the project area, while also affected by the sources mentioned above, are more strongly influenced by human rather than natural sound sources. Primary on the list of human sources are those related to transportation. By far, local traffic along major roadways is the dominant source of environmental noise. The location numbers and corresponding road segments analyzed in this report are listed on Table 3.8-1. Tables 3.8-2 and 3.8-3 present noise model results for local roadways. These sound levels were calculated for 1988 traffic conditions as reported in the Traffic and Circulation section. The effects of traffic volume can be clearly seen by comparing Location 1, Ayala Drive, to Location 9, Highland Avenue. Ayala Drive has a sound level of roughly 63 dBA at 50 feet due to A.M. peak hour traffic volume of 270 vehicles. Highland Avenue produces a sound level of nearly 75 dBA at the same distance due to a volume almost 5 times higher of 1,310 vehicles.

Another major source of noise in the area is the Rialto Airport. Data presented in the Final EIR for the Parallel Runway at the Rialto Municipal Airport (MBA, 1985) indicated that it produced sound levels between 65 and 70 dBA CNEL in the area from Ayala Drive to Cactus Avenue, where Basins A and B are to be developed.

3.8.2 Proposed Project Impacts

The following sections present a discussion of the predicted noise impacts that will occur as a result of the project. The quantification of noise impacts is, at best, a difficult task due to the number of variables

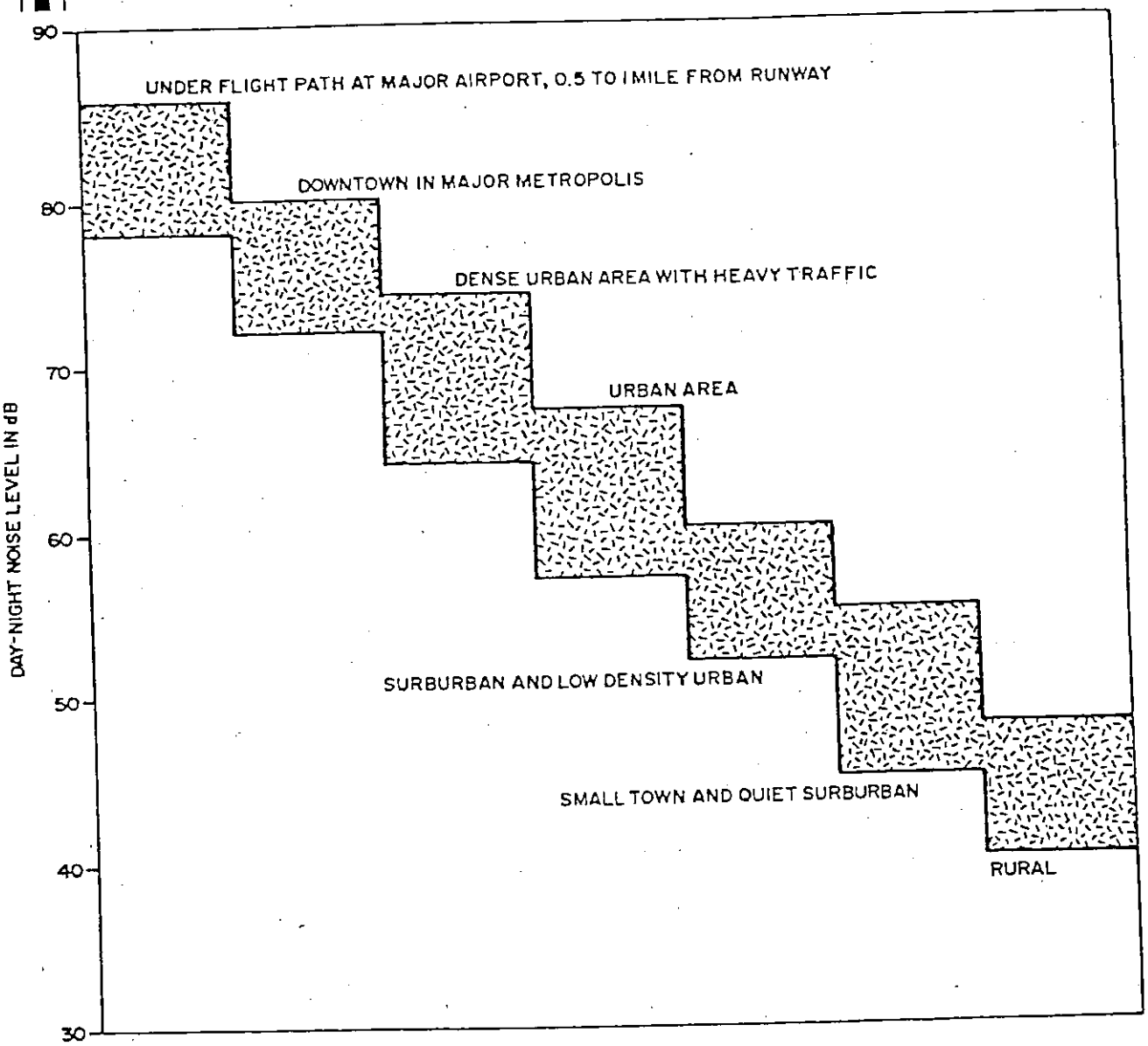


FIGURE 3.8-1 TYPICAL L_{dn} NOISE LEVEL RANGES

HARMSWORTH ASSOCIATES

TYPICAL "A" WEIGHTED SOUND LEVELS AND HUMAN RESPONSE

SOURCE SOURCE	dBA*	RESPONSE CRITERIA
Carrier Deck Jet Operation	150	
	140	Painfully Loud Limited Amplified Speech
	130	
Jet Takeoff (200 feet)	120	Maximum Vocal Effort
Discotheque Auto Horn (3 feet) Riveting Machine		
Jet Takeoff (2,000 feet) Shout (0.5 feet)	110	
N.Y. Subway Station Heavy Truck (50 feet)	100	Very Annoying Hearing Damage (8 hours)
Pneumatic Drill (50 feet)	90	Annoying
Freight Train (50 feet)	80	
Freeway Traffic (50 feet)		Telephone Use Difficult Intrusive
Air Conditioning Unit (20 feet)	70	
Light Auto Traffic (50 feet)	60	Quiet
Living Room Bedroom	50	
Library	40	
Soft Whisper (15 feet)	30	Very Quiet
Broadcasting Studio	20	Just Audible
	10	Threshold of Hearing
	0	

*Typical A-Weighted sound levels taken with a sound level meter and expressed as decibels on the scale. The "A" scale approximates the frequency response of the human ear.

Source: Environmental Quality — The First Annual Report of the Council on Environmental Quality. Council on Environmental Quality, Transmitted to Congress, August 1970.

FIGURE 3.8-2

TABLE 3.8-1
ROADWAY SEGMENT LOCATION NUMBERS

Roadway/Location	Noise Prediction Location Number
Ayala Drive	
North of Baseline Road	1
North of Fitzgerald Avenue	2
South of Highland Avenue	3
Baseline Road	
West of Ayala Drive	4
West of Cactus Avenue	5
In Fontana	6
Highland Avenue (SR 30)	
West of Ayala Drive	7
West of Cactus Avenue	8
East of Cactus Avenue	9
East of Sierra Avenue	10
Cactus Avenue	
South of Baseline Road	11
North of Baseline Road	12
South of Highland Avenue	13
Locust Avenue	
North of Highland Avenue	14

TABLE 3.8-2
1988 A.M. PEAK HOUR SOUND LEVELS

Project: CACTUS BASIN EIR
Design Year: 1988 AM PEAK HOUR TRAFFIC - NO PROJECT
Sound and Distance Calculations

Location Number	Total Sound Level at 15 Meters	Distance (in feet) to a Sound Level of: 55dBA	60dBA	65dBA	67dBA	70dBA	72dBA
1	62.65	286.61	90.64	28.66	18.08	9.06	5.72
2	63.39	339.69	107.42	33.97	21.43	10.74	6.78
3	63.39	339.69	107.42	33.97	21.43	10.74	6.78
4	71.86	2388.96	755.46	238.90	150.73	75.55	47.67
5	71.39	2143.37	677.79	214.34	135.24	67.78	42.77
6	71.57	2232.67	706.03	223.27	140.87	70.60	44.55
7	73.57	3538.72	1119.04	353.87	223.28	111.90	70.61
8	73.98	3889.09	1229.84	388.91	245.38	122.98	77.60
9	74.70	4589.82	1451.43	458.98	289.60	145.14	91.58
10	73.74	3678.87	1163.36	367.89	232.12	116.34	73.40
11	70.62	1795.24	567.71	179.52	113.27	56.77	35.82
12	70.70	1829.12	578.42	182.91	115.41	57.84	36.50
13	70.10	1592.01	503.44	159.20	100.45	50.34	31.76
14	64.17	406.47	128.54	40.65	25.65	12.85	8.11

TABLE 3.8-3
1988 P.M. PEAK HOUR SOUND LEVELS

Project: CACTUS BASIN EIR
Design Year: 1988 PM PEAK HOUR TRAFFIC - NO PROJECT
Sound and Distance Calculations

Location Number	Total Sound Level at 15 Meters	Distance (in feet) to a Sound Level of: 55dBA	60dBA	65dBA	67dBA	70dBA	72dBA
1	61.56	222.92	70.49	22.29	14.07	7.05	4.45
2	62.32	265.38	83.92	26.54	16.74	8.39	5.30
3	62.32	265.38	83.92	26.54	16.74	8.39	5.30
4	72.61	2835.50	896.66	283.55	178.91	89.67	56.58
5	72.90	3036.44	960.21	303.64	191.59	96.02	60.58
6	72.36	2679.21	847.24	267.92	169.05	84.72	53.46
7	73.86	3783.98	1196.60	378.40	238.75	119.66	75.50
8	74.60	4484.71	1418.19	448.47	282.97	141.82	89.48
9	75.14	5080.34	1606.54	508.03	320.55	160.65	101.37
10	74.13	4029.23	1274.16	402.92	254.23	127.42	80.39
11	72.41	2709.80	856.91	270.98	170.98	85.69	54.07
12	72.67	2879.17	910.47	287.92	181.66	91.05	57.45
13	72.19	2574.31	814.07	257.43	162.43	81.41	51.36
14	64.84	474.22	149.96	47.42	29.92	15.00	9.46

involved and difficulty in obtaining the necessary input data. Therefore, the analysis which follows has made a number of simplifying assumptions. However, these have been made in a manner which maintains the overall conservative approach used throughout this document. The results presented below represent the probable worst-case conditions that can be expected based on information contained in the project description and traffic analysis. The following discussion has been divided into two primary sections which consider the construction and operational phases of the project.

Construction Impacts

The proposed project will result in increased sound levels during the construction phase due to activities associated with on-site construction equipment and off-site vehicular traffic. As the level and nature of impacts from these two activities are substantially different, the following discussion will deal with them separately. In the presentation which follows, a brief discussion of the noise-generating activity, the sources of noise and the basic analysis approach is provided prior to presenting predicted sound levels and impact significance.

On-site Activities: The on-site activities which will generate noise are associated with the sand and gravel extraction operation used to develop the three basins. While the general activities will be the same throughout, i.e., each basin will be constructed in a similar manner, during the first year a channel from Highland Avenue to Basin C must also be developed. This activity differs sufficiently from that associated with the basin excavation to warrant special attention.

Channel Construction: During the first year of the project, a concrete channel will be constructed from Highland Avenue to Basin C, a distance of 3,450 feet. The construction of this channel will be carried out in 4 segments including 1) clearing and excavation, 2) forming, 3) concrete pouring, and 4) form removal and backfilling. The equipment used for each of these elements is different, and, therefore, the sound levels generated are different. The activities for each segment are described below.

It is assumed that this segment of channel will be cleared and excavated by Operator A using his full complement of equipment (1 front end loader, 1 water truck and 10 haul trucks) operating 8 hours per day. Based on the basic channel design and the maximum extraction rate for Operator A, it will take approximately 30 days to excavate the channel. Under these conditions, it is estimated that more than 100 feet of the channel will be excavated per day.

Due to the nature of local soils and because the channel design calls for vertical sidewalls, extensive forming will be required. When an as-yet unspecified length of the channel has been excavated, wooden forms will be brought to the site by flatbed truck. A mobile crane will be used to place the forms in the channel where workmen will secure them for later activities.

After the forms have been installed, the concrete pouring work can begin. It is anticipated that eight 11-yard concrete trucks operating over an eight-hour day will be used during this phase. This activity will follow sufficiently behind the excavation and forming operations so that once pouring begins it will not be interrupted until this activity is completed. Using the indicated equipment and assuming each truck makes two trips per day, it is estimated that 100 feet of channel can be poured per day.

After the poured concrete has hardened, the forms will be removed and soil backfilled around the channel's exterior. This operation should proceed quite rapidly and involve a front end loader water truck, the mobile crane and a haul truck.

The impacts which are likely to occur from development of the channel are presented on Table 3.8-4. The analysis technique used was developed by the U.S. Army Corps of Engineers and is explained fully in Appendix E. Table 3.8-4 presents the equipment used in each segment of construction, the amount of time it is assumed to operate at its highest sound level, and a reference sound level at 50 ft. The table also includes an estimate of peak sound level generated by each construction segment.

TABLE 3.8-4
NOISE GENERATED BY CHANNEL CONSTRUCTION

Equipment	Number	Utilization Factor	Reference Sound Level (dBA)	Channel Construction Phase	Source of Sound Level
Haul Trucks	10	0.22	84	1, 2, 4 (a)	CERL(b)
Front End Loader	1	0.89	80	1, 4	CERL
Water Truck	1	0.89	91	1, 2, 3, 4	CERL
Mobile Crane	1	0.89	88	2, 4	CERL
Cement Trucks	8	0.11	83	3	CERL

(a) Only one haul truck used in Phases 2 and 4.

(b) U.S. Army Construction Engineering Research Laboratory

Channel Construction Phase	Activity	Sound Level (dBA) at 50 feet	100 feet	200 feet	400 feet	800 feet
1	Excavation	92.5	86.5	80.5	74.5	68.5
2	Forming	92.4	86.4	80.4	74.4	68.4
3	Concrete Pouring	91.1	85.1	79.1	73.1	67.1
4	Backfilling	92.6	86.6	80.6	74.6	68.6

Construction is expected to produce an average maximum sound level of 91.9 ± 0.7 dBA at 50 feet from the center of activities for all segments. There may be intermitant sounds produced which are higher, from the banging of construction equipment against each other, but the sound level indicated should be the maximum normally encountered. Due to the proximity of the channel alignment to residential areas to the east of the project site, a significant adverse impact will occur. This adverse condition, however, has a limited duration. For example, the excavation is expected to take 30 construction days, which due to the 5-day work week will occur over a 42-day period. If it is assumed that all channel construction activities proceed at their maximum feasible rate, a total of 42 impact-days will occur over a 6-month period.

Basin Excavations: The development of the three basins employs a rather straightforward sand and gravel extraction process. With the exception of the first month of activity in Basin C all three will have identical extraction scenarios. It is assumed that both Operator A and B will be active at the site for its full development period. The only difference in their activities will be the use of sand and gravel separation (grading) equipment used by Operator B. The analysis technique used in reviewing the basins is the same as that indicated for channel construction. However, no segmentation of activities is involved. All basic extraction equipment has been assumed to operate at the center of each basin during its construction with one exception. The processing screen used by Operator B will be located approximately at the center of Basin B through the entire construction phase.

The impacts due to construction of the basins are presented in Tables 3.8-5 and 3.8-6. The first table presents the equipment list and analysis inputs similar to that presented for the channel construction. The second table includes the sound level predicted at the center of construction activities with and without the processing screen and at the nearest residence to each basin.

At the peak activity level, the project is projected to produce sound levels in excess of 70 dBA at residential locations adjacent to the project site. These sound levels are predicted to range from a low of

TABLE 3.8-5
NOISE GENERATED BY BASIN CONSTRUCTION

Equipment	Number	Utilization Factor	Reference Sound Level (dBA)	Comments	Source of Sound Level
Haul Trucks	5	0.22	84	Basin C First Month	CERL
	15	0.22	84	Basins A, B, C	CERL
Front End Loader	2	0.89	80	Basin C First Month	CERL
	3	0.89	80	Basins A, B, C	CERL
Water Truck	1	0.90	92	Basin C First Month	CERL
	2	0.89	91	Basins A, B, C	CERL
Screen	1	0.89	100	Located at Center of Basin B During All Phases	BOM

TABLE 3.8-6
NOISE LEVEL WITH AND WITHOUT PROCESS SCREEN

WITHOUT PROCESS SCREEN

Basin	Sound Level at Center of Construction (dBA)	Distance to Nearest Sensitive Receptor (ft)(a)	Sound Level at Nearest Sensitive Receptor
A	95.2	1,020	69.0
B	95.2	650	72.9
C - First Month	92.0	610	70.3
Full Development	95.2	610	73.5

(a)- This referes to the nearest house, school, church or hospital to the center of each basin

WITH PROCESS SCREEN

Basin	Distance from Screen to Sensitive Receptor		Sound Level of Screen at Nearest Sensitive Receptor		Combined Sound Level at Nearest Sensitive Receptor	
	(1)	(2)	(1)	(2)	(1)	(2)
A	800	650	77.6	77.2	75.7	77.5
B	650	650	77.2	77,2	78.6	78.6
C - First Month	1,040	650	73.1	77.2	74.9	77.4
Full Development	1,040	650	73.1	77.2	76.3	77.6

(1) Nearest to other equipment.
(2) Nearest to screen.

73.4 to a high of 78.6 dBA. Even though construction activities are normally excluded from regulation under the County Noise Ordinance these levels should be considered as causing significant impact due to the length of the activity and the sensitivity of the location.

Traffic Impacts: As stated earlier, beyond the on-site activities, the project will affect sound levels offsite along haul routes used to transport excavated materials. The changes in sound level are proportional to the increase in traffic volumes induced by the project. The analysis of the project effects was conducted using the FHWA Highway Noise Prediction Model which requires the input of data on specific roadway characteristics. These data, which include traffic volume, speed, number and width of travel lanes, has been obtained from the transportation analysis presented in Section 3.6.2. A more complete discussion of the noise analysis methodology is presented in Appendix E.

The roadways considered in this analysis have been limited to those which are likely to be used by project-related haul trucks. In total, 14 road segments were considered. For each segment, traffic conditions for AM and PM peak hours, with and without the project, were reviewed. The analysis was performed for three specific design years including 1988, 1989 and 1998. The first year, 1988, is used as a baseline to estimate existing conditions and by which the significance of changes in sound level can be judged. The design year, 1989, is probably the first year of full excavation activities. The last year, 1998, represents the final year of development. The analysis of no project considers only the traffic which is likely to occur under the influence of local growth. Overlaying the maximum project-related traffic onto the existing traffic condition, a projection of sound levels occurring during a specified design year is obtained.

The sound level generated by each analysis scenario has been predicted at a distance of 50 feet from the centerline of the lane nearest the roadway edge. These predicted sound levels are presented in Table 3.8-7 and indicate that under the no project conditions both AM and PM peak hour traffic cause sound levels in excess of the FHWA Noise Abatement Criteria of 67 dBA at the reference distance of 50 feet. In 1988, these

TABLE 3.8-7
TRAFFIC INDUCED SOUND LEVELS
AT 50 FEET FROM ROADWAY (dBA)

NO PROJECT CONDITIONS

	AM PEAK HOUR			PM PEAK HOUR		
LOCATION	1988	1989	1998	1988	1989	1998
1	62.65	62.90	65.20	61.56	61.82	64.11
2	63.39	63.67	65.94	62.32	62.60	64.87
3	63.39	63.67	65.94	62.32	62.60	64.87
4	71.86	72.12	74.41	72.61	72.86	75.16
5	71.39	71.63	73.94	72.90	73.14	75.46
6	71.57	71.81	74.12	72.36	72.61	74.91
7	73.57	73.81	76.12	73.86	74.11	76.41
8	73.98	74.24	76.53	74.60	74.86	77.15
9	74.70	74.94	77.26	75.14	75.39	77.70
10	73.74	73.97	76.28	74.13	74.37	76.68
11	70.62	70.86	73.17	72.41	72.65	74.96
12	70.70	70.97	73.25	72.67	72.93	75.22
13	70.10	70.34	72.65	72.19	72.42	74.74
14	64.17	64.48	69.61	64.84	65.14	70.28

PROJECT CONDITIONS

	AM PEAK HOUR			PM PEAK HOUR		
LOCATION	1988	1989	1998	1988	1989	1998
1	66.34	66.58	67.72	66.18	66.01	67.24
2	66.54	66.81	68.44	66.48	66.30	67.39
3	67.56	67.37	68.47	66.97	67.24	68.01
4	71.87	72.13	74.42	72.61	72.87	75.16
5	72.00	72.24	74.52	73.49	73.73	76.02
6	71.58	71.82	74.12	72.37	72.61	74.92
7	73.59	73.83	76.13	73.88	74.12	76.42
8	74.35	74.60	76.87	74.96	75.21	77.49
9	74.70	74.95	77.26	75.14	75.39	77.70
10	73.74	73.98	76.28	74.14	74.37	76.68
11	71.98	72.21	73.90	73.44	73.67	75.65
12	71.44	71.70	73.64	73.36	73.33	75.59
13	71.13	71.37	73.34	72.89	73.12	75.11
14	65.50	65.54	69.98	65.89	66.18	70.64

exceedances range from a low of 3.10 to a high of 8.14 dB. As time goes by and local traffic increases, these ranges change to 3.34 to 8.39 and 2.61 to 10.70 in 1989 and 1998, respectively.

When project traffic is added, the sound levels obviously increase and more roadway segments are placed in the category of excess sound levels. For roadways that have sound levels which exceed the FHWA criteria, the increases range from 0.01 to 1.36 dBA (see Table 3.8-8) which is normally not considered to be noticeable. The greatest changes which result from the project occur along Ayala Drive where sound levels increase by as much as 4.65 dBA and results in an exceedance of the FHWA criteria.

To establish the significance of impacts generated by traffic noise there are three factors which must be considered including 1) existing conditions, 2) the change in sound level caused by a project and 3) the location of sensitive receptors. In reviewing the action proposed, the determination of impact significance is complicated by these same factors. Therefore, a discussion of each road reviewed is warranted.

Ayala Drive: Sound levels along Ayala Drive between Baseline and Highland are predicted to be between 61 and 65 dBA under no project conditions. The project will increase these levels by 2.5 to just over 4.5 dBA which will result in the exceedance of the FHWA criteria established for residential areas. These exceedances occur near Highland Avenue. While this would appear to result in a significant impact, the lack of sensitive receptors along the roadway precludes this conclusion.

Baseline Road: The sound levels along Baseline Road currently range from approximately 71 to 73 dBA which will increase without the project to 74 to 75+ dBA by 1998. The project would not cause a substantial increase in these levels as only limited use is made of this route, with project traffic confined primarily between Cactus Avenue and Ayala Drive. In this segment, sound levels are projected to increase by approximately 0.6 dB which is not considered noticeable. Therefore, while sound levels are indicated to exceed the indicated criteria the project does not by itself induce a considerable impact.

TABLE 3.8-8
CHANGE IN TRAFFIC
INDUCED SOUND LEVELS
AT 50 FEET FROM ROADWAY (dBA)

	1988		1989		1998	
LOCATION	AM	PM	AM	PM	AM	PM
1	3.69	4.62	3.68	4.19	2.51	3.12
2	3.15	4.16	3.14	3.70	2.49	2.52
3	4.17	4.65	3.71	4.63	2.53	3.14
4	0.01	0.01	0.01	0.01	0.00	0.00
5	0.61	0.59	0.60	0.59	0.58	0.57
6	0.01	0.01	0.01	0.01	0.00	0.00
7	0.02	0.02	0.02	0.02	0.01	0.01
8	0.37	0.36	0.36	0.36	0.34	0.34
9	0.01	0.01	0.01	0.01	0.00	0.00
10	0.01	0.01	0.01	0.01	0.00	0.00
11	1.36	1.03	1.35	1.02	0.73	0.69
12	0.74	0.69	0.73	0.39	0.39	0.36
13	1.03	0.70	1.02	0.70	0.69	0.37
14	1.33	1.05	1.06	1.04	0.37	0.36

Highland Avenue: The highest sound levels, both with and without the project, occur along Highland Avenue. Under the no project scenarios sound levels are projected at 73.5 to 77.7 dBA. These levels would be increased by less than 0.5 dBA with the project which would not cause a significant impact above that already occurring.

Cactus Avenue: Sound levels along Cactus Avenue are currently between 70.1 (AM peak hours) and 72.7 dBA (PM peak hours) exceeding FHWA criteria. These levels will reach 72.7 and 75.2 dBA, respectively, by 1998 without the project. Adding project activities which are concentrated along Cactus Avenue will increase these levels by a maximum off 1.36 dBA which, while contributing to an existing adverse condition is not likely to be noticeable and is considered only slightly adverse impact.

Locust Street: The current sound levels along Locust are approximately 64.5 $\pm$ 0.3 dBA which would increase to roughly 70.0 dBA by 1998 even without the project. The influence of the project would initially add approximately 1 dB to the indicated level in 1989 and later drop to 0.4 dB thus not causing a significant adverse impact.

The proposed project will increase sound levels along local roadways by a maximum of 4.6 dB which will result in a slight adverse impact. While sound levels along most road segments will exceed the 67 dBA FHWA criteria with the project, it has been observed that only in the case of Ayala Drive is this exceedance a direct result of the project.

Operational Impacts

The basins will not require the use of noise-generating equipment during their normal operation. Periodically, there will be the need to remove debris and sediment which collects in the basins after storm events, but this will be of relatively short duration and occur infrequently, probably once per year for less than one week.

Under normal operations, the basins will not contribute to ambient sound levels. The routine maintenance required will produce sound levels

similar to the construction phase, but for much shorter periods. For this reason, no significant impact is likely to occur from the operations phase.

3.8.3 Mitigation

The noise impacts generated by the project as stated previously are associated with the on-site and off-site activities. The off-site activities involve the haul trucks transporting aggregate material excavated from the site. No mitigation of the noise generated by this source is available. On-site activities present a different situation.

The primary sources of on-site noise are the various mobile sources and the process screen. The control of mobile sources is limited to requiring these units to have adequate and operating mufflers, and possibly to placing limits on operating hours. The process screen, as it is relatively stationary, is conducive to other measures such as sound walls. However, the most significant measures would be to preclude its use. Elimination of this equipment would reduce sound levels at nearby sensitive receptors anywhere from 4.1 to 8.5 dBA. Further, the elimination of this equipment may reduce the total number of mobile equipment units required, further reducing project-induced noise impacts.

3.9 Population

3.9.1 Environmental Setting

Current Population Estimate

The Rialto General Plan reported annual city-wide population for the period 1978-1983 (City of Rialto, 1985a and 1985b). These data plus updates from the State Department of Finance (DOF) are displayed in Table 3.9-1. Over the nine-year span, population has increased at an annual compound rate of 6.1 percent.

TABLE 3.9-1
POPULATION GROWTH BY YEAR

Year	Total Population	Annual % Change
1/1/78	33,077	--
1/1/79	34,150	3.1
4/1/80	37,474	8.9
1/1/82	41,826	10.4
1/1/83	42,550	1.7
1/1/84	44,250	4.0
1/1/85	47,150	6.6
1/1/86	53,300	13.0
1/1/87	56,400	5.8

No recent sub-city or study area population data are available.

There is no residential population on the project site.

Future Population Estimate

The Rialto General Plan projected an additional city-wide buildout population of 46,060 based on vacant developable land as of January 1, 1984. Adding to this DOF's January 1986 population estimate gives a total buildout population of approximately 90,300. Projected population for the benchmark year 2000 is estimated to be 77,000, assuming the Plan's average annual rate of development of 710 new units. The difference between the year 2000 and buildout populations, according to the Plan, is primarily development in Rialto's northwest area. However, since development will likely happen sooner in this area, given recent City Council approval of the Northwest Rialto Specific Plan, buildout population may occur earlier than contemplated in the Plan.

The Southern California Association of Government's (SCAG) population projection for the City of Rialto at the time of General Plan preparation was 72,600 for the year 2000. A recent SCAG forecast update produced a year 2010 population forecast of 92,593 or roughly the buildout population estimated above (SCAG, 1987). It is important to note, however, that land availability is not dealt with explicitly in the SCAG forecast. Rather, past relative growth rates along with overall regional economic changes are the principal forecast variables.

Buildout population for the project study area is estimated to be about 19,000 based on calculated gross residential acres and various General Plan assumptions (see Table 3.9-2).

TABLE 3.9-2
ESTIMATED BUILDOUT POPULATION FOR THE PROJECT STUDY AREA

Area	Gross Acres	Dwelling Units/ Gross Acre[a]	Total Units
N.W. Specific Plan	548	--	2530[b]
Other			
Low density	130	2.0	260
Medium density	940	4.0	3760
High density	0	13.5	0
Total Dwelling Units			6550
Avg. Persons/D.U.			2.9[a]
Estimated population			18,995

Notes:
[a] Rialto General Plan, Table II-11, p. 11-47.
[b] Northwest Rialto Specific Plan, Table 4.1, p. 4-A.

3.9.2 Proposed Project Impacts

The proposed project site is vacant land and will not displace population.

The project will generate a modest number of jobs both from aggregate extraction and the construction of flood control improvements. The Federal Bureau of Economic Analysis employment multiplier for "other mining" (which includes sand and gravel mining) for the State of California is 23.9 jobs per one-million dollars of expenditure. These impacts, derived from a regionalized input-output table, represent three categories of workers: those involved directly in extraction, those indirectly providing services of products (e.g., equipment manufacturers, maintenance services, etc.), and those offering goods and services to households whose income is connected directly or indirectly to the project. Similarly, the State employment multiplier for new construction is 38.6 per one-million dollars of expenditure.

Although local input-output multipliers for San Bernardino County or the SCAG region are not readily available, State multipliers can give clues about order-of-magnitude population impacts. The nature of these multipliers is such that large geographic/economic areas will have higher multipliers relative to smaller areas contained by the larger area. Hence, State multipliers reported above are higher than what would probably be derived for the local region. This, coupled with relatively small expenditures for the project and the availability of local labor to fill project-induced jobs, will result in no population in-migration to the City. Rather, the project is a benefit from the standpoint of generating income to the existing city and regional population.

Finally, the increased flood control capacity provided by the project serves to implement the approved Rialto General Plan. The project will not provide more capacity than that required by future residential development and will not cause the plan to be amended to accommodate the amount or spatial distribution of planned development. Thus, no development-induced population impacts are expected.

3.9.3 Mitigation

No project mitigations are required.

3.10 Public Services

This section covers police services and road maintenance. For recreation facilities, please see Section 3.14.

3.10.1 Environmental Setting

Police Services

The City of Rialto maintains its own Police Department with a current authorized work force of 128 including 77 sworn officers. Reserve strength including reserve officers, chaplains and Explorer Scouts totals 44. Helicopter patrols are provided by the County of San Bernardino with facilities based at the Rialto Municipal Airport.

The ratio of officers to population in the City is currently 1.37 per 1,000 (based on 1/1/87 State Department of Finance population estimates) which is identical to the 1983 ratio reported in the Rialto General Plan.

Road Maintenance

Truck operators in Rialto are currently required to obtain a permit from the City which specifies the vehicle type, nature of the load, axle weight, loaded weight and intended route. The fee for this permit is $10 per day or $200 per year for each vehicle. Revenues from the fees go into the City General Fund, which is used for a variety of public services including road maintenance. Truck operators are required to use designated City truck routes, where possible.

3.10.2 Proposed Project Impacts

Police Service

The proposed project will impact police services in several ways. First, excavation of aggregate will probably involve on-site storage of equipment from several operators, affecting patrol service and police services related to criminal investigations in the event of theft or vandalism.

The project will also induce truck traffic as aggregate is transported from the project site to construction sites or processing facilities. Increases in heavy truck traffic may cause increases in incidents of traffic accidents, which would increase demand for police services (Traffic hazard impacts are discussed in Section 3.6.2.).

Road Maintenance

Project truck traffic will significantly impact road maintenance for Ayala Drive in its existing condition since it is under-designed for heavy truck traffic loads. The maintenance of the major truck routes (Highland Avenue, Baseline Road, and Cactus Avenue) is not expected to be significantly impacted because project traffic represents a small portion of overall truck traffic on these routes. For example, current truck

traffic on Cactus Avenue south of Baseline Road is estimated to be 700 per day, which is much larger than the peak project traffic load of 172 per day for this street. Project-related impacts on maintenance of other smaller streets, such as Locust Avenue, will depend on the actual haul routes used by Operator B, the magnitude of other construction-related truck traffic in northwest Rialto, and the timing of road improvements defined in the Northwest Rialto Specific Plan.

3.10.3 Mitigation

Police Services

To reduce the probability of theft and vandalism, the project site will be completely fenced and a single access gate locked during non-working hours. This should minimize the need for additional patrol service and police services related to the property.

Potential increases in local motor vehicle accidents can be effectively reduced through various operational restrictions. Ingress and egress will be restricted to a single location and will be sited on relatively less traveled Ayala Drive vis-a-vis Highland Avenue or Baseline Road. Also, regardless of the ultimate direction/destination of the aggregate, operators should be required to utilize truck haul routes and safety procedures that have been approved by the City. See Sections 3.6.2 and 3.6.3 (Traffic and Circulation Impacts and Mitigation) for further details. The City and County Flood Control District will implement these restrictions by including them as conditions on any signed agreement with site operators.

In addition, it is recommended that the contract between the County Flood Control District and operators include a clause specifying that a driver of any haul unit may be excluded from the project work if he/she exhibits lack of concern for safety and/or is cited for violation of the Vehicle Code while operating a haul unit.

Road Maintenance

Ayala Drive should be improved to a design level consistent with project-related truck traffic. Ideally, road improvement should precede initiation of project traffic. If improvement is delayed, significant increases in road deterioration and corresponding maintenance can be expected in the interim.

Development of a supplemental funding source for road maintenance, other than current truck operator permit fees, may be necessary in the event that project impacts are more severe than expected.

3.11 Energy

3.11.1 Environmental Setting

The undeveloped nature of the property in question defines its current energy. Since there are no on-site structures or approved activities, there is no demand for any type of energy.

3.11.2 Proposed Project Impacts

The implementation of this project will require energy in the form of fuels for he various pieces of construction equipment used to develop the flood control facility. The demand for this fuel, however, is not solely a function of this project as the equipment used here would be employed at other locations if the project were not implemented. While the amount of fuel used for project development could not be quantified, it is not expected to result in a significant impact. After the project is constructed, the need for energy will reduce to almost zero as there are no on-site facilities requiring energy. Energy use would be limited to that fuel needed for debris removal equipment employed during periodic basin cleaning. The amount of fuel required is insignificant and will not result in an adverse impact.

3.11.3 Mitigation

Because the project will not result in any substantial impact to local energy supplies no mitigation measures are warranted.

3.12 Human Health

Concerns related to potential human health impacts of the proposed project involve: 1) short-term exposure of operators of aggregate extraction equipment to excessive dust, and 2) vector control practices associated with water being present in the basins. Each of these topics is discussed below.

Dust generation impacts of the proposed project are discussed in detail in the air quality impacts section (3.7.2). Potential mitigation measures to reduce dust generation associated with aggregate extraction are presented in the air quality mitigation section (3.7.3). Conclusions about potential human health effects on on-site workers cannot be drawn directly from that information. However, mitigation measures to reduce dust emissions, in general terms, would also reduce short-term exposures of on-site workers. If these measures are supplemented with the use of standard dust protection equipment, such as breathing masks, then human health impacts due to dust exposure would be expected to be reduced to insignificant levels.

Concerns about vector control relate to possibilities for breeding of mosquitoes and other insects in the water retained in the basins. These insects use shallow, warm waters that are relatively still for breeding. The design criteria of the basins will tend to minimize the presence of shallow, still water areas. This is because the side slopes will range from 2:1 to 4:1 (horizontal to vertical proportion), bottom slopes will be 0.5%, and each basin will have a drain. The relatively steady winds in the Rialto area should produce a "choppy" water surface as long as the water depth is more than a foot or two. Very shallow conditions will not be present for more than a few days per year because the estimated percolation rates are 5 to 6 feet per day. In the unlikely event that

retained storm runoff periodically results in shallow, stagnant water and the potential for significant vector problems, the situation could be eliminated by manual draining of the final remnants of water from the basin(s) to the Rialto Channel.

Use of one of the basins for artificial recharge of SWP water is not expected to create an insect breeding environment because the water depth will be approximately 4 feet. The SBVMWD has not experienced any vector control problems to date at their Linden Avenue spreading basins, which have depth and side slope conditions similar to those for the proposed project.

3.13 Visual Resources

3.13.1 Environmental Setting

The visual appearance of the project site is significantly different than much of its surroundings because of its predominantly undeveloped condition. Due to the site's relative proximity to San Bernardino mountains and lack of substantial development immediately to the north an excellent view of this local feature is available, air quality conditions permitting. This view is best from the southern portion of the property and decreases gradually, although not significantly, toward the north. The slight visual impairment in the northern portion of the property is caused by residential developments north of Highland Avenue. The residential structures result in minor visual impairment because of their relatively low profile. More substantial impairment is caused by trees associated with these dwellings.

The site, which slopes from the north to south, does not contain any significant natural land forms which could be considered a significant visual feature. The southern portion of the site contains a feature dissimilar to the rest of the property, i.e., the man-made basin adjacent to Baseline Avenue. While man-made, this feature does not appear incongruous with its general surroundings. In fact, the casual observer may be unaware of its unnatural origin.

The site's open space character is enhanced by the lack of man-made structures. Site vegetation varies considerably depending on location. While most of the site is covered by grass, both natural and introduced, significant stands of trees are present. The condition of the site, although not unique, does provide a generally positive visual reaction. This response would be higher except for man-induced deterioration. Man's influence can be seen in two dominant features: 1) dirt roads and trails, and 2) litter. The site's natural condition is marred in various locations by dirt roads and trails in seemingly random patterns. These trails appear to receive a relatively high degree of use and do not allow vegetation to re-establish. Probably the greatest detraction to the visual quality of the site is litter. A long-term practice of uncontrolled dumping has left the site strewn with worn out tires, bottles, cans and general waste.

The site is bounded to the north, east and south by residential areas of varying densities, age and appearance. To the west of the site is the Rialto Airport and recent commercial/industrial developments. These features dominate the foreground views in all directions.

3.13.2 Proposed Project Impacts

The development of the proposed project will result in a significant alteration in the visual character of the area. This alteration will occur in three primary areas: 1) changes to existing vegetation, 2) changes in topographic relief and 3) patterned revegetation, the first two changes being the most significant.

The removal of existing site vegetation is considered a significant visual impact as it alters the natural impression currently provided by the site. This impact is mitigated, however, by the removal of debris that has accumulated onsite which is gradually reducing its visual quality. Further, the site will be revegetated after construction which will further reduce the project's effect.

The change to land forms will be substantial. The current gently sloped site will be replaced by three well-defined, obviously man-made, depressions. The degree of visual impact this will cause is highly subjective depending to a large part on anticipated view. As the area develops the anticipation of viewing large areas of undisturbed ground is reduced and by the time the project has been completed, the effect may be minimal. Thus, while a significant change in land forms will occur the impact to visual resources is considered minor.

The last area of visual impact will occur from the revegetation of the site. The level of impact which can be expected will be dependent on the type of program implemented. Plant selection is of extreme importance. A mixture of various communities should be used to provide variations of texture and color. Native or locally common species should be used where possible. If properly conducted, the revegetation program should result in a beneficial impact to the visual character of the site.

3.13.3 Mitigation

While the changes to local visual resources are not likely to result in a significant long-term adverse impact, measures should be employed to limit the duration of those which are unavoidable. The following measures should be incorporated in the site's development plan:

- The area disturbed by construction activities should be limited to that area actually being worked. Removal of vegetation from the entire site at one time should not be allowed.

- Final grading of basins should avoid, to the extent feasible by good engineering practices, sharp corners and lines. Rounded features should be used.

- Revegetation should begin as soon as possible after completion of construction activities.

- A detailed landscaping plan should be prepared for each basin. As development will occur in stages, subsequent plans should be revised based on the success achieved with any preceding activities. The landscaping plans should be consistent with plans for erosion control and revegetation (see Section 3.3.3, Biological Resources, Mitigation).

- Maintenance of the basins should be sufficient to avoid the accumulation of debris and litter.

3.14 Recreation

3.14.1 Environmental Setting

Parks and related services and facilities are provided primarily by the City of Rialto Parks and Recreation Department. There are currently eight parks within the City totalling 75.5 acres. There are also another 13.5 acres of undeveloped park land (see Table 3.14-1). Based on the latest population estimate for Rialto provided by the State Department of Finance, the ratio of park acres (developed and undeveloped) to 1,000 City residents is 1.58. This ratio is substantially below the Parks and Recreation Department's standard of three acres per 1,000 population.

In the study area there is one existing park along Linden Avenue south of Summit Street. There is also a park adjacent to an elementary school outside the study area approximately 2,000 feet south of the project site. A park of 20 acres is proposed for the Northwest Rialto Specific Plan area.

A park of some type has been proposed for the project site for a number of years. The current Recreation and Parkland Policies and Guideline documents referenced under the Aesthetic, Cultural and Recreational Resources Element, updated in April 1985, proposes a park in the general location of the project site.

TABLE 3.14-1

CITY PARKS AND PARK ACRES

Parks	Acres Developed	Acres Undeveloped
Rialto City Park	20.0	
Lilac Park	10.0	
Frisbie Park	18.0	10.0
Northern Little League (proposed Birdsall Park)	4.0	3.5
Margaret Todd Park (Community Center)	5.0	
Soccer Fields/Milor Continuation High joint use	5.0	
Andreson Park	5.0	
Flores/Dollahan School joint use	8.5	
TOTAL	75.5	13.5

Source: City of Rialto Recreation, Parks and Social Services Department.

3.14.2 Proposed Project Impacts

In addition to the principal use of the project site for flood control, the proposed project includes a secondary park use to be developed by the City. The subject park is 20.3 acres in size and is located in the southwest corner of the project site, south of the intersection of Ayala and Leiske Drives. Likely facilities would include flat turf areas for various field sports, playground equipment, picnic shelters and tables, trees and bermed areas, basketball and volleyball courts and parking areas.

The proposed park, due to its size and likely facility mix, is a community park designed to serve a number of nearby neighborhoods. There is a particular area-wide need for soccer fields that the subject proposed park will help satisfy.

The proposed park will also have a fiscal impact on the City. The extent of public cost is not known and will be a function of how the County Flood Control district transfers the land, e.g., lease agreement, use agreement, land purchase, etc. Maintenance and operations costs will also be incurred by the City.

3.14.3 Mitigation

The cost of site improvements may be covered by grant programs from the state as well as local park development fees. Operations expenses must be offset by general City revenues or revenues raised from a special assessment district.

While current project development plan does not call for any activity on or disturbance of the proposed park site it may be advisable to place a condition on site development which state that no disturbance of the site will occur nor will it be used as a site for aggregate screening operations and associated aggregate stockpiles.

SECTION 4.0
PROJECT ALTERNATIVES

CEQA requires that, in addition to the proposed project, a description of "reasonable" alternatives to the proposed project be provided. The alternatives are to be those which, if implemented, could feasibly achieve the same result as the proposed project. CEQA also requires that a review of a No Action alternative be provided.

4.1 Identification and Description of Alternatives

4.1.1 Flood Control Alternatives

There is one potential project alternative regarding the flood control objective of the proposed project: upsizing of the Rialto Channel between Baseline Road and the Santa Ana River. This alternative would pass the flow of a 100-year flood safely to the Santa Ana River, but would not reduce peak flow or control runoff as would the proposed project. Previous cost analyses have indicated that this alternative would cost approximately $3 million more than the proposed project.

Construction of equivalent retention basins at another downstream location adjacent to the Rialto Channel is not considered feasible because of a lack of appropriate sites. Construction of numerous small retention or detention basins throughout Rialto is not considered to be capable of providing an equivalent level of flood protection.

4.1.2 Artificial Groundwater Recharge Alternatives

There are two potential alternatives regarding the artificial recharge objective of the proposed project: 1) expand the size of the existing recharge facility near the intersection of Linden Avenue and Riverside Avenue, and 2) utilize other existing retention basins such as the Lower Cactus Basins.

Both of these alternatives would result in similar recharge effects as the action proposed by SBVMWD. However, the first alternative is less

desirable than the proposed action because it could result in groundwater mounding at that site.

Cost comparisons prepared by SBVMWD for the proposed action versus the alternatives are not available. It is assumed that the proposed action has some cost advantage. However, the advantage may be relatively minor.

4.1.3 No Action Alternative

The No Action alternative would not provide any of the flood control or water supply benefits of the proposed project. The resulting situation would be incompatible with assumptions implicit in the General Plan and the Northwest Rialto Specific Plan.

4.2 Analysis of Project Alternatives

Upsizing of Rialto Channel

This alternative would avoid the adverse impacts associated with construction of Basins A and B. It is assumed that the channel from Highland Avenue to Basin C and the drain from Basin C would be constructed, further that the proposed park site would remain for this alternative. Therefore, a substantially reduced level of localized impacts for traffic, noise, air quality and biological resources would result from upsizing of the Rialto Channel as compared to impacts for the proposed project. This alternative would also conserve approximately 2.6 million cubic yards of aggregate resources since Basins A and B would not be excavated.

Implementation of this alternative could increase construction-related impacts associated with development of larger and/or new facilities to allow flood waters to pass underneath the Interstate 10 roadway.

Expansion of the Linden Avenue Groundwater Recharge Facility

Construction of additional spreading basins at the Linden Avenue facility would not substantially modify the impacts of the proposed project since the Upper Cactus Basins would still be developed. Environmental impacts of the construction and use of additional percolation basins would be similar in nature to those described for the proposed project, except that the degree and duration of construction impacts (e.g., those impacts associated with traffic, noise and air quality) would be muchless. This is because these percolation basins would be shallower than the Upper Cactus Basins, e.g., 7 feet versus 30 feet depth. It is also probable that these percolation basins could be constructed without removing any excess earth from the Linden Avenue site, thereby avoiding increased truck traffic. This alternative would avoid the potential conflict between migratory waterfowl attracted to the percolation basin and aircraft using the Rialto Municipal Airport. However, that can also be accomplished under the proposed project mitigation measures (see Section 3.5.3). As mentioned above, groundwater mounding could increase at the Linden Avenue site, but is not considered to be a significant environmental factor in this case.

Use of the Lower Cactus Basins for Artificial Recharge

Spreading of SWP water in the Lower Cactus Basins would have the same type of environmental effects as it would at the Upper Cactus Basins. This alternative would avoid the potential for conflict between migratory waterfowl attracted to the percolation basin and aircraft using the Rialto Municipal Airport. However, that can also be accomplished under the proposed project mitigation measures (see Section 3.5.3).

4.3 No Action Alternative

The No Action Alternative, as the name implies, would mean that the site would be left in its current state. Assuming that City and County policy on flood control does not change, then proposed development within the

project's contributing drainage would have to be modified to eliminate new contributions to the current flood control problem or they could not be built. Under this scenario, all of the impacts associated with the proposed project would be eliminated.

It is virtually infeasible for a small, new development to include on-site flood control facilities that can avoid any increase in the 100-year flood peak flow. Therefore, new development in northern Rialto would probably not proceed if the Upper Cactus Basins are not developed or a means to convey increased flood flows to an upsized Rialto Channel is not implemented. As mentioned earlier, this situation is incompatible with the assumptions implicit in the General Plan and the Northwest Rialto Specific Plan.

SECTION 5.0
SUMMARY OF ENVIRONMENTAL CONSEQUENCES OF PROPOSED ACTION

5.1 Unavoidable Adverse Impacts

The unavoidable adverse impacts which could result from the project will occur on both a short- and long-term basis. Short-term impacts are those which will occur during the construction phases of the project and will not permanently alter the local environment. Long-term impacts are those that will begin with the project's construction and remain through the project's useful life, and in some cases, beyond. Those impacts which are a result of project activities and which cannot be fully eliminated through the presented mitigation measures are discussed briefly below.

5.1.1 Topography

The development of the basin will result in a permanent alteration in local topography. This impact will begin with the initial construction phase and exist even beyond the useful life on the project. No measures are available to totally mitigate this impact. The decision as to whether this impact is adverse is rather subjective but has been included here for completeness. The project will also create the potential for increased wind erosion of site soils. This latter affect however should be rather short term confined primarily to the construction period. Revegetation subsequent to construction will significantly reduce this impact.

5.1.2 Hydrology

Although the probability of an accidental release of hazardous material into the basins drainage area is low it would cause a significant adverse impact if these materials could not be intercepted prior to their reaching the basins. While current regulations exist to limit this type of event it is still possible. If such materials entered the basins an unavoidable adverse impact to local groundwater could result prior the implementation of any clean up action.

5.1.3 Biology

The disturbance of the surface at the project site will result in permanent impacts to both vegetation and wildlife habitats. The loss of site vegetation is locally significant and is only partly offset by a revegetation program. The loss of wildlife habitat is of concern for the San Diego Horned Lizard a species of increased concern in recent years.

5.1.4 Traffic and Circulation

Implementation of the project will increase the volume of truck traffic on local roadways which is of itself of moderate significance. The project will also lead to a likely decrease in traffic safety. These conditions while adverse are of short duration, would be confined to the construction period.

5.1.5 Air Quality

The project will cause an increase in the emission of air contaminants of which particulate matter is of the greatest concern and is considered to result in an adverse condition. While partial mitigation can be provided the impact will remain to some degree. However this impact is confined primarily to the construction period when site disturbance is at a maximum. Post construction revegetation of the project site should effectively mitigate any potential long term impact.

5.1.6 Noise

The construction of the flood control channel and the three basins will cause short term significant noise impacts to the residential area east of the site. The degree of impact can be controlled to a large extent but the adverse condition will remain.

5.1.5 Visual Quality

The development of the basin will permanently alter the local visual quality of the site. The adverse condition created during construction will diminish to insignificance with time.

5.2 Relationship Between the Short-Term Uses of the Environment and the Maintenance and Enhancement of Long-Term Productivity

As defined in this document, short-term uses would be covered by that period when the basin is under construction. During this period, the activities related to the construction of the channel and basins will result in some adverse impacts to the local environment. While most of these impacts are relatively minor, they nonetheless are inevitable in order to provide the local community adequate flood control facilities.

The temporary environmental impacts which will occur as a result of the project include:

- Traffic increases, primarily heavy trucks, along Cactus Avenue, Baseline Road, Ayala Drive, Locust Street and Highland Avenue.

- Short-term increases in air pollutants emitted to the local environment. Of primary concern is fugitive dust.

- Increased noise at sensitive receptor sites to the east of the project and along the designated haul routes in the area.

- Alteration of the visual quality of the local environs due to the intrusion of heavy construction equipment.

As mentioned above and indicated in Section 3.0, the impacts induced by the project will vary greatly over the 10-year construction period. However, with the incorporation of reasonable mitigation measures in project design, as described in Section 3.0, most of the project-induced impacts can be reduced to insignificance. These measures include:

- Frequent, in-basin, watering during excavation to avoid undue dust generation

- Immediate post-construction revegetation of disturbed areas

- Use of native plant species for revegetation programs

- Minimize project traffic during peak commuting hours
- Provide adequate road geometrics for safe operation of haul trucks
- Limit operation of haul trucks to City designated truck routes
- Limit the size of the disturbance area
- Construction of sound wall around stationary process equipment

While these are not all the measures discussed in Section 3.0, they do represent the type necessary to limit the impacts to the local environment. Through the vehicle of a well-planned mitigation program, adverse long-term impacts for the most part can be avoided.

The development of the project will, however, have one long-term impact. This being the reduction of land zoned for residential uses, although the site is designated for public flood control uses in the General Plan. Conversely, the project, upon completion, will enhance the long-term productivity of the local community by mitigating the potential problems associated with flood control and by enhancing the local water supply. Only through the development of the proposed project or one of its alternatives can the long-term designated uses of the surrounding lands be achieved in a manner providing safety to the community.

5.3 Irreversible and Irretrievable Commitment of Resources

The development of the project will result in the commitment of certain resources. Once committed to this project they are unavailable in the future for other uses. This is defined as an irreversible and irretrievable commitment of a resource.

The proposed project will result in such a commitment in seven principal areas as indicated below. While the impact of this commitment may not be significant, it will nonetheless be permanent. The areas of commitment include:

- Changes in local topography. The construction of the channel and basins will result in a permanent change in the local topography, not

only by creating a depressions at the site, but by also changing the natural depositional characteristics of the surface water flow downstream of the site.

- Elimination of a potential mineralogical resource. During the construction of the channel and basins, all evacuated material would be available for use, as would any sediment collected thereafter. However, should any other mineral resource be found to exist below the basins, it would no longer be available for recovery. It should be pointed out that there are currently no known resources other than sand and gravel at this basin site.

- Reduction of vegetation and wildlife habitat. The construction of the basin would remove approximately 140 acres of relatively undisturbed habitat.

- Cultural/paleontological resources. While no significant resources of this type are known to exist at the site, excavation may unearth presently unknown artifacts. Any artifacts uncovered during such excavation would be available for research and analysis, possibly expanding knowledge of the area, and as such would be considered retrievable. However, the development of the project could make the site unavailable for future research activities.

- Changes in visual quality. Construction of the project would permanently change the natural quality of the site. Even with intense revegetation, the rural characteristics of the site would be altered.

- Energy uses. The development of the project will require the commitment of diesel fuel for construction equipment. This resource, once used, cannot be recovered.

5.4 Growth-Inducting Impacts

Although the proposed project will increase the capacity of Rialto's flood control system to accommodate development, such development is consistent with the policies of the City as embodied in the General Plan and

attendant documents. A Plan goal calls for "continued growth providing a range of employment and house opportunities..." (City of Rialto General Plan, amended 1/21/86, page XI). More pointedly, the Community Development Element of the General Plan enumerates several implementation policies including "encourage large scale, self-contained projects...", and "encourage new development in areas adjacent to urbanized portions of the community" (ibid., page IV-4). Implementation policies with respect to flood hazards recommend relief from such problems "...to permit new development" (ibid., page I-3). The Plan also identifies improvements to the Rialto Channel as "...one of the City's high priorities" (ibid., page V-5). The Land Use Policy Map graphically interprets these policies and shows substantial future residential development in the study area. While the exact number of additional dwelling units permitted in the study area is impossible to estimate, the Plan could add as many as 4,000 dwelling units in a largely vacant area west of Linden and north of Highland Avenues.

Taken together, Rialto's Policy Plan and interpretive map reflect the City's intent to accommodate planned growth and to accomplish this, in part, through public works improvements. The proposed project does not induce growth outside this policy framework.

The proposed project will generate a modest number of jobs related to the construction of flood control improvements and the surface extraction of aggregate, but this employment will be satisfied by the existing work force in the region, and thus, will not induce in-migration.

5.5 Cumulative Impacts

The CEQA guidelines recognize that while the impacts which may result from an individual project might not cause serious degradation to the environment, when its effects are combined with other local activities adverse conditions may arise. When evaluating cumulative impacts, past, current and probable future projects should be considered. The following section reviews those environmental areas where cumulative impacts may be substantially greater than those of the proposed project. As the design year for this project is 1998, the preceding analysis has, in most cases,

considered projects that are as yet undeveloped. Therefore, the following summarizes the previous findings as they relate to cumulative effects.

5.5.1 Geology, Topography and Soils

As development in the area increases the existing problem of soil loss through wind erosion will ultimately be reduced to insignificance. This reduction is a direct result of project-associated landscaping and buildings which reduces the amount of exposed soil. This should be considered a beneficial aspect of development.

5.5.2 Water Resources

Development of the local area will reduce soil erosion simply by reducing the amount of exposed soil, however, the potential for creating drainage problems is created. By covering more land with impervious surfaces, rainfall does not infiltrate but, rather, runs off. The reduction in groundwater recharge on a cumulative basis is probably not significant, but the increase in runoff might be, especially during major storm events.

Because of this potential impact, the development policy of the City requires that drainage control facilities be provided prior to the implementation of development plans. In this way adequate drainage to meet growth-induced demand is ensured. Through this continued planning, impacts of this type should be adequately handled in the future.

A second issue that will become of increasing importance in the future is the availability of water. The proposed developments north of the project site will significantly increase the City's current need for domestic water supplies. The proposed Upper Cactus Basin project will provide a vehicle for reducing, but not eliminating the level of this impact. Carefully planning will be required in the future in order to insure that supply meets demand.

5.5.3 Biological Resources

The continued development in the region will result in the continued loss of wildlife habitat and local species diversity. Further, the increase in human activities will place additional stress on those species which remain after development.

5.5.4 Cultural Resources

The development of the area may require that some structures or site of local historic interest be removed or disturbed. The degree of impact which results can be controlled to a large extent through field surveys and retrieval and archival procedures.

5.5.5 Land Use

No significant cumulative land use impacts should occur in the area as developments must be reviewed for compliance with the City's General Plan. For those projects which do not conform with the General Plan, additional justification and proof of compatibility should be required.

5.5.6 Transportation/Circulation

Even with planned improvements to the local transportation network, isolated traffic problems can be expected. The nature of predicted problems include delays at intersections. A number of mitigation measures such as road widening and signalization may be available to alleviate a portion of the impact. The actual level of impact will be highly dependent on the extent of development, population growth and increased employment in the area.

5.5.7 Air Quality

The proposed project taken by itself may exceeds the SCAQMD threshold criteria for daily emissions. As additional development occurs in the area this situation will be exacerbated. This situation will require careful review of all projects to insure that overall emissions loading can be brought into agreement with the AQMP.

5.5.8 Noise

The additional developments proposed for the area will increase noise levels along local roadways due to the significant increases in traffic. The cumulative impact of these developments should, however, be confined primarily to those area immediately adjacent to transportation corridors.

5.5.9 Population

The development of the northwest area of Rialto will significantly increase the local population. The effects associated with this local growth tend will be both beneficial and adverse with most adverse effect being mitigated to insignificance through careful planning by the City and coordination with other local agencies

5.5.10 Public Services

Probably the greatest impact from the projected regional growth is in the public service areas of law enforcement, fire protection and schools. The increase in development, employment and population will dramatically increase the demand for such services. While law enforcement and fire protection can reasonably be expected to increase to meet demand, the same may not be true for school service. Development of new schools generally requires longer-term planning than other municipally supplied services. For this reason, if the Rialto population growth is too rapid, the local school districts may not be able to supply adequate service in terms of either facilities or student to teacher ratios.

The projected development patterns for the area may require expansion of the local utility systems. While the demand for utility service will be greater after development there is every indications that the existing and planned delivery networks will be able to meet the increased demand.

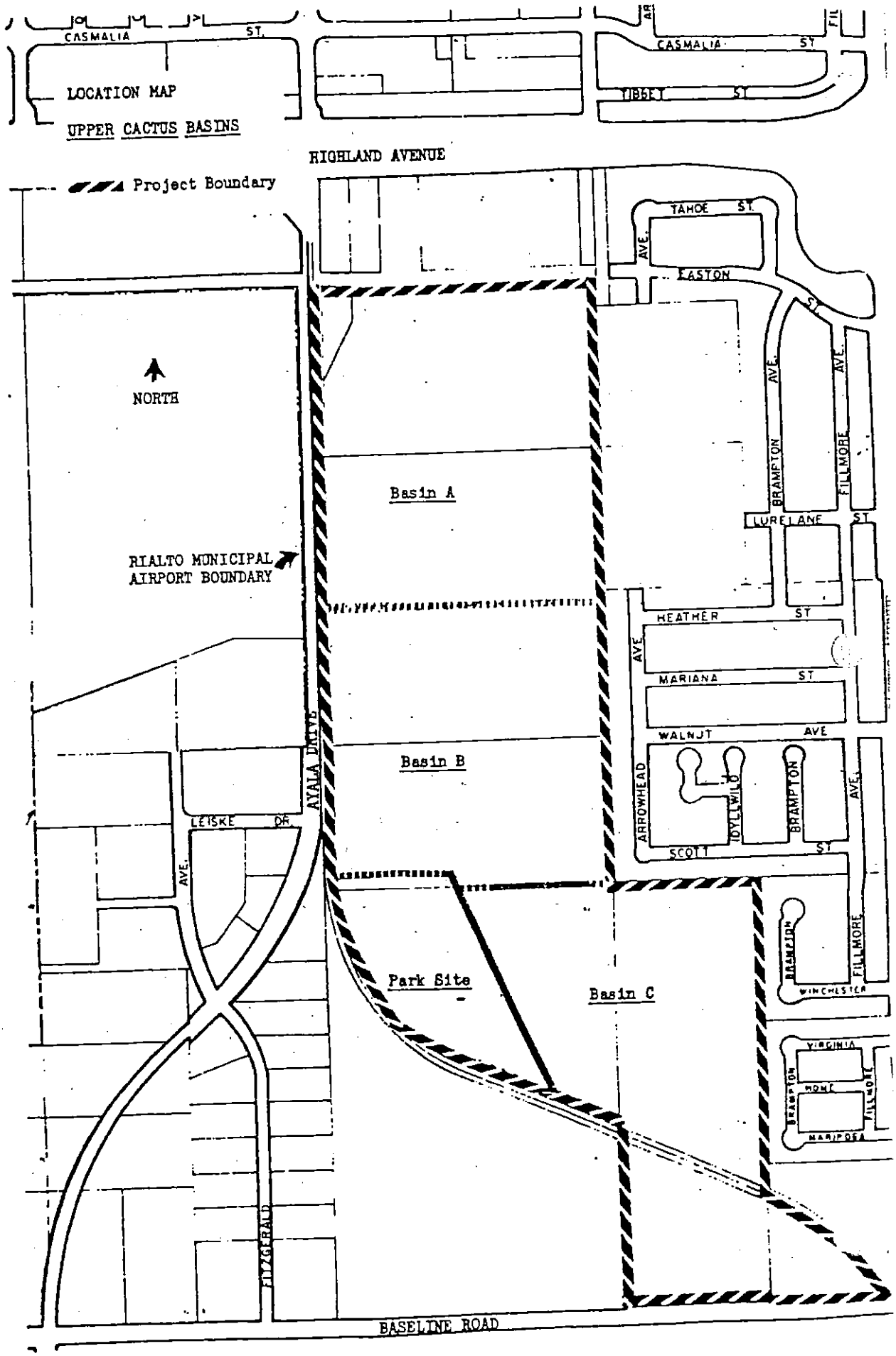
5.5.11 Human Health

The growth predicted for the area will place a large number of persons in proximity to the local landfills. The potential number of people who may

be exposed to migrating landfill gas or decomposition odors is, therefore, increased. However, as the County is implementing control systems at most landfills, it is unlikely that any substantial impact to the public will occur.

5.5.12 Visual Resources

The visual character of the area will be dramatically altered. However, based on current known development plans and the amount of landscaping which is likely to be associated with these developments the area should provide a generally pleasing visual response.


LOCATION MAP
UPPER CACTUS BASINS
Project Boundary
HIGHLAND AVENUE
CASMALIA ST.
TIBBET ST.
TAHOE ST.
EASTON ST.
NORTH
RIALTO MUNICIPAL AIRPORT BOUNDARY
Basin A
Basin B
Basin C
Park Site
AYALA DRIVE
LEISKE DR.
AVE.
FITZGERALD
BASELINE ROAD
BRAMPTON AVE.
FILLMORE AVE.
LURELANE ST.
HEATHER ST.
MARIANA ST.
WALNUT AVE.
ARROWHEAD
IDYLLWILD
SCOTT ST.
WINCHESTER
VIRGINIA
MONT
MARIPOSA

RECOMMEN! ᐧ MITIGATION:

See nex page for list of potentially significant adverse impacts.

DETERMINATION:

On the basis of this initial evaluation:

_____ I find the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

_____ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because the mitigation measures described above have been added to the project. A NEGATIVE DECLARATION WILL BE PREPARED.

__X__ I find the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

DATE: 10/5/87 ASSESSED BY: L. M. McQueen (Signature)

DATE: 10/8/87 CHAIRMAN OF EAC: L. M. McQueen (Signature)

POSSIBLE S. IFICANT ADVERSE IMPACTS
OF UPPER CA. US BASINS PROJECT (E.A.R.# 87-36)

On October 13, 1987, the Rialto Planning Commission determined that a Draft Environmental Impact Report should be prepared for the above named project, addressing at a minimum the following topics:

1. Noise impacts on neighboring residences resulting from the use of heavy trucks and the operation of excavation and aggregate mining equipment, including rock crushers.

2. Dust problems, including possible impacts on neighboring residences and on aircraft operations at Rialto Municipal Airport, which is located immediately west of the project site.

3. Truck traffic impacts on adjacent streets and elsewhere in the City of Rialto.

4. Impacts on groundwater and downstream water quality.

5. Growth inducing impacts of the project.

SECTION 6.0
ORGANIZATIONS AND PERSONS CONTACTED

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Wear, John - Herpetologist (San Diego, CA)

SECTION 7.0

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The preceding EIR was prepared by HARMSWORTH ASSOCIATES under the supervision of Rodney V. Harmsworth, Project Director, in conjunction with the City of Rialto. Although a number of persons were involved in the preparation of this document, the following lists those persons who acted as principal investigators and/or authors. Also included is a brief summary of their education and experience.

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SECTION 8.0
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APPENDIX A

INITIAL STUDY

NOTICE OF PREPARATION

TO: _____ (Responsible or interested agency)

FROM: City of Rialto (Lead Agency)

ATTENTION:

_____

_____

_____ (address)

Planning Department

150 South Palm Avenue

Rialto, California 92376 (address)

SUBJECT: NOTICE OF PREPARATION OF A DRAFT ENVIRONMENTAL IMPACT REPORT

The City of Rialto will be the Lead Agency and will prepare an Environmental Impact Report for the project identified below. We need to know the views of your agency as to the scope and content of the environmental information which is germane to your agency's statutory responsibilities in connection with the proposed project. Your agency will need to use the EIR prepared by our agency when considering your permit or other approval for the project.

The project description, location and the probable environmental effects are contained in the attached materials. A copy of the Initial Study ☒ is, ☐ is not, attached.

Due to the time limits mandated by State Law, your response must be sent at the earliest possible date but not later than 45 days after receipt of this notice.

Please send your response to Mac McQuern at the address shown above. We will need the name for a contact person in your agency.

LEVEL OF INTEREST:

☐ No interest (delete from distribution list).

☐ Minor interest (retain name on distribution list).

☐ Major interest (state key areas of your concern and any statutory permit authority) _____

PROJECT TITLE: E.A.R.# 87-36: Upper Cactus Basins Flood Control Project

PROJECT APPLICANT, IF ANY San Bernardino County Flood Control District

DATE November 4, 1987

M. McQuern
Signature

Associate Planner
Title

714/820-2535

CITY OF RIALTO

ENVIRONMENTAL ASSESSMENT RI IEW
(Initial Study)

DATE SUBMITTED: 10/2/87 DATE IF ASSESSMENT: 10/5/87

APPLICANT: San Bernardino County Flood Control District

ADDRESS & PHONE NUMBER OF APPLICANT:

825 E. Third Street, San Bernardino, CA 92415-0835 714/387-2805

PROJECT: E.A.R.# 87-36: Conditional Development Permit and Excavation and Constructio of three flood control basins and drainage facilities and preliminary park site, Rialto Flood Control Channel N/O Baseline Road

ENVIRONMENTAL IMPACTS:
(Explanations of all "yes" and "maybe" answers will be discussed in attached sheet)

	YES	MAYBE	NO
1. Earth. Will the proposal result in:			
a. Unstable earth conditions or in changes in geologic substructures?			X
b. Disruptions, displacements, compaction or overcovering of the soil?	X		
c. Change in topography or ground surface relief features?	X		
d. The destruction, covering or modification of any unique geologic or physical features?			X
e. Any increase in wind or water erosion of soils, either on or off the site?	X		
f. Changes in deposition or erosion of beach sands, or changes in siltation, deposition or erosion which may modify the channel of a river or stream or the bed of the ocean or any bay, inlet or lake?		X	
g. Exposure of people or property to geologic hazards such as earthquakes, landslides, mudslides, ground failure, or similar hazards?			X

	YES	MAYBE	NO
2. Air. Will the proposal result in:			
a. Substantial air emissions or deterioration of ambient air quality?	X		
b. The creation of objectionable odors?			X
c. Alteration of air movement, moisture or temperature, or any change in climate, either locally or regionally?			X
3. Water. Will the proposal result in:			
a. Changes in currents, or the course or direction of water movements, in either marine or fresh waters?			X
b. Changes in absorption rates, drainage patterns, or the rate and amount of surface water runoff?	X		
c. Alterations to the course or flow of flood waters?	X		
d. Change in the amount of surface water in any water body?	X		
e. Discharge into surface waters, or in any alteration of surface water quality, including but not limited to temperature, dissolved oxygen or turbidity?		X	
f. Alteration of the direction or rate of flow of ground waters?			X
g. Change in the quantity of ground waters, either through direct additions or withdrawals, or through interception of an aquifer by cuts or excavations?			X
h. Substantial reduction in the amount of water otherwise available for public water supplies?			X
i. Exposure of people or property to water related hazards such as flooding or tidal waves?		X	
4. Plant Life. Will the proposal result in:			
a. Change in the diversity of species, or number of any species of plants (including trees, shrubs, grass, crops, microflora and aquatic plants)?	X		
b. Reduction of the numbers of any unique, rare or endangered species of plants?			X

	YES	MAYBE	NO
c. Introduction of new species of plants into an area, or in a barrier to the normal replenishment of existing species?	X		
d. Reduction in acreage of any agricultural crop?			X
5. Animal Life. Will the proposal result in:			
a. Change in the diversity of species, or numbers of any species of animals (birds, land animals including reptiles, fish and shellfish, benthic organisms, insects or microfauna)?	X		
b. Reduction of the numbers of any unique, rare or endangered species of animals?			X
c. Introduction of new species of animals into an area, or result in movement of animals?			X
d. Deterioration to existing fish or wildlife habitat?			X
6. Noise. Will the proposal result in:			
a. Increase in existing noise levels?	X		
b. Exposure of people to severe noise levels?		X	
7. Light and Glare. Will the proposal produce new light or glare?			X
8. Land Use. Will the proposal result in a substantial alteration of the present or planned land use of an area?	X		
9. Natural Resources. Will the proposal result in:			
a. Increase in the rate of use of any natural resource?	X		
b. Substantial depletion of any nonrenewable natural resource?		X	
10. Risk of Upset. Does the proposal involve a risk of an explosion or the release of hazardous substances (including, but not limited to, oil, pesticides, chemicals or radiation) upset conditions?			X
11. Population. Will the proposal alter the location, distribution, density, or growth rate of the human population of an area?		X	
12. Housing. Will the proposal affect existing housing, or create a demand for additional housing?			X

	YES	MAYBE	NO
13. Transportation/Circulation. Will the proposal result in:			
a. Generation of substantial additional vehicular movement?	X		
b. Effects on existing parking facilities, or demand for new parking?			X
c. Substantial impact upon existing transportation systems?			X
d. Alterations to present patterns of circulation or movement of people and/or goods?		X	
e. Alterations to waterborne, rail or air traffic?		X	
f. Increase in traffic hazards to motor vehicles, bicyclists or pedestrians?	X		
14. Public Services. Will the proposal have an effect upon, or result in a need for new or altered governmental services in any of the following areas:			
a. Fire protection?			X
b. Police protection?	X		
c. Schools?			X
d. Parks or other recreational facilities?	X		
e. Maintenance of public facilities, including roads?		X	
f. Other governmental services?	X		
15. Energy. Will the proposal result in:			
a. Use of substantial amounts of fuel or energy?	X		
b. Substantial increase in demand upon existing sources of energy, or require the development of new sources of energy?			X
16. Utilities. Will the proposal result in a need for new systems, or substantial alterations to the following utilities:			
a. Power or natural gas?			X
b. Communications systems?			X
c. Water?			X

	YES	MAYBE	NO
d. Sewer or septic tanks?			X
e. Storm water drainage?	X		
f. Solid waste and disposal?			X
17. Human Health. Will the proposal result in:			
a. Creation of any health hazard or potential health hazard (excluding mental health)?		X	
b. Exposure of people to potential health hazards?		X	
18. Aesthetics. Will the proposal result in the obstruction of any scenic vista or view open to the public, or will the proposal result in the creation of an aesthetically offensive site open to public view?	X		
19. Recreation. Will the proposal result in an impact upon the quality or quantity of existing recreational opportunities?	X		
20. Archeological/Historical. Will the proposal result in an alteration of a significant archeological or historical site, structure, object or building?			X
21. Mandatory Findings of Significance.			
a. Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?			X
b. Does the project have the potential to achieve short-term, to the disadvantage of long-term, environmental goals? (A short-term impact on the environment is one which occurs in a relatively brief, definitive period of time while long-term impacts will endure well into the future).			X
c. Does the project have impacts which are individually limited, but cumulatively considerable? (A project may impact on two or more separate resource is relatively small, but where the effect of the total of those impacts on the environment is significant).			X

	YES	MAYBE	NO
d. Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?		X	

ENVIRONMENTAL SETTING

The project consists of a Conditional Development Permit and the gradual excavation and construction over an indefinite period of three flood control basins, appurtenant drainage facilities, and a 15-acre site to be developed by the City of Rialto as a passive park. The overall 140-acre site is located in the Rialto Flood Control Channel, just north of Baseline Road and west of Cactus Avenue. Most excavation work in the basin closest to Baseline Road (Basin C) has been done previously, leaving only shaping and construction of drainage facilities, plus preliminary preparation of the park site to be located on the western edge of Basin C. Final excavation of Basin C and excavation of Basins A and B to the north will be done under contract by the Flood Control District with private excavators. Up to 1 million cubic yards of material will be involved over a period of a few years, depending on demand for aggregate materials. Onsite soils are mainly Tujunga gravelly loamy sand, which has slight to moderate wind erosion potential. The site generally slopes to the south and southeast and contains several natural watercourses for flood waters. Vegetation is limited to sparse grasses, weeds, shrubs and a few trees. Animal life includes common birds, rodents, reptiles and small mammals. The site contains no known rare or endangered plant or animal specie, nor does it contain anything of known cultural, historical or archeological significance. The proposed project site is under public ownership and is therefore consistent with the Open Space-Flood Control designation of the General Plan and with the R-1C zoning, which permits public uses. Mining of the aggregate resources and removal of fill material from the site requires a Conditional Development Permit

(Continued on Next Page)

approved by the Planning Commission. The project site, which borders the east side of Ayala Drive, is located just east of Rialto Municipal Airport. All three basins are within Safety Area Three of the airport and the western portions of Basins A and B are located within Safety Areas One and Two. Other uses surrounding the project site include existing single-family residences to the east, vacant flood control land to the south, vacant land zoned for restricted light manufacturing to the southwest and west, and single-family residential and vacant residential land to the north across Highland Avenue. Vacant single-family residential land is located to the northeast. The project site is with a regionally-significant aggregate resource area as designated by the California Mining and Geology Board (Sector B-6 in the San Bernardino Production-Consumption Region). The site plan submitted by the applicant is preliminary and has not been formally approved by the Flood Control District, although subsequent changes are not expected to be extensive or to have significant environmental impacts.

ENVIRONMENTAL IMPACTS/ANALYSIS

1(b) and (c) SOIL DISRUPTION AND TOPOGRAPHY: The pr ect would include the excavation of approximately 1 million cubic yards of s d, gravel, rock and soil over an undetermined period of time. Up to 40 feet of material would be removed from existing ground surface levels at various points in the basins.

1(e) SOIL EROSION: Excavation and quarrying operations at the site would generate dust which could be a problem for surrounding land uses, especially single-family residences to the east and along streets used by trucks carrying materials from the site.

1(f) DOWNSTREAM IMPACTS: See Item 3, WATER, below.

2(a) AIR POLLUTION: Emissions from heavy equipment used in excavation and mining operations, plus emissions from heavy trucks traveling to and from the site will incrementally increase combustion-related emissions and air pollution levels in the local area and in the region. Particulate emissions at the site and dust blowing from transport trucks would incrementally increase this type of contaminant, especially in the area immediately surrounding the project site.

3 WATER: The excavation and eventual construction of flood control structures and facilities in the basins would significantly improve the overall flood control function of the channel. Unclear is the impact of the project on downstream water quality parameters during excavation, construction of associated drainage facilities and afterward when the project is functioning as a flood control facility. The nature, degree, and significance of these impacts, if any, require additional analysis.

4 & 5 PLANTS AND ANIMALS: Existing plants and animal life on the site would be eliminated by the project.

6 NOISE: The operation of aggregate mining equipment and trucks, as well as the later construction noise, would increase noise levels at the currently

(Continued on Next Page)

vacant site. Constr tion equipment used to build an overflow channel on the east side of Basins A and B would be operating within 30 of the rear property line of single-family residences just east of the project site. Work on basin excavation would begin within 100 feet of the residences. Noise impacts at residences to the east would be significantly increased if rock crushing operations were necessary. The overall noise impacts of the project, particularly on neighboring residences, have not been determined.

8 LAND USE: The project would expand and increase the efficiency of the site's current use and would be consistent with the site's zoning and General Plan designations. The project also would increase recreational use of the area.

9 & 15 NATURAL RESOURCES AND ENERGY: The project would provide fill as well as aggregate building materials needed for construction projects in the local and regional areas. Once excavation is completed, these nonrenewable resources will be depleted, although sufficient reserves exist elsewhere. The project will consume oil, fuel, electricity and various types of other resources during the excavation and physical development phases.

11 POPULATION: No residential or other structures exist on the site and no residences or other buildings are proposed. To the extent that improved flood control enables development to take place in the City, the project would indirectly contribute to the population growth and housing demand in the City. The project would have no effect directly on either housing or population.

13 (a)(d) & (f) TRAFFIC: Excavation work would be conducted under permits issued by the San Bernardino County Flood Control District to contractors and developers based on demand for earth fill and aggregate materials. The type and number of trucks and consequent impacts on the surrounding road system would vary with each mining permit issued. Further analysis is needed to determine a "worst case" impact on traffic circulation and to suggest mitigation measures, if needed.

13(e) AIR TRAFFIC: The northwest portion of the project site lies within either Safety Area One or Two of the Rialto Municipal Airport, as defined in the Interim East Valley Airport Land Use Plan. As such, review of the project is required by the Rialto Airport Land Use Commission (ALUC) and the East Valley ALUC of San Bernardino County. The object of these reviews would be to determine the impacts, if any, which the project might have on the safety of aircraft operations at the airport.

14 PUBLIC SERVICES: The project would incrementally increase demand for police services to regulate project-related traffic, protect equipment used at the site, etc. The project also would create a new 15-acre park site for passive uses such as ball fields, picnic areas, hiking and riding trails and other uses which are not materially damaged by flooding. Road maintenance and other public services also would increase incrementally.

16(e) STORM DRAINAGE: Completion of the project would significantly improve flood control within the City .

17 HUMAN HEALTH: Excessive dust raised during xcavation and transport would create short-term health impacts for operators of mining equipment, truck operators and persons along transportation routes used by trucks hauling the mined materials. This impact could be reduced to insignificant levels by use of fugitive dust control practices on and off the site.

18 AESTHETICS: Basin C located just north of Baseline Road already has been largely excavated and the aesthetic effect of work in this basin would be minor. The open space nature of the Basin A and B sites farther north would be replaced with open pits and related drainage facilities, and with views of industrial activities while excavation work is underway.

19 RECREATION: See Item 14, PUBLIC SERVICES.

21(d) ADVERSE EFFECTS: The project has the potential of adversely affecting persons living in the City, particularly those living in homes just east of the project site, in terms of noise and fugitive dust. Other potentially adverse impacts include impacts on aircraft at Rialto Municipal Airport and the adverse impacts of population growth which may or may not be induced by the project. These potential effects should be identified and weighed against the known beneficial impacts of the project, including improved flood control, creation of a new City park, and the direct and indirect economic benefits which the mining of aggregate resources would provide.

APPENDIX B

NOTICE OF PREPARATION
AND
DISTRIBUTION LIST

STATE OF CALIFORNIA—OFFICE OF THE GOVERNOR

GEORGE DEUKMEJIAN, Governor

OFFICE OF PLANNING AND RESEARCH
1400 TENTH STREET
SACRAMENTO, CA 95814

RECEIVED
By _____
NOV 19 1987
CITY OF RIALTO
PLANNING DEPT.

DATE: November 13, 1987

TO: Reviewing Agencies

RE: The City of Rialto's NOP for
Upper Cactus Basins Flood Control Project
SCH# 87110914

Attached for your comment is the City of Rialto's Notice of Preparation of a draft Environmental Impact Report (EIR) for the Upper Cactus Basins Flood Control Project.

Responsible agencies must transmit their concerns and comments on the scope and content of the EIR, focusing on specific information related to their own statutory responsibility, within 30 days of receipt of this notice. We encourage commenting agencies to respond to this notice and express their concerns early in the environmental review process.

Please direct your comments to:

Mac McQuern
150 South Palm Avenue
Rialto, CA 92376

with a copy to the Office of Planning and Research. Please refer to the SCH number noted above in all correspondence concerning this project.

If you have any questions about the review process, call John Keene at 916/445-0613.

Sincerely,

David C. Nunenkamp
Chief
Office of Permit Assistance

Attachments

cc: Mac McQuern

Genevieve Shiroma
Air Resources Board
1102 Q Street
Sacramento, CA 95814
916/322-9667

Barbara Kierbow
Dept. of Boating & Waterways
1629 H Street
Sacramento, CA 95814
916/445-6281

Gary L. Holloway
California Coastal Commission
631 Howard Street, 4th Floor
San Francisco, CA 94105
415/543-8555

Sharron Taylor
California Energy Commission
1516 Ninth Street, Rm. 200
Sacramento, CA 95814
916/324-3231

Sandy Bennard
Caltrans - Division of Aeronautics
P.O. Box 942874
Sacramento, CA 94274-0001
916/324-0761

Ron Helgeson
Caltrans - Planning
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Sacramento, CA 94274-0001
916/445-5570

Dennis O'Bryant
Dept. of Conservation
1416 Ninth Street, Room 1326-2
Sacramento, CA 95814
916/322-5873

- Div. of Mines and Geology
- Div. of Oil and Gas
- Land Resources Protect. Unit

Yoshuk Cervinka
Dept. of Food and Agriculture
1220 N Street, Room 104
Sacramento, CA 95814
916/322-5227

Douglas Wickizer
Dept. of Forestry
1416 Ninth Street, Room 1516-2
Sacramento, CA 95814
916/322-0128

James Hargrove
Dept. of General Services
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Sacramento, CA 95814
916/324-0209

Allen Wyatt
Dept. of Health
714 P Street, Room 1253
Sacramento, CA 95814
916/324-6525

Sgt. Mike Goshorn
California Highway Patrol
Long Range Planning Section
Planning and Analysis Division
P.O. Box 898
Sacramento, CA 95804
916/445-1081

William A. Johnson
Native American Heritage Comm.
915 Capitol Mall, Room 288
Sacramento, CA 95814
916/322-7791

Dave Kreutzberg
Office of Historic Preservation
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Sacramento, CA 94296-0001
916/322-9621

Mike Doyle
Dept. of Parks and Recreation
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George Barth
Public Utilities Commission
505 Van Ness Avenue
San Francisco, CA 94102
415/557-1375 (8-997)

William P. Vaughn, Jr.
Public Works Board
1025 P Street, 4th Floor
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916/445-5532

Hal Schwartz
Reclamation Board
1416 Ninth Street Room 204-6
Sacramento, CA 95814
916/445-2458

Morris Williams
S.F. Bay Conservation & Dev't. Comm.
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San Francisco, CA 94102
415/557-3686

Cy Armstrong
Calif. Waste Management Board
1020 Ninth Street, Room 300
Sacramento, CA 95814
916/322-2674

Ted Fukushima
State Lands Commission
1807 - 13th Street
Sacramento, CA 95814
916/322-7813

Robert Guyer
Dept. of Water Resources
1416 Ninth Street, Room 215-4
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Reed Holderman
State Coastal Conservancy
1330 Broadway, Suite 1100
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415/464-1015

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District [illegible]
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Eureka, CA 95501
707/445-6320

Michelle Gallagher
Department of Transportation
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916/225-3259

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Jerry Lemmer
Department of Transportation
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805/549-3161

Nathan Smith
Department of Transportation
District 6
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209/488-4088

Wayne Ballantine
Department of Transportation
District 7
120 South Spring Street
Los Angeles, CA 90012
213/620-5395

Guy Tisdal
Department of Transportation
District 8
247 West Third Street
San Bernardino, CA 92403
714/383-4957

Tom Dupuis
Department of Transportation
District 9
503 South Main Street
Bishop, CA 93514
619/873-8411

Terri Harris
Department of Transportation
District 10
P.O. Box 2048
Stockton, CA 95201
209/948-7112

Jim Cheshire
Department of Transportation
District 11
P.O. Box [illegible]
2829 Juan [illegible]
San Diego, [illegible] 92138-5406
714/237-6795

[illegible] Department of Fish and Game
601 Locust
Redding, CA 96001
916/225-2300

Jim Rosensmith, Regional Manager
Department of Fish & Game
1701 Nimbus Road, Suite A
Rancho Cordova, CA 95670
916/355-0922

B. Hunter, Regional Manager
Department of Fish and Game
P.O. Box 47
Yountville, CA 94599
707/944-2011

G. Bakes, Regional Manager
Department of Fish and Game
1234 East Shaw Avenue
Fresno, CA 93710
209/222-3761

Fred A. Worthley, Jr., Reg. Manager
Department of Fish and Game
245 West Broadway, Suite 350
Long Beach, CA 90802
213/590-5113

Ralf R. Hall
Marine Resources Region
245 West Broadway, Suite 350
Long Beach, CA 90802
213/590-5155

State Water Resources Control Board

Joan Jaramillo
State Water Resources Control Board
Division of Clean Water Grants
P.O. Box 100
Sacramento, CA 95801
916/322-3413

Bill Auten
State Water Resources Control Board
Division of Water Quality
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Sacramento, CA 95801

Dave Beringer
State Water Resources Control Board
Delta Unit
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Sacramento, CA 95810
916/322-9870

Al Tang
State Water Resources Control Board
Division of Water Rights
901 P Street
Sacramento, CA 95814
916/324-8716

Regional Water Quality Control Board

NORTH COAST REGION (1)
1440 Guerneville Rd.
Santa Rosa, CA 95401
707/576-2220

Oakland, CA 94607
415/464-[illegible]

CENTRAL COAST REGION (3)
1102-A Laurel Lane
San Luis Obispo, CA 93401
805/549-3147

LOS ANGELES REGION (4)
107 South Broadway, Room 4027
Los Angeles, CA 90012
213/620-4460

CENTRAL VALLEY REGION (5)
3443 Routier Road
Sacramento, CA 95827-3098
916/361-5600

Fresno Branch Office
3374 East Shields Avenue, Rm
Fresno, CA 93726
209/445-5116

Redding Branch Office
100 East Cypress Avenue
Redding, CA 96002
916/225-2045

LAHONTAN REGION (6)
2092 Lake Tahoe Boulevard
P.O. Box 9428
South Lake Tahoe, CA 95731
916/544-3481

Victorville Branch Office
15371 Barnham Road
Victorville, CA 92392-2494
619/245-6583

COLORADO RIVER BASIN REGION (7)
73-271 Highway 111, Suite 21
Palm Desert, CA 92260
619/346-7491

SANTA ANA REGION (8)
6809 Indiana Avenue, Suite 200
Riverside, CA 92506
714/782-4130

SAN DIEGO REGION (9)
9771 Clairemont Mesa Blvd., Suite 1
San Diego, CA 92124-1331
619/265-5114

OTHER: _____

APPENDIX C

COMMENTS RECEIVED
ON
NOTICE OF PREPARATION

ATE OF CALIFORNIA—BUSINESS, TRANSPORTATION AND HOUSING AGENCY

GEORGE DEUKMEJIAN, Governor

DEPARTMENT OF TRANSPORTATION
IVISION OF AERONAUTICS
130 K STREET - 4th FLOOR
P.O. BOX 942873
AMENTO, CA 94273-0001
16) 322-3090
D (916) 323-7665

RECEIVED
By
DEC 28 1987
CITY OF RIALTO
PLANNING DEPT.

December 22, 1987

Mr. Mac McQuern
150 South Palm Avenue
Rialto, CA 92376

Dear Mr. McQuern:

The City of Rialto's NOP for the Upper Cactus Basin Flood Control Project Adjacent to Rialto Municipal Airport; SCH# 87110914

The Department of Transportation, Division of Aeronautics, has reviewed the above-referenced document with respect to those areas germane to its statutory responsibilities pursuant to CEQA. The following comments are offered for your consideration.

Because of the close proximity of the project site to the airport, the environmental document should consider airport-related safety impacts on the project and the project's potential impact on airport operations. Consideration given to the issue of compatible land uses in the vicinity of an airport should help to relieve future conflict between airports and their surroundings.

Thank you for the opportunity to review and comment on this proposal. We look forward to reviewing future environmental documentation on this project.

Sincerely,

JACK D. KEMMERLY, Chief
Division of Aeronautics

Dick Hesnard
for Sandy Hesnard
Environmental Planner

cc: Rialto Municipal Airport
San Bernardino County ALUC
State Clearinghouse

STATE OF CALIFORNIA—THE RESOURCES AGENCY GEORGE DEUKMEJIAN, Governor

DEPARTMENT OF FISH AND GAME

245 W. Broadway, Suite 350
Long Beach, CA 90802-4467
(213) 590-5113

RECEIVED By _____
DEC 21 1987
CITY OF RIALTO
PLANNING DEPT.

December 18, 1987

Mac McQuern
City of Rialto
Planning Department
150 South Palm Avenue
Rialto, CA 92376

Dear Mr. McQuern:

We have reviewed the Notice of Preparation of a Draft EIR for the Upper Cactus Basins Flood Control Project (SCH 87110914). To enable our staff to adequately review and comment on this project, we recommend the following information be included in the Draft EIR:

1. A complete assessment of flora and fauna within the project area should be provided. Particular emphasis should be placed upon identifying endangered, threatened, and locally unique species. Of special concern to us are the slender-horned spineflower (Centrostegia leptoceras) and the Santa Ana River woolly-star (Eriastrum densifolium ssp. sanctorum).

2. Documentation of direct, indirect, and cumulative impacts expected to adversely affect biological resources within and adjacent to the project site. Mitigation measures proposed to offset such impacts should be included.

3. Assessment of growth-inducement factors attributable to the project potentially affecting natural open space and biological resources. Also include the setting aside of natural open space in sufficient acreage to provide habitat for native wildlife and landscape programs including native trees and shrubs to provide habitat for wildlife.

Diversion or obstruction of the natural flow or changes in the channel, bed, or bank of any river, stream, or lake will require notification to the Department of Fish and Game as called for in the Fish and Game Code. Notification should be made after the project is approved by the lead agency.

Thank you for the opportunity to review and comment on this Notice of Preparation. If you have any questions, please contact Jack L. Spruill of our Environmental Services staff at (213) 590-5137.

Sincerely,

K. R. Anderson

47 Fred Worthley
Regional Manager
Region 5

cc: Office of Planning & Research

STATE OF CALIFORNIA

GEORGE DEUKMEJIAN, Governor

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SANTA ANA REGION
1809 INDIANA AVENUE, SUITE 200
RIVERSIDE, CALIFORNIA 92506
PHONE: (714) 782-4130

November 24, 1987

RECEIVED
By_____
NOV 30 1987
CITY OF RIALTO
PLANNING DEPT.

Mac McQuern
Planning Department
150 South Palm Avenue
Rialto, CA 92376

NOP: E.A.R. #87-36: UPPER CACTUS BASINS FLOOD CONTROL PROJECT, SCH #87110914

Dear Mr. McQuern:

We have reviewed the Notice of Preparation (NOP) for the Upper Cactus Basins Flood Control Project.

We are concerned about the possible adverse impacts this project may have on ground water and downstream water quality. We note that the Draft Environmental Impact Report (DEIR) will address these concerns. In addition, the DEIR should also address the potential long-term impacts this project may have on downstream water quality, as well as the mitigation measures needed for any adverse impacts identified.

We look forward to reviewing the DEIR when it becomes available.

Sincerely,

Nancy A. Olson

Nancy A. Olson
Sanitary Engineering Technician

cc: John Keene, Office of Planning and Research

NAO:eyp

ATE OF CALIFORNIA—BUSINESS, TRANSPORTATION AND HOUSING AGENCY

GEORGE DEUKMEJIAN, Governor

ARTMENT OF TRANSPORTATION
DISTRICT 8, P.O. BOX 231
BERNARDINO, CA 92402
(714) 383-4609

November 16, 1987

RECEIVED
By
NOV 18 1987
CITY OF RIALTO
PLANNING DEPT.

Mr. L. M. MacQuern
Department of Planning
City of Rialto
150 South Palm Avenue
Rialto, CA 92376

Dear Mr. MacQuern:

This is in response to the Notice of Preparation of a Draft Environmental Impact Report for EAR #87-36 Upper Cactus Basins Flood Control Project.

We would appreciate the opportunity to review and comment on the proposed DEIR in order to evaluate possible impacts to the transportation system, particularly State Highways 30 and 66.

Care is to be taken when developing this property to preserve and perpetuate the existing drainage pattern of the State highway. Particular consideration must be given to cumulative increased storm runoff to insure that a highway drainage problem is not created.

We urge early and continuous liaison with Caltrans on proposed plans as they affect State highways.

If you have any questions, please contact Richard Dennis at (714) 383-4166.

Very truly yours,

GUY G. VISBAL
Chief, Transportation Planning Branch

San Bernardino Valley Municipal Water District
1350 SOUTH "E" STREET - P.O. BOX 5906 - SAN BERNARDINO, CALIFORNIA 92412-5906 - (714) 824-2200
(714) 889-0433

November 9, 1987

RECEIVED By
NOV 10 1987
CITY OF RIALTO
PLANNING DEPT.

Mr. Mac McQueron
City of Rialto Planning Department
150 South Palm Avenue
Rialto, CA 92376

Dear Mr. McQueron:

The San Bernardino Valley Municipal Water District operates a groundwater recharge facility at the corner of Linden Avenue and Riverside Drive in North Rialto. The water for this operation comes either from the State Water Project (Northern California) or from local native water within the District.

We are desirous of expanding our capability to spread water in the northern part of the Colton-Rialto groundwater basin and would like to have a section on groundwater recharge added to the EIR currently being prepared for the Cactus Basin Flood Control Project.

The District would propose to use only the Northern Basin for recharge which would be done under a permit from the San Bernardino County Flood Control District (SBCFCD). The maximum flow rate that would be put into the basin would be 60 cubic feet per second or approximately 27,000 gpm. Annual amounts of water for recharge would range from a low level of approximately 5,000 acre-feet to an upper limit of approximately 35,000 acre-feet. Recharge timing would be scheduled through the Flood Control District so as not to interfere with their flood management programs. The District would also propose to fence the area where water spreading would be done.

The District believes that there are no adverse environmental impacts caused by artificial groundwater recharge in the Colton-Rialto basins and, in fact, recharge has a positive affect on groundwater levels.

If you have any questions please feel free to contact me.

Sincerely,

STEPHEN P. STOCKTON
Operations Manager/Engineer

SPS:jg
cc: William Katona, Director, Division I
Lewis S. Neeb, P.E., SBCFCD

City of Fontana
CALIFORNIA

November 17, 1987

RECEIVED By_____
NOV 30 1987
CITY OF RIALTO
PLANNING DEPT.

Mac McQuern
Planning Department
City of Rialto
150 South Palm avenue
Rialto, CA 92376

Subject: Response to NOP for Upper Cactus Basins Flood Control Project

Dear Mr. McQuern:

We have reviewed the Notice of Preparation for the Upper Cactus Basins Flood Control Project. We recommend that the following information be included in the Draft EIR:

1. The potential surface and groundwater effects, if any, of project implementation upon the City of Fontana;

2. The probable effects of heavy truck traffic on surface streets within the City of Fontana, including a) projected average daily traffic volumes and b) possible physical impact on Fontana-maintained roadways.

3. The possible air quality impacts upon Fontana residents of dust generated by the project, especially during Santa Ana or other westerly wind conditions.

Thank you for the opportunity for review and comment on this NOP. If you have any questions, please contact Joanne Pease at (714) 350-7628.

Sincerely,

Ernie Perea

Ernie Perea
Assistant Director, Advanced Planning

JP:RialtoFCNOP

8353 SIERRA AVENUE (P.O. BOX 518) FONTANA, CALIFORNIA 92335 (714) 350-7800

LAND MANAGEMENT DEPARTMENT

35 North Arrowhead Avenue • San Bernardino, CA 92415-0180 • (714) 387-4091

COUNTY OF SAN BERNARDINO
ENVIRONMENTAL
PUBLIC WORKS AGENCY

JOHN N. JAQUES
Land Management Director

OFFICE OF PLANNING
Sharon W. Hightower
County Planning Officer

OFFICE OF SURVEYOR
Claude D. Tomlinson, L.S.
County Surveyor

OFFICE OF BUILDING AND SAFETY
Larry L. Schoelkopf, P.E.
County Building Official

December 23, 1987

RECEIVED
By _____
DEC 29 1987

CITY OF RIALTO
PLANNING DEPT.

Planning Department
City of Rialto
150 S. Palm Avenue
Rialto CA 92376

RE: Notice of Preparation, E.A.R. #87-36: Upper Cactus Basins Flood Control Project

We have no comment in response to your Notice of Preparation, but we would like a copy of the Draft EIR when it is available.

EPWA/LAND MANAGEMENT DEPARTMENT
OFFICE OF PLANNING

Michael K. Lerch

MICHAEL K. LERCH, SENIOR PLANNER
ENVIRONMENTAL ANALYSIS TEAM

MKL:vy

Board of Supervisors
JOHN JOYCE
First District
BARBARA TRUJILLO
LARRY WALKER

NOTICE OF PREPARATION

RECEIVED
By
NOV 5 1987

TO: _____ FROM: City of Rialto
(Responsible or interested agency) (Lead Agency)

ATTENTION:

CITY OF RIALTO
PLANNING DEPT.

Colton Joint Unified School Dist
1212 Valencia Avenue
Colton, CA 92324

Planning Department
150 South Palm Avenue
Rialto, California 92376
(address)

SUBJECT: NOTICE OF PREPARATION OF A DRAFT ENVIRONMENTAL IMPACT REPORT

The City of Rialto will be the Lead Agency and will prepare an Environmental Impact Report for the project identified below. We need to know the views of your agency as to the scope and content of the environmental information which is germane to your agency's statutory responsibilities in connection with the proposed project. Your agency will need to use the EIR prepared by our agency when considering your permit or other approval for the project.

The project description, location and the probable environmental effects are contained in the attached materials. A copy of the Initial Study [x] is, [ ] is not, attached.

Due to the time limits mandated by State Law, your response must be sent at the earliest possible date but not later than 45 days after receipt of this notice.

Please send your response to Mac McQuern at the address shown above. We will need the name for a contact person in your agency.

LEVEL OF INTEREST:

[ ] No interest (delete from distribution list).

[x] Minor interest (retain name on distribution list). this project is not within the Colton Joint Unified School Dist

[ ] Major interest (state key areas of your concern and any statutory permit authority) —

Kent Van Belden
Facilities Coordinator

PROJECT TITLE: E.A.R.# 87-36: Upper Cactus Basins Flood Control Project

PROJECT APPLICANT, IF ANY San Bernardino County Flood Control District

DATE November 4, 1987

M. McQuern
Signature

Associate Planner
Title

714/820-2535
Telephone

NOTICE OF PREPARATION

RECEIVED

TO: _____ By _____ FROM: City of Rialto
(Responsible or interested agency) NOV 9 1987 (Lead Agency)

ATTENTION:

CITY OF RIALTO
PLANNING DEPT.

Rialto Unified School Dist.
182 East Walnut Avenue
Rialto, CA 92376

(address)

Planning Department
150 South Palm Avenue
Rialto, California 92376
(address)

SUBJECT: NOTICE OF PREPARATION OF A DRAFT ENVIRONMENTAL IMPACT REPORT

The City of Rialto will be the Lead Agency and will prepare an Environmental Impact Report for the project identified below. We need to know the views of your agency as to the scope and content of the environmental information which is germane to your agency's statutory responsibilities in connection with the proposed project. Your agency will need to use the EIR prepared by our agency when considering your permit or other approval for the project.

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Due to the time limits mandated by State Law, your response must be sent at the earliest possible date but not later than 45 days after receipt of this notice.

Please send your response to Mac McQuern at the address shown above. We will need the name for a contact person in your agency.

LEVEL OF INTEREST:

☒ No interest (delete from distribution list). Lois Stansel Facilities Planner

☐ Minor interest (retain name on distribution list).

☐ Major interest (state key areas of your concern and any statutory permit authority) —

PROJECT TITLE: E.A.R.# 87-36: Upper Cactus Basins Flood Control Project

PROJECT APPLICANT, IF ANY San Bernardino County Flood Control District

DATE November 4, 1987

M. McQuern
Signature

Associate Planner
Title

714/820-2535

NOTICE OF PREPARATION

TO: _____
(Responsible or interested agency)

FROM: City of Rialto
(Lead Agency)

RECEIVED
By _____
NOV 9 1987
CITY OF RIALTO
PLANNING DEPT.

ATTENTION:

Pacific Bell
3939 Coronado Street
Anaheim, California 92807

Planning Department
150 South Palm Avenue
Rialto, California 92376
(address)

SUBJECT: NOTICE OF PREPARATION OF A DRAFT ENVIRONMENTAL IMPACT REPORT

The City of Rialto will be the Lead Agency and will prepare an Environmental Impact Report for the project identified below. We need to know the views of your agency as to the scope and content of the environmental information which is germane to your agency's statutory responsibilities in connection with the proposed project. Your agency will need to use the EIR prepared by our agency when considering your permit or other approval for the project.

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Please send your response to Mac McQuern at the address shown above. We will need the name for a contact person in your agency.

LEVEL OF INTEREST:

☐ No interest (delete from distribution list).

☒ Minor interest (retain name on distribution list).

☐ Major interest (state key areas of your concern and any statutory permit authority) —

Pacific Bell Contact
Jo McCard
Phone #714-666-5716

PROJECT TITLE: E.A.R.# 87-36: Upper Cactus Basins Flood Control Project

PROJECT APPLICANT, IF ANY San Bernardino County Flood Control District

DATE November 4, 1987

M. McQuern
Signature

Associate Planner
Title

714/820-2535
Telephone

CITY OF SAN BERNARDINO 300 NORTH "D" STREET, SAN BERNARDINO, CALIFORNIA 92418

RECEIVED
By_____
NOV 1 0 1987
CITY OF RIALTO
PLANNING DEPT.

November 9, 1987

Mr. Mac McQuern
City of Rialto
150 South Palm Avenue
Rialto, CA 92376

Dear Mr. McQuern:

Thank you for the opportunity to comment on the preparation of a draft Environmental Impact Report for the Upper Cactus Basins Flood Control Project. At this time the City has no comments, but would like to remain on the distribution list.

Sincerely,

Valerie C. Ross

VALERIE C. ROSS
Associate Planner

csj

PRIDE IN PROGRESS

NOTICE OF PREPARATION

FROM: City of Rialto
(Responsible or interested agency) (Lead Agency)

ATTENTION:

RECEIVED By

Santa Fe Railroad
1170 West 3rd Street
San Bernardino, CA 92410

NOV 10 1987

CITY OF RIALTO
PLANNING DEPT.

Planning Department
150 South Palm Avenue
Rialto, California 92376
(address)

SUBJECT: NOTICE OF PREPARATION OF A DRAFT ENVIRONMENTAL IMPACT REPORT

The City of Rialto will be the Lead Agency and will prepare an Environmental Impact Report for the project identified below. We need to know the views of your agency as to the scope and content of the environmental information which is germane to your agency's statutory responsibilities in connection with the proposed project. Your agency will need to use the EIR prepared by our agency when considering your permit or other approval for the project.

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Due to the time limits mandated by State Law, your response must be sent at the earliest possible date but not later than 45 days after receipt of this notice.

Please send your response to Mac McQuern at the address shown above. We will need the name for a contact person in your agency.

LEVEL OF INTEREST:

[ ] No interest (delete from distribution list).

[x] Minor interest (retain name on distribution list).

[ ] Major interest (state key areas of your concern and any statutory permit authority) —

PROJECT TITLE: E.A.R.# 87-36: Upper Cactus Basins Flood Control Project

PROJECT APPLICANT, IF ANY San Bernardino County Flood Control District

DATE November 4, 1987

M. McQuern
Signature

Associate Planner
Title

714/820-2535
Telephone

NOV 1987
RECEIVED

BOARD OF DIRECTORS
ROGER W. ZIMMERMAN
PRESIDENT
OLIVER P. ROEMER
VICE PRESIDENT
FRANCES H. HACKER
ROBERT A. SCHERER
JOHN S. TAYLOR

West San Bernardino
County Water District
855 WEST BASE LINE
P. O. BOX 920
RIALTO, CALIFORNIA 92376
PHONE (714) 875-1804

ADMINISTRATIVE STAFF
IRA B. PACE
GENERAL MANAGER-SECRET
JOAN A. PETERSON
AUDITOR-OFFICE MANAGER
ANTHONY W. ARAIZA
SUPERINTENDENT
SANDRA WARD
ADMINISTRATIVE SECRETARY

November 10, 1987

RECEIVED
BY _____
NOV 12 1987
CITY OF RIALTO
PLANNING DEPT.

City of Rialto
Planning Department
150 South Palm Avenue
Rialto, CA 92376

Attention: Mac McQuern

Reference: EIR # 87-36: Upper Cactus Basins Flood Control Project

In response to the notice of preparation of a draft EIR for the above project, the West San Bernardino County Water District has a major interest in the impact on groundwater and water quality.

The contact person for the District is Ira B. Pace, General Manager. He can be reached at 875-1804, or P. O. Box 920, Rialto, CA. 92376.

If we can be of any assistance, please let us know.

Yours truly,

WEST SAN BERNARDINO COUNTY WATER DISTRICT

Sandra L. Ward

Sandra Ward
Administrative Secretary

se

NOTICE OF PREPARATION

TO: _____ (Responsible or Interested agency)

FROM: City of Rialto (Lead Agency)

ATTENTION:

Southern Ca. Edison Co.
P.O. Box 788
Rialto, CA 92376

RECEIVED By _____ NOV 17 1987 CITY OF RIALTO PLANNING DEPT.

Planning Department
150 South Palm Avenue
Rialto, California 92376
(address)

SUBJECT: NOTICE OF PREPARATION OF A DRAFT ENVIRONMENTAL IMPACT REPORT

The City of Rialto will be the Lead Agency and will prepare an Environmental Impact Report for the project identified below. We need to know the views of your agency as to the scope and content of the environmental information which is germane to your agency's statutory responsibilities in connection with the proposed project. Your agency will need to use the EIR prepared by our agency when considering your permit or other approval for the project.

The project description, location and the probable environmental effects are contained in the attached materials. A copy of the Initial Study ☑ is, ☐ is not, attached.

Due to the time limits mandated by State Law, your response must be sent at the earliest possible date but not later than 45 days after receipt of this notice.

Please send your response to Mac McQuern at the address shown above. We will need the name for a contact person in your agency.

LEVEL OF INTEREST:

☑ No interest (delete from distribution list).

☐ Minor interest (retain name on distribution list).

☐ Major interest (state key areas of your concern and any statutory permit authority) _____

PROJECT TITLE: E.A.R.# 87-36: Upper Cactus Basins Flood Control Project

PROJECT APPLICANT, IF ANY San Bernardino County Flood Control District

DATE November 4, 1987

M. McQuern
Signature

Associate Planner
Title

714/820-2535
Telephone

NOTICE OF PREPARATION

RECEIVED By _____ D

NOV 2 4 1987

CITY OF RIALTO
PLANNING DEPT.

TO: Bruce E. Cash, Manager
(Respo .ible or interested agency)

FROM: City of Rialto
(Lead Agency)

ATTENTION:

Fontana Water Company
P.O. Box 987
Fontana, CA 92335

Planning Department
150 South Palm Avenue
Rialto, California 92376
(address)

SUBJECT: NOTICE OF PREPARATION OF A DRAFT ENVIRONMENTAL IMPACT REPORT

The City of Rialto will be the Lead Agency and will prepare an Environmental Impact Report for the project identified below. We need to know the views of your agency as to the scope and content of the environmental information which is germane to your agency's statutory responsibilities in connection with the proposed project. Your agency will need to use the EIR prepared by our agency when considering your permit or other approval for the project.

The project description, location and the probable environmental effects are contained in the attached materials. A copy of the Initial Study ☒ is, ☐ is not, attached.

Due to the time limits mandated by State Law, your response must be sent at the earliest possible date but not later than 45 days after receipt of this notice.

Please send your response to Mac McQuern at the address shown above. We will need the name for a contact person in your agency.

LEVEL OF INTEREST:

☐ No interest (delete from distribution list).

☒ Minor interest (retain name on distribution list).

☐ Major interest (state key areas of your concern and any statutory permit authority) —

PROJECT TITLE: E.A.R.# 87-36: Upper Cactus Basins Flood Control Project

PROJECT APPLICANT, IF ANY San Bernardino County Flood Control District

DATE November 4, 1987

M. McQuern
Signature

Associate Planner
Title

714/820-2535
Telephone

NOTICE OF PREPARATION

TO: _____ FROM: City of Rialto
(Responsible or interested agency) (Lead Agency)

ATTENTION:

PAUL GOEBEL
Southern Calif. Gas Co.
~~P.O. Box 6226~~
~~San Bernardino, CA 92347~~
P.O. BOX 3003
REDLANDS, CALIF 92373

CITY OF RIALTO
PLANNING DEPT.

Planning Department
150 South Palm Avenue
Rialto, California 92376
(address)

SUBJECT: NOTICE OF PREPARATION OF A DRAFT ENVIRONMENTAL IMPACT REPORT

The City of Rialto will be the Lead Agency and will prepare an Environmental Impact Report for the project identified below. We need to know the views of your agency as to the scope and content of the environmental information which is germane to your agency's statutory responsibilities in connection with the proposed project. Your agency will need to use the EIR prepared by our agency when considering your permit or other approval for the project.

The project description, location and the probable environmental effects are contained in the attached materials. A copy of the Initial Study ☒ is, ☐ is not, attached.

Due to the time limits mandated by State Law, your response must be sent at the earliest possible date but not later than 45 days after receipt of this notice.

Please send your response to Mac McQuern at the address shown above. We will need the name for a contact person in your agency.

LEVEL OF INTEREST:

☐ No interest (delete from distribution list).

☐ Minor interest (retain name on distribution list).

☒ Major interest (state key areas of your concern and any statutory permit authority) — 10" High Press GAS LINE ON BASELINE ROAD

PROJECT TITLE: E.A.R.# 87-36: Upper Cactus Basins Flood Control Project

PROJECT APPLICANT, IF ANY San Bernardino County Flood Control District

DATE November 4, 1987

M. McQuern
Signature

Associate Planner
Title

714/820-2535
Telephone

Genevieve Shiroma
Air Resources Board
1102 Q Street
Sacramento, CA 95814
916/322-9267

Barbara Kierbow
Dept. of Boating & Waterways
1629 S Street
Sacramento, CA 95814
916/445-6281

Gary L. Holloway
California Coastal Commission
631 Howard Street, 4th Floor
San Francisco, CA 94105
415/543-8555

Sherron Taylor
California Energy Commission
1516 Ninth Street, Rm. 200
Sacramento, CA 95814
916/324-3231

Sandy Bernard
Caltrans - Division of Aeronautics
P.O. Box 942874
Sacramento, CA 94274-0001
916/324-0761

Ron Helgeson
Caltrans - Planning
P.O. Box 942874
Sacramento, CA 94274-0001
916/445-5570

Dennis O'Bryant
Dept. of Conservation
1416 Ninth Street, Room 1326-2
Sacramento, CA 95814
916/322-5873

- Div. of Mines and Geology
- Div. of Oil and Gas
- Land Resources Protect. Unit

Yoshiki Cervinka
Dept. of Food and Agriculture
1220 N Street, Room 104
Sacramento, CA 95814
916/322-5227

Douglas Wickizer
Dept. of Forestry
1416 Ninth Street, Room 1516-2
Sacramento, CA 95814
916/322-0129

James Hargrove
Dept. of General Services
400 P Street, Suite 3460
Sacramento, CA 95814
916/324-0209

Alan Wyatt
Dept. of Health
714 P Street, Room 1253
Sacramento, CA 95814
916/324-6529

Sgt. Mike Goshorn
California Highway Patrol
Long Range Planning Section
Planning and Analysis Division
P.O. Box 898
Sacramento, CA 95804
916/445-1981

William A. Johnson
Native American Heritage Comm.
915 Capitol Mall, Room 288
Sacramento, CA 95814
916/322-7791

Hans Kreutzberg
Office of Historic
Preservation
P.O. Box 942896
Sacramento, CA 94296-0001
916/322-9621

Mike Doyle
Dept. of Parks and Recreation
P.O. Box 942896
Sacramento, CA 94296-0001
916/324-6421

George Barch
Public Utilities Commission
505 Van Ness Avenue
San Francisco, CA 94102
415/557-1375 (8-557)

William P. Vaughn, Jr.
Public Works Board
1025 P Street, 4th Floor
Sacramento, CA 95814
916/445-5332

Hal Schwartz
Reclamation Board
1416 Ninth Street Room 204-A
Sacramento, CA 95814
916/445-2458

Norris Williams
S.F. Bay Conservation & Dev't. Comm.
30 Van Ness Avenue, Room 2011
San Francisco, CA 94102
415/557-3686

Cy Armstrong
Calif. Waste Management Board
1020 Ninth Street, Room 300
Sacramento, CA 95814
916/322-2674

Ted Pawlowski
State Lands Commission
1807 - 13th Street
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San Luis Obispo, CA 93401
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LOS ANGELES REGION (4)
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Los Angeles, CA 90012
213/620-4460

CENTRAL VALLEY REGION (5)
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Sacramento, CA 95827-3098
916/361-5600

Fresno Branch Office
3374 East Shields Avenue, R[illegible]
Fresno, CA 93726
209/445-5116

Redding Branch Office
100 East Cypress Avenue
Redding, CA 96002
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LAHONTAN REGION (6)
2092 Lake Tahoe Boulevard
P.O. Box 9428
South Lake Tahoe, CA 95731
916/544-3481

Victorville Branch Office
15371 Bowman Road
Victorville, CA 92392-2494
619/245-6583

COLORADO RIVER BASIN REGION (7)
73-271 Highway 111, Suite 21
Palm Desert, CA 92260
619/346-7491

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OTHER: _____
_____
_____

APPENDIX D

BIOLOGICAL RESOURCES

BIOLOGICAL RESOURCES

A field reconnaissance of the proposed Cactus Basins site was conducted by David Bramlet, biologist, on February 6, 1988 from 0900 to 1600 hours. The purpose of the survey was to characterize the existing vegetation and wildlife on the site. The entire site was traversed on foot in a random fashion during the course of the survey. General visual observations were conducted to determine the distribution and composition of each plant community and for wildlife species on the site. Additional observations were conducted on April 1, 1988 from 0730 to 0830 hours in the area of Basin B to note any later blooming plant species.

Plant species were identified using Munz (1974) with assistance from the local checklists of Marsh (1985, 1987) and PSBS (1985). The plant species observed are presented in Table D-1, with scientific names following Munz (1974). Common names are derived mostly from Abrams (1923) and Beauchamp (1986). The plant communities were mapped using 1983 1"=200′ black and white aerial photographs onto 1"=400′ topographic maps. Plant community terminology was generally derived from Thorne (1976) and Hanes (1976), while the alluvial communities were derived from Cox (1980), Holland (1986) and Marsh (1985).

Wildlife species on the site were determined by direct observations or by indirect evidence of tracks, burrows or scats. The expected species were derived from the checklists of PSBS (1985), Marsh (1985), MBA (1985) and, to a lesser degree, USFWS (1985). The wildlife checklist is presented in Table D-2. The nomenclature for the wildlife species follows Stebbins (1985) for amphibians and reptiles, AOU (1982) for birds and Ingles for mammals. Designation for declining or species of concern were derived from the List of Special Animals (NDDB, 1987), the CDFG reports on Species of Special Concern (Remsen, 1978), Williams 1986) and the Audubon Blue List (Tate, 1986).

TABLE D-1

FLORAL INVENTORY

LEGEND

Plant Community

Cs - Holly-leaved cherry phase of Alluvial fan sage scrub [a]

Bs - California buckwheat phase of Alluvial fan sage scrub [a]

Gr - Adventive grassland [b]

Ru - Ruderal (disturbed) [b]

Abundance

A - Abundant

C - Common

O - Occasional

U - Uncommon

(a) The alluvial plant communities are derived from Marsh (1987) and Cox (1980).

(b) Other plant communities generally follow Thorne (1976).

Plants	Cs	Bs	Gr	Ru
AMARANTHACEAE AMARANTH FAMILY				
Amaranthus albus Pigweed	-	-	-	U
ANACARDIACEAE SUMAC FAMILY				
Rhus trilobata Squaw bush	O	-	U	-
Schinus molle Peruvian pepper	-	-	U	
ASTERACEAE SUNFLOWER FAMILY				
Ambrosia anthicarpa Sand bur	-	-	O	O
Artemisia californica California sagebrush	C	A	U	O
Baccharis glutinosa Mule fat	U	-	U	U
Baccharis emoryi Emory's baccharis	U	-	-	-
Centaurea melitensis Tocalote	-	-	-	U
Cirsium sp Thistle	-	U	-	-
Conzya candensis Horseweed	-	-	-	U
Corethrogyne filaginifolia Common sand aster	O	-	U	-
Gnapthalium californicum Everlasting	-	U	U	O
Gutierrezia bracteata Matchweed	O	-	-	-
Haplopappus pinifolius Pine bush	U	-	-	-
Helianthus annus Annual sunflower	-	-	-	U

Plants	Cs	Bs	Gr	Ru
Heterotheca grandiflora Telegraph weed	U	-	U	O
Hypochoeris glabra Smooth cat's-ear	O	U	C	O
Lepidospartum squamatum Scalebroom	U	U	-	U
Senecio douglasii Sand wash butterweed	U	-	-	-
Senecio vulgaris Common groundsel				
Sonchus oleraceus Common sow thistle	-	-	-	U
Taraxacum officinale Dandelion	-	-	-	U
Tetradymia comosa Cotton thorn	U	-	-	-
Xanthium strumarium Cocklebur	-	-	U	O
BORAGINACEAE FORGET-ME-NOT FAMILY				
Amsinkia intermedia Fiddleneck	O	O	O	U
Cryptantha intermedia Common cryptantha	O	O	O	U
Pectocarya linearis Slender pectocarya	O	-	O	U
BRASSICACEAE MUSTARD FAMILY				
Brassica geniculata Summer mustard	C	O	A	A
Brassica tournefortii Sahara mustard	-	-	U	-
Sisymbrium irio London rocket	-	-	-	U

Plants	Cs	Bs	Gr	Ru
CACTACEAE CACTUS FAMILY				
Opuntia littoralis Coastal prickly-pear	O	O	U	-
Opuntia parryi Valley cholla	O	-	-	-
CAPRIFOLIACEAE ELDERBERRY FAMILY				
Sambucus mexicana Mexican elderberry	U	-	U	-
CARYOPHYLLACEAE PINK FAMILY				
Silene gallica Common catchfly	-	-	-	U
CHENOPODIACEAE GOOSEFOOT FAMILY				
Chenopodium album Lamb's quarters	-	-	-	U
Chenopodium californicum Soap plant	U	-	-	-
Salsoa iberica Russian thistle	-	-	U	O
CRASSULACEAE STONE-CROP FAMILY				
Crassula erecta Pigmy-sand weed	C	C	C-	A
CUCURBITACEAE GOURD FAMILY				
Marah macrocarpus Coastal man-root	O	-	-	-
EUPHORBIACEAE SPURGE FAMILY				
Croton californicus California croton	O	U	U	C
Eremocarpus setigerus Dove weed	U	-	U	U

Plants	Cs	Bs	Gr	Ru
Euphorbia polycarpa Rattlesnake weed	-	-	-	U
FABACEAE PEA FAMILY				
Lotus hamatus Crab lotus	O	-	O	U
Lotus purshianus Spanish clover	O	U	O	O
Lotus scoparius Deerweed	O	U	O	U
Lupinus hirsutissimus Stinging lupine	-	-	-	U
Medicago polymorpha Bur clover	U	-	O	U
Melotis indicus Yellow sweet-clover	U	-	O	O
GERAINIACEAE GERAINIUM FAMILY				
Erodium botrys Long-beaked filaree	O	O	O	O
Eriodium cicutarium Red-stemmed filaree	O	O	A	A
HYDROPHYLLACEAE WATER-LEAF FAMILY				
Phacelia distans Wild heliotrope	O	-	O	U
JUGLANDACEAE WALNUT FAMILY				
Juglans regia English walnut	-	-	U	-
LAMIACEAE MINT FAMILY				
Marrubium vulgare Horehound	O	U	O	O
Salvia mellifera Black sage	-	-	-	-

Plants	Cs	Bs	Gr	Ru
Salvia apiana White sage	U	U	-	-
MALVACEAE MALLOW FAMILY				
Malva parviflora Cheese weed	U	-	O	C
MYRTACEAE MYRTLE FAMILY				
Eucalyptus sp. Scarlet eucalyptus	-	-	-	U
ONAGRACEAE EVENING-PRIMROSE FAMILY				
Camissonia bistorta Southern sun cup	O	-	U	O
PAEONIACEAE PEONY FAMILY				
Paeonia californica California peony	U	-	-	-
POLYGONACEAE BUCKWHEAT FAMILY				
Chorizanthe coriacea Spine-flower	O	-	O	U
Eriogonum gracile Slender buckwheat	-	-	-	-
Eriogonum fasciculatum California buckwheat	C	A	U	U
PORTULACACEAE PURSLANE FAMILY				
Calandria ciliata Red maids	U	-	U	-
Polygonum lapathifolium Willow weed	-	-	-	U
Rumex crispus Curly dock	C	O	O	O
Rumex hymmenosepalus Wild rhubarb	-	-	-	U

Plants	Cs	Bs	Gr	Ru
RHAMNACEAE BUCKTHORN FAMILY				
Ceanothus cuneatus Buckbrush	C	U	-	-
Rhamnus crocea Redberry	O	-	-	-
ROSACEAE ROSE FAMILY				
Adenostoma fasciculatum Chamise	C	-	-	-
Prunus ilicifolia Holly-leaved cherry	C	-	-	-
SALICACEAE WILLOW FAMILY				
Salix gooddingii Black willow	-	-	-	U
Salix lasiolepis Arroyo willow	u	-	-	U
SCROPULARIACEAE FIGWORT FAMILY				
Penstemon spectabilis Showy penstemon	O	O	O	-
Vernoica anagallis-aquatica Speedwell	-	-	-	U
SOLANACEAE NIGHTSHADE FAMILY				
Nicotiana glauca Indian tree tobacco	U	-	U	O
Solanum xantii Purple nightshade	U	-	-	-
TAMARICACEAE TAMARISK FAMILY				
Tamarix parviflora Small-flowered tamarisk	-	-	-	U

Plants	Cs	Bs	Gr	Ru
URTICACEAE NETTLE FAMILY				
Urtica urens	-	-	-	U
	MONOCOTYLEONDONES MONOCOTS			
AGAVACEAE AGAVE FAMILY				
Yucca whipplei Our Lord's candle	U	-	-	-
CYPERACEAE SEDGE FAMILY				
Cyperus eragrostis Umbrella sedge	-	-	-	U
POACEAE GRASS FAMILY				
Avena barbata Slender wild oat	O	U	C	O
Bromus diandris Ripgut brome	A	O	A	A
Bromus mollis Soft chess	O	-	O	O
Bromus rubens Red brome	O	O	C	O
Bromus inermis Smooth brome	O	U	U	-
Bromus tectorum Cheat grass	-	-	-	U
Cynodon dactylon Bermuda grass	-	-	-	U
Festuca megalura Foxtail fescue	A	C	A	A
Hordeum leporinum Foxtail barley	U	-	O	O
Lamarkia aurea Golden top	U	-	U	O

Plants	Cs	Bs	Gr	Ru
Poa annua Annual blue grass	-	-	-	U
Schismus barbatus Schismus	C	C	C	A
TYPHACEAE CATTAIL FAMILY				
Typha latifolia Broad-leaf cattail	-	-	O	U

TABLE D-2

FAUNAL INVENTORY[a]

LEGEND

Habitat

Cs - Holly-leaved cherry phase of Alluvial fan sage scrub

Bs - California buckwheat phase of Alluvial fan sage scrub

Gr - Adventive grassland

Ru - Ruderal (disturbed)

Presence

O - Observed

E - Expected

P - Possible

R - Reported by MBA (1985), Marsh (1985) or PSBS (1985)

Status

CSS - California Department of Fish and Game Species of Special Concern (NDDB, 1987)

FC2 - Federal candidate for listing as threatened or endangered

CP - Protected by the State of California

NAS - Audubon Blue List (Tate, 1986)

LC - Species of local concern

(a) Nomenclature for amphibians and reptiles follows Stebbins (1985), AOU (1982) for birds, and Ingles (1965) for mammals.

	Habitat				
	Cs	Bs	Gr	Ru	Presence/Status/Notes
AMPHIBIANS					
CAUDATA NEWTS AND SALAMANDERS					
Batrachoseps attenuatus California slender salamander	x			x	E
ANURA FROGS AND TOADS					
Bufo boreas Western toad	x			x	O?
Hyla regilla Pacific tree frog	x			x	E
Rana catesbeiana Bullfrog				x	P
REPTILES SQUAMATA					
Sceloporus occidentalis Western fence lizard	x	x	x	x	O
Uta stansburiana Side-blotched lizard	x	x	x	x	O
Eumeces skiltonianus Western skink	x		x	x	O
Cnemidophorus tigris Western whiptail	x	x		x	O
Cnemidophorus hyperythrus Orange-throated whiptail		x			P?, CSC, FC2
Gerrhonotus multicarinatus Southern alligator lizard	x	x	x	x	E
Phrynosoma coronatum blainvillei San Diego horned lizard	x	x		x	O, CSC, FC2
Anniella pulchra California legless lizard	x		x		P
Diadophis punctatus Ring-neck snake	x			x	E

	Habitat				
	Cs	Bs	Gr	Ru	Presence/Status/Notes
Lichanura trivirgata Rosy boa	x	x			E
Masticophis lateralis Striped racer	x		x	x	E
Masticophis flagellum Coach whip	x	x	x		R
Coluber constrictor mormon Western yellow-bellied racer	x		x		P?, LC
Pituophis melanoleucus Gopher snake	x	x	x	x	E
Lampropeltis getulus Common king snake	x		x		E
Arizona elegans Glossy snake	x	x	x		R
Rhinocheilus lecontei Long-nosed snake	x				P
Salvadora hexalepis Coast patch-nosed snake			x		P
Trimorphodon vandenburghi California lyre snake	x			x	P
Crotalus viridis Western rattlesnake	x	x	x	x	R
BIRDS ANSERIFORMES - WATERFOWL					
Anas cyanoptera Cinnamon teal				x	O
FALCONIFORMES VULTURES AND HAWKS					
Cathartes aura Turkey vulture	x	x	x	x	R, NAS
Elanus caeruleus Black-shouldered kite			x	x	P, CP, NAS
Circus cyaneus Northern harrier			x	x	O, CSC, NAS

	Habitat				
	Cs	Bs	Gr	Ru	Presence/Status/Notes
Accipiter striatus Sharp-shinned hawk	x				P, CSC, NAS
Accipiter cooperii Cooper's hawk	x			x	R, CSC, NAS
Buteo lineatus Red-shouldered hawk	x				P, NAS
Buteo jamaicensis Red-tailed hawk	x	x	x	x	O
Aquila chrysaetos Golden eagle			x		R, CSC, rare transient
Falco sparverius American kestrel	x	x	x	x	O, NAS
Falco mexicanus Prairie falcon	x	x	x	x	P, CSC
GALLIFORMES GALLINACEOUS BIRDS					
Callipepla californica California quail	x	x	x		O
CHARARIFORMES SHORE BIRDS					
Charadrius vociferus Kill deer			x	x	O
COLUMBIFORMES PIGEONS AND DOVES					
Columba fasciata Band-tailed pigeon	x		x	x	O
Streptopelia chinensis Spotted dove	x		x	x	E
Zenaida macroura Mourning dove		x	x	x	O
CUCULIFORMES CUCKOOS					
Geococcyx californianus Greater roadrunner	x	x	x		E

	Habitat				
	Cs	Bs	Gr	Ru	Presence/Status/Notes
STRIGIFORMES OWLS					
Tyto alba Common barn-owl	x				E, NAS
Athene cuniculata Burrowing owl	x		x		P
Bubo virginianus Great horned owl	x				P
CAPRIMULGIFORMES GOATSUCKERS					
Phalaenoptilus nuttallii Common poorwill	x		x		P
Chordellas acutipennis Lesser nighthawk	x			x	R
APODIFORMES SWIFTS AND HUMMINGBIRDS					
Aeronautes saxatalis White-throated swift	x		x		E
Calypte anna Anna's hummingbird	x			x	O
Calypte costae Costa's hummingbird	x			x	R
PICIFORMES WOODPECKERS					
Picoides nuttallii Nuttall's woodpecker	x				E
Colaptes auratus Northern flicker	x				O
PASSERIFORMES PERCHING BIRDS					
Sayornis nigricans Black phoebe	x			x	P
Sayornis saya Say's phoebe	x		x	x	O

	Habitat				
	Cs	Bs	Gr	Ru	Presence/Status/Notes
Myiarchus cinerascens Ash-throated flycatcher	x	x			R
Tyrannus vociferus Cassin's king bird	x	x		x	R
Tyrannus verticalis Western king bird	x			x	E
Eremophilia alpestris Horned lark	x		x	x	E
Stelgidopteryx serripennis Northern rough-winged swallow			x	x	E
Hirundo phyrrhonota Cliff swallow			x	x	E, NAS
Hirundo rustica Barn swallow				x	E
Aphelocoma coerulescens Scrub jay	x	x	x	x	O
Corvus brachyrhynchos American crow	x	x	x		O
Corvus corvax Common raven	x	x	x	x	O
Psaltriparus minimus Bushtit		x	x		O
Campylorhynchus brunneicapillus Cactus wren		x			R
Thryomanes bewickii Bewick's wren	x	x			O, NAS
Troglodytes aedon House wren	x	x			O
Regulus palustris Ruby-crowned kinglet	x	x			E
Polioptila caerulea Blue-gray gnatcatcher		x			E
Sialia mexicana Western bluebird	x	x			R, NAS

	Habitat				
	Cs	Bs	Gr	Ru	Presence/Status/Notes
Catharus guttattus Hermit thrush	x	x			E
Turdus migratorius American robin			x	x	R
Chamaea fasciata Wrentit		x			E
Mimus polyglottos Northern mockingbird	x	x	x	x	O
Toxostoma redivivum California thrasher	x		x		O
Anthus spinoletta Water pipet				x	O
Bombycilla cedorum Cedar waxwing	x				P
Phainopepla nitens Phainopepla	x				E
Lainus ludovicianus Loggerhead shrike	x	x	x		O, NAS
Sturnus vulgaris European starling	x	x	x	x	O
Vermivora celata Orange-crowned warbler	x				E
Denrdoica petechia Yellow warbler	x	x			R
Dendroica coronata Yellow-rumped warbler	x		x		E
Pheucticus melanocephalus Black-headed grosbeck	x				E
Guiraca caerulea Blue grosbeak	x				E
Passerina amoena Luzuli bunting			x		R
Pipilo erythropthalmus Rufus-sided towhee	x	x			R

	Habitat				
	Cs	Bs	Gr	Ru	Presence/Status/Notes
Pipilo fuscus Brown towhee	x	x	x	x	O
Passerculus sandwichensis Savannah sparrow	x		x	x	E
Passerella iliacea Fox sparrow	x	x			E
Amphspiza belli Sage sparrow	x	x			E
Chondestes grammacus Lark sparrow	x	x			E
Zonotrichia atricapilla Golden-crowned sparrow		x	x	x	E
Zonotrichia leucophyrs White-crowned sparrow	x	x		x	O
Junco hymealis Dark-eyed junco	x		x	x	E
Agelaius phoeniceus Red-winged blackbird				x	P
Sturnella neglecta Western meadowlark	x		x	x	O
Euphagus cyanocephalus Brewer's blackbird			x	x	E
Molothrus ater Brown-headed cowbird	x		x	x	E
Carpodacus purpureus Purple finch	x	x	x	x	E
Carpodacus mexicanus House finch	x	x		x	O
Carduelis psaltria Lesser goldfinch	x	x		x	R
Carduelis tristis American goldfinch	x	x		x	R
Passer domesticus House finch	x	x	x	x	E

	Habitat				
	Cs	Bs	Gr	Ru	Presence/Status/Notes
MAMMALS MARSUPIALIA POUCHED MAMMALS					
Didelphis virginiana Virginia opossum	x		x	x	E
INSCETIVORA SHREWS AND MOLES					
Sorex ornatus Ornate shrew	x	x			E
Notiosorex crawfordi Gray shrew	x		x		E
Scapanus latimanus Broad-footed mole	x		x	x	E
CHIROPTERA BATS (Local distribution of bats is poorly known, and other species would be anticipated.)					
Myotis californicus California myotis			x	x	E
Lasiurus cinercus Hoary bat			x	x	P
Pipistrellus hesperus Western pipistrelle	x			x	E
Eptesicus fuscus Big brown bat			x		E
LAAGOMORPHA RABBITS AND HARES					
Lepus californicus Black-tailed jack rabbit	x	x	x	x	O
Sylvilagus audubonii Desert cottontail	x	x	x	x	O
Sylvilagus bachmani Brush rabbit		x			E

	Habitat				
	Cs	Bs	Gr	Ru	Presence/Status/Notes
RODENTIA RODENTS					
Citellus beecheyi California ground squirrel	x	x	x	x	O
Thomomys bottae Botta pocket gopher	x	x	x	x	O
Perognathus californicus California pocket mouse	x	x			E
Dipodomys agilis Pacific kangaroo rat			x		R
Reithrodontomys megalotis Western harvest mouse	x			x	E
Peromyscus boylii Brush mouse		x			E
Peromyscus californicus California mouse	x	x			E
Peromyscus eremicus Cactus mouse		x			E
Peromyscus maniculatus Deer mouse	x	x	x	x	R
Onychomys torridus Southern grasshopper mouse		x	x	x	E
Microtis californicus California vole			x		P
Neotoma fuscipes Dusky-footed wood rat	x	x			P
Neotoma lepida Desert wood rat	x	x			R
Rattus norvegicus Norway rat			x	x	E
Rattus rattus Black rat				x	E
Mus musculus House mouse				x	E

	Habitat				
	Cs	Bs	Gr	Ru	Presence/Status/Notes
CARNIVORA FLESH EATERS					
Canis familiaris Domestic dog	x	x	x	x	O
Canis latrans Coyote	x	x	x	x	R
Urocyon cinereoargenteus Grey fox	x	x		x	E
Procyon lotor Raccoon	x	x		x	E
Mustela frenata Long-tailed weasel	x		x	x	E
Spilogale putorius Spotted skunk	x		x	x	E
Mephitis mephitis Striped skunk	x		x	x	E
Felis domesticus House cat	x	x	x	x	O
Lynx rufus Bobcat	x		x	x	P?
ARTILODACTYLA EVEN-TOED HOOFED MAMMALS					
Odocoileus hemionus Mule deer	x		x	x	R

APPENDIX E

NOISE ANALYSIS METHODOLOGY

APPENDIX E

NOISE ANALYSIS METHODOLOGY

TECHNICAL APPENDIX

Noise

Introduction

The following section presents discussions of regulatory environment, analysis methodology and impact evaluation criteria.

As the reader may be unfamiliar with the terminology used in noise assessments the common usage sound level descriptors are presented below.

- o A-weighted sound level - a scale of measure that is most commonly used in community noise assessments. The A-weighting is used to simulate the response the human ear would have to pure tones between 10 and 20,000 hertz. Frequently, sound level analyses contain a percent exceedance level, L_N This level (L), reported in decibels, is that which is exceeded N percent of the time.

- o Community Noise Equivalent Level (CNEL) - a given noise level is perceived differently depending on length of exposure and time of day. The CNEL takes into account the duration and when the noise is encountered. In general, early evening (7:00 p.m. to 10:00 p.m.) noise exposures are penalized +5 dB, and late night and early morning (10:00 p.m. to 7:00 a.m.) noise exposures are penalized +10 dB. Daytime noise levels (7:00 a.m. to 7:00 p.m.) are not adjusted.

- o L_{dn} - the day night sound level is similar to the CNEL; however, no additional penalty is given to sounds between 7 p.m. and 10:00 p.m.

- o L_{eq} - an A-weighted sound level which contains the same sound energy instantaneous sound levels measured over a specified time period.

Regulatory Setting

Noise is regulated at the federal, state and local levels by various agencies, legislative actions and policies. On the federal level, four agencies provide regulatory leadership for noise and its control. These

agencies include the Environmental Protection Agency (EPA), the Occupational Safety and Health Administration (OSHA), the Federal Highway Administration (FHWA) and the Federal Aviation Administration (FAA). At the state level, the California Office of Noise Control provides assistance to local governments in developing noise control strategies. At the local level, either county or city, noise control is established through policies prepared and presented in the noise elements of local comprehensive planning documents. The following discussion summarizes the regulatory environment of the project.

Federal Regulatory Setting

Federal regulation of noise began as early as 1936 with the passage of the Walsh-Healy Public Contracts Act addressing, in part, noise in the workplace affecting employees under private supply contracts with the federal government. In 1969, the Department of Labor set a standard for workplace noise exposure. The standard established, that for an eight-hour work day, total noise exposure should not exceed 90 dBA. This standard, however, only regulated government employees or those employees on government contracts. In 1970, with the formation of OSHA, the regulation was expanded to cover nongovernment employees. The standard which is still in force today is presented in Table 1.

While OSHA was given the responsibility to control noise in the workplace, EPA was given general statutory authority over federal actions related to noise pollution. The Noise Control Act of 1970 directed the EPA to establish the Office of Noise Abatement and Control. The Act, while limited to two sections of Title IV of the Clean Air Act, did require EPA to investigate the effects of noise on the public health and welfare, identify major noise sources and to determine seven statutorily specified effects of noise. The scope of the last, while seemingly simple, covered a broad spectrum of problems including:

- the effects of noise at various levels
- effects on wildlife and property (the latter to include effects on property values)
- effects of sonic booms on property, again including values

TABLE 1

PERMISSIBLE NOISE EXPOSURE

Duration per day, hours	Sound level dBA slow response
8	90
6	92
4	95
3	97
2	100
1 1/2	102
1	105
1/2	110
1/4 or less	115

When the daily noise exposure is composed of two or more periods of noise exposure of different levels, their combined effect should be consider rather than the individual effect of each. If the sum of the following fractions: $C_1/T_1 + C_2/T_2 \ldots C_a/T_a$ exceeds unity, then the mixed exposure should be considered to exceed the limit value. C_a indicates the total time of exposure at a specified noise level, and T_a indicates the total time of exposure permitted at that level.

Exposure to impulsive or impact noise should not exceed 140dB peak sound pressure level.

- the effects of intermittent, extreme noise, as compared to constant, steady state noise
- both physiological and psychological effects on humans
- project the change in noise levels through the year 2000 in the urban environment, and
- any other matter that may be in the best interest of the public welfare

The Noise Control Act of 1972 established goals intended to protect the general population from noise levels that could prove to be hazardous to health and welfare. The Act, however, placed the EPA in a research and advisory role, with responsibility for legislative action left to state and local officials. The result of the Noise Control Act, in effect, was to provide the federal government with the means to research the noise problems and to regulate specific product lines. Further, it delegated the authority for specific regulation of ambient sound levels to the state and local level.

The third federal agency which has a major role in the regulation of noise is the FHWA. While the FHWA is concerned primarily with the regulation of highway projects, they have promulgated specific noise abatement criteria useful in identifying impacts resulting from any project. These standards are referenced to specific land uses or activities, simplifying impact identification. These standards were set forth in the Federal Highway Program Manual, Volume 7, Chapter 7, Section 3, and are presented here as Table 2.

The last federal agency with a major role in the regulation of noise is the FAA. Regulations promulgated by the FAA are primarily concerned with aircraft and airport operations. As the proposed project does not involve aircraft activities, no discussion of FAA regulations will be presented.

State Regulations

The State of California has not adopted specific regulations regarding ambient noise or its control. Instead, the state has promulgated, through the Office of Noise Control, a "Model Community Noise Control Ordinance"

TABLE 2

FEDERAL HIGHWAY ADMINISTRATION
NOISE ABATEMENT CRITERIA*

Activity Category	Design noise levels - decibels L_{eq} (1 hour)	Description of Activity Category
A----	57 (exterior)	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.
B----	67 (exterior)	Picnic areas, recreation areas, playgrounds, active sports areas, parks, residences, motels, hotels, schools, churches, libraries, and hospitals.
C----	72 (exterior)	Developed lands, properties, or activities not included in Categories A or B above.
D----------		Undeveloped lands.
E----	52 (interior)	Residences, motels, hotels, public meeting rooms, schools, churches, libraries, hospitals, and auditoriums.

* Taken from 23 CFR Part 772.

(Calif, 1977). This model ordinance is intended to provide local governments the guidance necessary for the development of meaningful local regulations.

While the model ordinance is not a regulation, it does recommend levels of sound for different land uses as shown in Table 3. It should be noted, however, that the model ordinance also recommends the exemption of construction/demolition activities from compliance with the recommended standards. This is important when reviewing the project as the major source of noise generated by the project will be the construction activities.

Local Ordinances

The County of San Bernardino has developed a set of performance standards which are intended to measure sound impacts of existing and proposed land uses and to protect workers and nearby residences from the harmful effects of noise. The standards issued by the County are presented in Table 3.

Methodology of Impacts Analysis

The analysis of noise impacts resulting from the project must be made such that the two project phases, construction and operation, are considered. However, due to the nature of the project, it must also be analyzed in a component-by-component basis. This approach is required as some impacts associated with the project are a direct result of project activities, while others occur from secondary sources but are induced by the project.

The components that will result in noise impacts and are a direct result of the project include: construction and operation of the flood control channel and the retention basins. The impacts resulting from channel construction have been analyzed as a slow-moving point source. This

TABLE 3

EXTERIOR NOISE LIMITS

(Levels Not To Be Exceeded More Than 30 Minutes In Any Hour)

Receiving Land Use Category	Time Period	Noise Level (dBA) Noise Zone Classification (1) Rural Suburban	Suburban	Urban
One & Two Family Residential	10 pm- 7 am	40	45	50
	7 am-10 pm	50	55	60
Multiple Dwelling Residential Public Space	10 pm- 7 am	45	50	55
	7 am-10 pm	50	55	60
Limited Commercial Some Multiple Dwellings	10 pm- 7 am		55	
	7 am-10 pm		60	
Commercial	10 pm- 7 am		60	
	7 am-10 pm		65	
Light Industrial	Any Time		70	
Heavy Industrial	Any Time		75	

(1) The classification of different areas of the community in terms of environmental noise zones shall be determined by the Noise Control Office(r), based upon assessment of community noise survey data. Additional area classifications should be used as appropriate to reflect both lower and higher existing ambient levels than those shown. Industrial noise limits are intended primarily for use at the boundary of industrial zones rather than for noise reduction within the zone.

TABLE 4

SAN BERNARDINO COUNTY NOISE STANDARDS

Noise Standards

The following table describes the noise standard for emanations from any source as it affects adjacent properties:

Affected Land Use (Receiving Noise)	Noise Level	Time Period
Residential District	55 dBA	7:00 a.m. - 10:00 p.m.
Rural Living District	55 dBA	10:00 p.m. - 7:00 a.m.
Office Commercial District/ Public District	55 dBA	anytime
Commercial District	60 dBA	anytime
Industrial property (IC and IR Districts)	70 dBA	anytime

No person shall operate or cause to be operated any source of sound at any location or allow the creation of any noise on property owned, leased, occupied or otherwise controlled by such person, which causes the noise level, when measured on any other property, either incorporated or unincorporated, to exceed:

- The noise standard for that receiving land use for a cumulative period of more than thirty (30) minutes in any hour, or
- The noise standard plus 5 dBA for a cumulative period of more than fifteen (15) minutes in any hour, or
- The noise standard plus 10dBA for a cumulative period of more than five (5) minutes in any hour, or
- The noise standard plus 15 dBA for a cumulative period of more than one (1) minute in any hour, or
- The noise standard plus 20 dBA for any period of time.

If the measured ambient level exceeds any of the first four noise limit categories above, the allowable noise exposure standard shall be increased to reflect said ambient noise level. If the ambient noise level exceeds the fifth noise limit category, the maximum allowable noise level under this category shall be increased to reflect the maximum ambient noise level.

If the alleged offense consists entirely of impact noise or simple tone noise, each of the noise levels shown above shall be reduced by 5 dBA.

Exempt Noises

The following sources of noise are exempt:

- Motor vehicles not under the control of the industrial use.
- Emergency equipment, vehicles, and devices.
- Temporary construction, repair, or demolition activities between 7:00 a.m. and 7:00 p.m., except Sundays and federal holidays.

approach has been used primarily because while the channel has a fixed location and the construction zone has a defined size, it will move slowly from one end of the project area to the other affecting a constantly changing set of receptors. The latter source of noise will be at a relatively fixed location and can be evaluated as point source in the normal sense of the term.

The project will also result in changes in the ambient sound levels from secondary sources. The primary source of such secondary impacts will be traffic along local roadways. During construction of the various project components, secondary impacts will be induced due to changes in traffic limiting volume and travel speeds. Subsequent to the completion of the project, the growth rate of the general population is anticipated to increase over the current growth rate which, in turn, will increase traffic and noise. Traffic noise sources, unlike those identified above, must be analyzed as line sources (B&K, 1979; Caltrans, 1982).

Analysis of Point Sources

As mentioned above, the primary impacts resulting from direct project activities are associated with the construction of the various project components. The assessment of noise impacts from such activities is, at best, complex due to the varying number, location, type and usage of equipment in operation at any one site. The sound level emitted from construction equipment is highly dependent on the load at which it is operated. This further complicates the analysis.

The Construction Engineering Research Laboratory (CERL) of U.S. Army Corps of Engineers has developed a methodology for assessing the impact of noise generated by construction activities (CERL, 1976). The construction noise model developed by CERL allows the evaluation of the total energy average sound level L_{eq} emitted by a specific construction activity. This energy average or equivalent sound level is expressed in dBA and represents a sound level with the same total acoustic energy as the actual time varying sound.

The construction site noise made can be expressed as:

$$L_{eq} = 10 \log_{10} \sum_{i=1}^{k} (N_i D_i F_i 10^{(L_{pi}/10)})$$

where L_{pi} = maximum A-weighted sound pressure level in dBA from an equipment unit of the ith type at a prescribed measurement distance.

N_i = number of equipment units of the ith type in use during a workday

D_i = daily usage factor, or percent of a workday in which equipment of the ith type is in operation

F_i = equipment usage factor, or percent of time that equipment of the ith type is operating in its noisiest mode

k = number of different types of equipment in use during the workday

The equation allows the estimation of an equivalent sound level at a prescribed distance, typically 50 ft, from a specified activity. A simplifying assumption customarily used is to assess all equipment as if it were located at the center of construction activities. It should be noted that this is not necessarily the center of a project site.

This model was applied to the construction of each project element to estimate an equivalent sound at a distance of 50 ft. Subsequently, the distance to standard sound levels, usually as 5 dB increments beginning at 65 dBA, was determined using the equation for standard spherical attenuation in the form:

$$D = 10^{(dx/20) + \log 50}$$

where D = the distance in feet to the sound level of concern, and

dx = the difference between the total sound level at 50 ft and the sound level of concern

This equation is equivalent to a 6 dB reduction in sound for each doubling of distance.

Although other factors contribute to the attenuation of sound, they have not been included in this analysis. The reason for this is connected principally to the large variability of conditions in the project area. Any detailed analysis of these conditions for the project area is far beyond the scope of this document. Further, by assuming only spherical attenuation a worst case analysis is presented. For completeness, however, other factors that may play a significant role in sound attenuation are briefly discussed in a separate section.

The operational impacts of the project were assessed by using published data for major noise-producing sources. Again, spherical attenuation was considered to be the primary sound reduction factor when determining noise impacts at various distances from the project.

Analysis of Line Noise Sources

The analysis of line sources of noise was conducted through the use of the FHWA Highway Noise Prediction Model. The model evaluates traffic volumes, speeds and roadway characteristics to give an estimate of a one-hour equivalent noise level at standard distance of 50 ft from the centerline of the lane nearest to a receptor point. As originally developed, the model would only accurately evaluate traffic at speeds greater than 30 mph. Caltrans (1982) recommends a number of corrections to the model to alleviate this problem. These corrections were incorporated prior to the

analysis. A detailed explanation of the basic noise model can be found in the FHWA Noise Prediction Model Manual (FHWA-RD-77-108). The changes recommended by Caltrans are presented in the Caltrans Noise Manual (Caltrans, 1982).

A major difference between point and line sources worth noting is the attenuation factor. As presented above, the attenuation of sound for point sources is equivalent to 6 dB per doubling of distance. Line sources on the other hand have an attenuation factor of 3 dB per doubling of distance. This means that if a point and line sources produce a sound level of 70 dBA at 50 ft, they will not produce the same level at 100 ft. The point source would produce a sound level of 64 dBA at 100 ft while the line source would produce a 67 dBA level at the same distance. This is due strictly to the nature of the sound waves traveling from the two sources.

Significance Criteria

The above analysis was used to establish the probable worst case sound levels and impacts resulting, directly and indirectly, from project activities. However, the identified impacts must also be evaluated to determine significance. To accomplish this task, two basic criteria were used. One relates to the predicted sound level and the other to the amount of change in the sound level.

Table 1, presented previously, gives the basic criteria used by the FHWA to assess impacts. Any exceedance of the presented values is considered as a significant adverse impact. The second criteria not only judges the significance of an impact but also whether the impact is adverse or beneficial. Table 5 presents the criteria used for this approach.

TABLE 5

NOISE EVALUATION CRITERIA
RELATED TO THE MAGNITUDE OF NOISE LEVEL CHANGE

Degree of Noise Impact or Effect	Design Year Noise Level Compared to No Action Noise Level
Severe Adverse Impact*	Greater than 15 dB increase
Moderate Adverse Impact	6-15 dB increase
Slight Adverse Impact	0-5 dB increase
Slight Beneficial Effect	0-5 dB decrease
Moderate Beneficial Effect	6-15 dB decrease
Large Beneficial Effect	More than 15 dB decrease

*A significant or severe impact also occurs when the projected noise level exceeds the noise abatement criteria.

Source: O'Donnell 1984

Project: CACTUS BASIN EIR
Design Year: 1988 AM PEAK HOUR TRAFFIC - NO PROJECT
Sound and Distance
Calculations

Location Number	Total Sound Level at 15 Meters	Distance (in feet) to a Sound Level of: 55dBA	60dBA	65dBA	67dBA	70dBA	72dBA
1	62.65	286.61	90.64	28.66	18.08	9.06	5.72
2	63.39	339.69	107.42	33.97	21.43	10.74	6.78
3	63.39	339.69	107.42	33.97	21.43	10.74	6.78
4	71.86	2388.96	755.46	238.90	150.73	75.55	47.67
5	71.39	2143.37	677.79	214.34	135.24	67.78	42.77
6	71.57	2232.67	706.03	223.27	140.87	70.60	44.55
7	73.57	3538.72	1119.04	353.87	223.28	111.90	70.61
8	73.98	3889.09	1229.84	388.91	245.38	122.98	77.60
9	74.70	4589.82	1451.43	458.98	289.60	145.14	91.58
10	73.74	3678.87	1163.36	367.89	232.12	116.34	73.40
11	70.62	1795.24	567.71	179.52	113.27	56.77	35.82
12	70.70	1829.12	578.42	182.91	115.41	57.84	36.50
13	70.10	1592.01	503.44	159.20	100.45	50.34	31.76
14	64.17	406.47	128.54	40.65	25.65	12.85	8.11

Project: CACTUS BASIN EIR
Design Year: 1988 PM PEAK HOUR TRAFFIC - NO PROJECT
Sound and Distance
Calculations

Location Number	Total Sound Level at 15 Meters	Distance (in feet) to a Sound Level of: 55dBA	60dBA	65dBA	67dBA	70dBA	72dBA
1	61.56	222.92	70.49	22.29	14.07	7.05	4.45
2	62.32	265.38	83.92	26.54	16.74	8.39	5.30
3	62.32	265.38	83.92	26.54	16.74	8.39	5.30
4	72.61	2835.50	896.66	283.55	178.91	89.67	56.58
5	72.90	3036.44	960.21	303.64	191.59	96.02	60.58
6	72.36	2679.21	847.24	267.92	169.05	84.72	53.46
7	73.86	3783.98	1196.60	378.40	238.75	119.66	75.50
8	74.60	4484.71	1418.19	448.47	282.97	141.82	89.48
9	75.14	5080.34	1606.54	508.03	320.55	160.65	101.37
10	74.13	4029.23	1274.16	402.92	254.23	127.42	80.39
11	72.41	2709.80	856.91	270.98	170.98	85.69	54.07
12	72.67	2879.17	910.47	287.92	181.66	91.05	57.45
13	72.19	2574.31	814.07	257.43	162.43	81.41	51.36
14	64.84	474.22	149.96	47.42	29.92	15.00	9.46

Project: CACTUS BASIN EIR
Design Year: 1988 AM PEAK HOUR TRAFFIC - PROJECT
Sound and Distance
Calculations

Location Number	Total Sound Level at 15 Meters	Distance (in feet) to a Sound Level of: 55dBA	60dBA	65dBA	67dBA	70dBA	72dBA
1	66.34	670.78	212.12	67.08	42.32	21.21	13.38
2	66.54	701.89	221.96	70.19	44.29	22.20	14.00
3	67.56	888.08	280.84	88.81	56.03	28.08	17.72
4	71.87	2393.43	756.87	239.34	151.02	75.69	47.76
5	72.00	2465.19	779.56	246.52	155.54	77.96	49.19
6	71.58	2237.14	707.45	223.71	141.15	70.74	44.64
7	73.59	3556.24	1124.58	355.62	224.38	112.46	70.96
8	74.35	4232.54	1338.45	423.25	267.06	133.84	84.45
9	74.70	4596.83	1453.65	459.68	290.04	145.36	91.72
10	73.74	3685.87	1165.58	368.59	232.56	116.56	73.54
11	71.98	2453.60	775.90	245.36	154.81	77.59	48.96
12	71.44	2166.77	685.19	216.68	136.71	68.52	43.23
13	71.13	2018.81	638.40	201.88	127.38	63.84	40.28
14	65.50	552.61	174.75	55.26	34.87	17.48	11.03

Project: CACTUS BASIN EIR
Design Year: 1988 PM PEAK HOUR TRAFFIC - PROJECT
Sound and Distance
Calculations

Location Number	Total Sound Level at 15 Meters	Distance (in feet) to a Sound Level of: 55dBA	60dBA	65dBA	67dBA	70dBA	72dBA
1	66.18	645.85	204.23	64.58	40.75	20.42	12.89
2	66.48	692.18	218.89	69.22	43.67	21.89	13.81
3	66.97	775.02	245.08	77.50	48.90	24.51	15.46
4	72.61	2839.96	898.07	284.00	179.19	89.81	56.66
5	73.49	3476.55	1099.38	347.66	219.36	109.94	69.37
6	72.37	2683.68	848.65	268.37	169.33	84.87	53.55
7	73.88	3801.50	1202.14	380.15	239.86	120.21	75.85
8	74.96	4872.13	1540.70	487.21	307.41	154.07	97.21
9	75.14	5087.35	1608.76	508.73	320.99	160.88	101.51
10	74.14	4036.24	1276.37	403.62	254.67	127.64	80.53
11	73.44	3434.06	1085.94	343.41	216.67	108.59	68.52
12	73.36	3377.03	1067.91	337.70	213.08	106.79	67.38
13	72.89	3025.66	956.80	302.57	190.91	95.68	60.37
14	65.89	603.56	190.86	60.36	38.08	19.09	12.04

Project: CACTUS BASIN EIR
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Location Number	Total Sound Level at 15 Meters	Distance (in feet) to a Sound Level of: 55dBA	60dBA	65dBA	67dBA	70dBA	72dBA
1	62.90	303.60	96.01	30.36	19.16	9.60	6.06
2	63.67	361.98	114.47	36.20	22.84	11.45	7.22
3	63.67	361.98	114.47	36.20	22.84	11.45	7.22
4	72.12	2536.32	802.05	253.63	160.03	80.21	50.61
5	71.63	2266.16	716.62	226.62	142.99	71.66	45.22
6	71.81	2362.17	746.98	236.22	149.04	74.70	47.13
7	73.81	3745.44	1184.41	374.54	236.32	118.44	74.73
8	74.24	4127.34	1305.18	412.73	260.42	130.52	82.35
9	74.94	4856.10	1535.63	485.61	306.40	153.56	96.89
10	73.97	3882.08	1227.62	388.21	244.94	122.76	77.46
11	70.86	1896.86	599.84	189.69	119.68	59.98	37.85
12	70.97	1944.28	614.84	194.43	122.68	61.48	38.79
13	70.34	1683.47	532.36	168.35	106.22	53.24	33.59
14	64.48	436.96	138.18	43.70	27.57	13.82	8.72

Project: CACTUS BASIN EIR
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Sound and Distance
Calculations

Location Number	Total Sound Level at 15 Meters	Distance (in feet) to a Sound Level of: 55dBA	60dBA	65dBA	67dBA	70dBA	72dBA
1	61.82	236.72	74.86	23.67	14.94	7.49	4.72
2	62.60	283.43	89.63	28.34	17.88	8.96	5.66
3	62.60	283.43	89.63	28.34	17.88	8.96	5.66
4	72.86	3009.65	951.73	300.96	189.90	95.17	60.05
5	73.14	3210.59	1015.28	321.06	202.57	101.53	64.06
6	72.61	2835.50	896.66	283.55	178.91	89.67	56.58
7	74.11	4008.21	1267.51	400.82	252.90	126.75	79.97
8	74.86	4761.50	1505.72	476.15	300.43	150.57	95.00
9	75.39	5378.15	1700.72	537.82	339.34	170.07	107.31
10	74.37	4253.47	1345.07	425.35	268.38	134.51	84.87
11	72.65	2865.62	906.19	286.56	180.81	90.62	57.18
12	72.93	3058.69	967.24	305.87	192.99	96.72	61.03
13	72.42	2719.96	860.13	272.00	171.62	86.01	54.27
14	65.14	508.09	160.67	50.81	32.06	16.07	10.14

Project: CACTUS BASIN EIR
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Sound and Distance
Calculations

Location Number	Total Sound Level at 15 Meters	Distance (in feet) to a Sound Level of: 55dBA	60dBA	65dBA	67dBA	70dBA	72dBA
1	66.58	708.43	224.03	70.84	44.70	22.40	14.14
2	66.81	745.89	235.87	74.59	47.06	23.59	14.88
3	67.37	849.65	268.68	84.96	53.61	26.87	16.95
4	72.13	2540.78	803.47	254.08	160.31	80.35	50.70
5	72.24	2604.25	823.54	260.43	164.32	82.35	51.96
6	71.82	2366.64	748.40	236.66	149.32	74.84	47.22
7	73.83	3762.95	1189.95	376.30	237.43	119.00	75.08
8	74.60	4488.38	1419.35	448.84	283.20	141.93	89.55
9	74.95	4866.61	1538.96	486.66	307.06	153.90	97.10
10	73.98	3889.09	1229.84	388.91	245.38	122.98	77.60
11	72.21	2586.23	817.84	258.62	163.18	81.78	51.60
12	71.70	2299.50	727.17	229.95	145.09	72.72	45.88
13	71.37	2131.20	673.94	213.12	134.47	67.39	42.52
14	65.54	557.77	176.38	55.78	35.19	17.64	11.13

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Sound and Distance
Calculations

Location Number	Total Sound Level at 15 Meters	Distance (in feet) to a Sound Level of: 55dBA	60dBA	65dBA	67dBA	70dBA	72dBA
1	66.01	621.66	196.59	62.17	39.22	19.66	12.40
2	66.30	663.72	209.89	66.37	41.88	20.99	13.24
3	67.24	823.81	260.51	82.38	51.98	26.05	16.44
4	72.87	3014.11	953.15	301.41	190.18	95.31	60.14
5	73.73	3673.77	1161.75	367.38	231.80	116.17	73.30
6	72.61	2839.96	898.07	284.00	179.19	89.81	56.66
7	74.12	4022.23	1271.94	402.22	253.79	127.19	80.25
8	75.21	5169.35	1634.69	516.93	326.16	163.47	103.14
9	75.39	5385.16	1702.94	538.52	339.78	170.29	107.45
10	74.37	4260.48	1347.28	426.05	268.82	134.73	85.01
11	73.67	3625.53	1146.49	362.55	228.76	114.65	72.34
12	73.33	3346.72	1058.33	334.67	211.16	105.83	66.78
13	73.12	3193.54	1009.89	319.35	201.50	100.99	63.72
14	66.18	645.19	204.03	64.52	40.71	20.40	12.87

Project: CACTUS BASIN EIR
Design Year: 1998 AM PEAK HOUR TRAFFIC - NO PROJECT
Sound and Distance
Calculations

Location Number	Total Sound Level at 15 Meters	Distance (in feet) to a Sound Level of: 55dBA	60dBA	65dBA	67dBA	70dBA	72dBA
1	65.20	515.90	163.14	51.59	32.55	16.31	10.29
2	65.94	611.44	193.35	61.14	38.58	19.34	12.20
3	65.94	611.44	193.35	61.14	38.58	19.34	12.20
4	74.41	4300.13	1359.82	430.01	271.32	135.98	85.80
5	73.94	3858.06	1220.03	385.81	243.43	122.00	76.98
6	74.12	4018.81	1270.86	401.88	253.57	127.09	80.19
7	76.12	6362.69	2012.06	636.27	401.46	201.21	126.95
8	76.53	7000.36	2213.71	700.04	441.69	221.37	139.68
9	77.26	8275.70	2617.01	827.57	522.16	261.70	165.12
10	76.28	6607.94	2089.62	660.79	416.93	208.96	131.85
11	73.17	3231.44	1021.87	323.14	203.89	102.19	64.48
12	73.25	3292.41	1041.15	329.24	207.74	104.12	65.69
13	72.65	2865.62	906.19	286.56	180.81	90.62	57.18
14	69.61	1422.65	449.88	142.26	89.76	44.99	28.39

Project: CACTUS BASIN EIR
Design Year: 1998 PM PEAK HOUR TRAFFIC - NO PROJECT
Sound and Distance
Calculations

Location Number	Total Sound Level at 15 Meters	Distance (in feet) to a Sound Level of: 55dBA	60dBA	65dBA	67dBA	70dBA	72dBA
1	64.11	401.26	126.89	40.13	25.32	12.69	8.01
2	64.87	477.69	151.06	47.77	30.14	15.11	9.53
3	64.87	477.69	151.06	47.77	30.14	15.11	9.53
4	75.16	5103.89	1613.99	510.39	322.03	161.40	101.84
5	75.46	5465.59	1728.37	546.56	344.86	172.84	109.05
6	74.91	4822.58	1525.03	482.26	304.28	152.50	96.22
7	76.41	6804.15	2151.66	680.42	429.31	215.17	135.76
8	77.15	8072.48	2552.74	807.25	509.34	255.27	161.07
9	77.70	9158.62	2896.21	915.86	577.87	289.62	182.74
10	76.68	7238.61	2289.05	723.86	456.73	228.90	144.43
11	74.96	4877.65	1542.45	487.76	307.76	154.24	97.32
12	75.22	5182.50	1638.85	518.25	326.99	163.88	103.40
13	74.74	4633.76	1465.32	463.38	292.37	146.53	92.46
14	70.28	1659.75	524.86	165.98	104.72	52.49	33.12

Project: CACTUS BASIN EIR
Design Year: 1998 AM PEAK HOUR TRAFFIC - PROJECT
Sound and Distance
Calculations

Location Number	Total Sound Level at 15 Meters	Distance (in feet) to a Sound Level of: 55dBA	60dBA	65dBA	67dBA	70dBA	72dBA
1	67.72	920.22	291.00	92.02	58.06	29.10	18.36
2	68.44	1085.53	343.28	108.55	68.49	34.33	21.66
3	68.47	1094.72	346.18	109.47	69.07	34.62	21.84
4	74.42	4304.60	1361.23	430.46	271.60	136.12	85.89
5	74.52	4407.00	1393.62	440.70	278.06	139.36	87.93
6	74.12	4023.28	1272.27	402.33	253.85	127.23	80.27
7	76.13	6380.21	2017.60	638.02	402.56	201.76	127.30
8	76.87	7573.43	2394.93	757.34	477.85	239.49	151.11
9	77.26	8282.70	2619.22	828.27	522.60	261.92	165.26
10	76.28	6614.95	2091.83	661.50	417.38	209.18	131.99
11	73.90	3822.10	1208.65	382.21	241.16	120.87	76.26
12	73.64	3598.27	1137.87	359.83	227.04	113.79	71.79
13	73.34	3361.41	1062.97	336.14	212.09	106.30	67.07
14	69.98	1549.41	489.97	154.94	97.76	49.00	30.91

Project: CACTUS BASIN EIR
Design Year: 1998 PM PEAK HOUR TRAFFIC - PROJECT
Sound and Distance
Calculations

Location Number	Total Sound Level at 15 Meters	Distance (in feet) to a Sound Level of: 55dBA	60dBA	65dBA	67dBA	70dBA	72dBA
1	67.24	823.41	260.38	82.34	51.95	26.04	16.43
2	67.39	854.10	270.09	85.41	53.89	27.01	17.04
3	68.01	984.74	311.40	98.47	62.13	31.14	19.65
4	75.16	5108.36	1615.41	510.84	322.32	161.54	101.93
5	76.02	6227.45	1969.29	622.75	392.93	196.93	124.25
6	74.92	4827.04	1526.44	482.70	304.57	152.64	96.31
7	76.42	6821.67	2157.20	682.17	430.42	215.72	136.11
8	77.49	8724.68	2758.99	872.47	550.49	275.90	174.08
9	77.70	9165.63	2898.43	916.56	578.31	289.84	182.88
10	76.68	7245.61	2291.26	724.56	457.17	229.13	144.57
11	75.65	5719.48	1808.66	571.95	360.87	180.87	114.12
12	75.59	5632.56	1781.17	563.26	355.39	178.12	112.38
13	75.11	5041.96	1594.41	504.20	318.13	159.44	100.60
14	70.64	1804.61	570.67	180.46	113.86	57.07	36.01

APPENDIX F
COMMENTS RECEIVED ON DRAFT EIR
AND
RESPONSES TO COMMENTS

TE OF CALIFORNIA—OFFICE OF THE GOVERNOR

GEORGE DEUKMEJIAN, Governor

OFFICE OF PLANNING AND RESEARCH
0 TENTH STREET
NENTO, CA 95814

RECEIVED
By
AUG 8 1988
CITY OF RIALTO
PLANNING DEPT.

L.M. McQuern
City of Rialto Planning Dept.
150 S. Palm Avenue
Rialto, CA 92376

August 4, 1988

Subject: Upper Cactus Basin Flood Control Project - SCH# 87110914

Dear Mr. McQuern:

The State Clearinghouse submitted the above named draft Environmental Impact Report (EIR) to selected state agencies for review. The review period is closed and the comments of the individual agency(ies) is(are) enclosed. Also, on the enclosed Notice of Completion, the Clearinghouse has checked which agencies have commented. Please review the Notice of Completion to ensure that your comment package is complete. If the package is not in order, please notify the State Clearinghouse immediately. Your eight digit State Clearinghouse number should be used so that we may reply promptly..

Please note that recent legislation requires that a responsible agency or other public agency shall only make substantive comments on a project which are within the area of the agency's expertise or which relate to activities which that agency must carry out or approve. (AB 2583, Ch. 1514, Stats. 1984.)

These comments are forwarded for your use in preparing your final EIR. If you need more information or clarification, we suggest you contact the commenting agency at your earliest convenience.

Please contact John Keene at 916/445-0613 if you have any questions regarding the environmental review process.

Sincerely,

David C. Nunenkamp
Chief
Office of Permit Assistance

Enclosures

cc: Resources Agency

SCH # 88061514

1. Project Title: Upper Cactus Basins Flood Control P[roje]c[t]

2. Lead Agency: City of Rialto Planning Department

3. Contact Person: J. M. McQuern

3a. Street Address: 150 South Palm Avenue

3b. City: Rialto

3c. County: San Bernardino

3d. Zip: 92376

3e. Phone: 714/820-2535

PROJECT LOCATION

4. County: San Bernardino

4a. City/Community: City of Rialto

4b. Assessor's Parcel No.:

4c. Section: E ½ sec. 31

Twp. 1 N

Range 5 W

4d. Cross Streets: Btw. Baseline/Easton, Ayala/Cactus

4e. For Rural, Nearest Community:

5. Within 2 miles: a. State Hwy #: 30 and 66

b. Airports: Rialto Mun.

c. Railways:

d. Waterways:

7. DOCUMENT TYPE

04. X Draft EIR

8. LOCAL ACTION TYPE

11. X Use Permit

9. DEVELOPMENT TYPE

07. X Mining: Mineral Aggregate

11. X Other: Flood retention, groundwater recharge

10. TOTAL ACRES: 140

12. PROJECT ISSUES DISCUSSED IN DOCUMENT

- X Aesthetic/Visual
- X Air Quality
- X Archeological/Historical
- X Economic
- X Flooding/Drainage
- X Geologic/Seismic
- X Minerals
- X Noise
- X Public Services
- X Soil Erosion
- X Toxic/Hazardous
- X Traffic/Circulation
- X Vegetation
- X Water Quality
- X Water Supply
- X Wetland/Riparian
- X Wildlife
- X Growth Inducing
- X Incompatible Landuse
- X Cumulative Effects
- X Other: Human Health

13. FUNDING (approx.) Federal $ -0- State $ -0- Total $ -0-

14. PRESENT LAND USE AND ZONING Majority of site is vacant Flood Control District property. Southerly portion is partially-excavated sand and gravel pit. Southerly portion is zoned M-1R (Restricted Light Manufacturing), rest is R-1C (Single-Family Residential).

15. PROJECT DESCRIPTION

The project consists of the excavation and construction of three flood retention basins, a concrete channel and associated flood control facilities within a 140-acre property owned by the San Bernardino County Flood Control District. Conjunctive uses would include use of one or more of the basins by the San Bernardino Valley Municipal Water District for groundwater recharge, and use of approximately 20 acres as a City of Rialto park. Project completion would take up to 10 years.

CLEARINGHOUSE CONTACT: JOHN KEENE 916/445-0613

[signature]

STATE REVIEW BEGAN: 6-20-88

DEPT. REVIEW TO AGENCY: 7-28

AGENCY REVIEW TO SCH: 8-2

SCH COMPLIANCE: 8-4

(Resources: 6-25)

W/C	N/C	
		• RESOURCES
		[redacted]
X		• CONSERVATION
		• FISH & GAME
		[redacted]
		• DEPT WATER RESOURCES
		• RECLAMATION BD
		• PARKS & REC / OHP
		• NATIVE AM HERIT COMM
		[redacted]
		• AIR RESOURCES BD
		[redacted]

W/C	N/C	
		• REGL WQCB 8 ( )
X		• CALTRANS # 8
		[redacted]
X		• AERONAUTICS
		[redacted]
		• HEALTH SERVICES
		[redacted]

***please return this form with any comments.

33

APCD/AQMD

(Revised 1/87)

State of California

Business, Transportation and Housing Agency

Memorandum

State Clearinghouse
Office of Planning & Research
1400 Tenth Street
Sacramento, CA 95814

Date: August 1, 1988

File:

Attention: John Keene

From: DEPARTMENT OF TRANSPORTATION
DIVISION OF AERONAUTICS

Subject: City of Rialto's DEIR for Upper Cactus Basins Flood Control Project; SCH #87110914 (in vicinity of Rialto Municipal Airport)

The Department of Transportation, Division of Aeronautics, has reviewed the above-referenced document with respect to those areas germane to its statutory responsibilities pursuant to CEQA. Those areas include airport-related noise and safety impacts on a project, the project's potential impact on airport operations and the issue of compatible land uses in the vicinity of the airport.

This document appears to adequately address the concerns of this Division. We have no other comments to add at this time, provided the airport-related mitigation measures outlined in this report are implemented.

Thank you for the opportunity to review and comment on this proposal.

JACK D. KEMMERLY, Chief
Division of Aeronautics

Sandy Bernard
Environmental Planner

cc: Rialto Muni. Airport
San Bernardino County ALUC

1988 ▶ HOUSE

Memorandum

To : State Clearinghouse
Office of Planning & Research
1400 10th Street
Sacramento, CA

Attn: John Keene

Date : July 26, 1988

File No.: SBd-30-16.0/21.2
SBd-66-17.1/20.1
SCH #87110914

From : DEPARTMENT OF TRANSPORTATION
District 8

Subject: Draft Environmental Impact Report for the Upper Cactus Basin Flood Control Program

We have reviewed the above-mentioned project and have no comment at this time. However, should any work be required within the State right of way, Caltrans would be the responsible agency, and may require that certain mitigations be provided as a condition of permit issuance.

If you have any questions, please contact Richard Malacoff at (714) 383-4550.

GUY G. VISBAL
Chief, Transportation Planning

RM:km
cc: GSmith

RECEIVED
1988

emorandum

Dr. Gordon F. Snow
Assistant Secretary for Resources

Mr. L. M. McQuern
City of Rialto Planning Department
150 South Palm Avenue
Rialto, CA 92376

Date : JUL 27 1988

Subject: Draft Environmental Impact Report
SCH# 87110914
Upper Cactus Basins Flood Control

: Department of Conservation—Office of the Director

The Mine Reclamation Program staff of the Department of Conservation's Division of Mines and Geology has reviewed the documents submitted for the Upper Cactus Basins Flood Control Project. The following comments were prepared by James Pompy, Mine Reclamation Program Manager.

The Surface Mining and Reclamation Act of 1975 (SMARA) and the State Mining and Geology Board regulations for surface mining and reclamation practice (California Administrative Code [CAC] Title 14, Chapter 8, Article 1, Section 3500 et seq.) (copies attached) require that a reclamation plan be submitted to and approved by the lead agency prior to the commencement of any new mining operations or amended to reflect substantial changes in an existing operation. Activities exempt from this requirement are described in SMARA Section 2714 and CAC 3505. Because the materials excavated for this project will be commercially extracted and sold, the project would be termed surface mining under SMARA.

Included in the reclamation plan should be the proposed end use and a description of how the land will be reclaimed for the proposed end use. Specific issues that are required to be addressed are listed in SMARA Section 2772 and CAC Sections 3502 and 3503. A signed statement that the person submitting the plan accepts responsibility for reclaiming the mined lands in accordance with the reclamation plan should also be included.

Surface mining and reclamation ordinances adopted by city and county lead agencies, and certified by the State Mining and Geology Board, provide the regulatory framework within which mining activities are carried out. In the absence of a certified lead agency surface mining and reclamation ordinance, the Board is empowered with the authority to review and approve reclamation plans. We do not have record of an approved ordinance for the City of Rialto; therefore, we recommend that you submit an ordinance to the Board for certification, as soon as possible.

The Mine Reclamation Program staff will, if requested by the lead agency, provide technical assistance in the review of the reclamation plan.

If you have any questions, please contact James Pompy, Division of Mines and Geology, Mine Reclamation Program Manager, at (916) 323-8565.

Dennis J. O'Bryant
Environmental Program Coordinator

DJO:dlw
0195q/0005q

Attachments

Commentor: State Agency
Department of Transportation, Division of Aeronautics
Sandy Hesnard
Environmental Planner

Comment: The Department of Transportation, Division of Aeronautics requests that the airport related mitigation measures be implemented.

Response: The airport related mitigation measures in the EIR will be implemented.

Commentor: State Agency
Department of Transportation, District 8
Guy G. Visbal
Chief, Transportation and Planning

Comment: The Department of Transportation has no comment at this time However, if any work is required in a State right-of-way Caltrans would be the responsible agency and may require certain mitigations prior to the issuance of a permit.

Response: No response required.

Commentor: State Agency
Department of Conservation - Office of the Director
Dennis J. O'Bryant
Environmental Program Coordinator

Comment: The Department of Conservation pointed out that the Surface Mining and Reclamation Act of 1975 (SMARA) applies because the materials will be commercially extracted and sold. Therefore, the project would be termed a surface mine under SMARA.

Response: City staff disagrees with the Department of Conservation's conclusion that the project is a surface mining activity and is therefore subject to the Reclamation Plan requirements in SMARA.

First, sand and gravel from the basins will not be "commercially extracted and sold...", as indicated in the Department's comments. The Flood Control District will, as it has in the past, allow extractions by private contractors under permits issued by the District. The District charges a nominal fee to cover administrative costs (20 cents a cubic yard), but does not sell the minerals at prevailing market rates. The extractions are conducted not as a commercial venture, but rather to further the flood control responsibilities of the District.

Secondly, Section 2714 of SMARA provides that the law shall not apply to a list of activities, including "Excavations or grading conducted for farming or onsite construction...." (Emphasis Added). In California Administrative Code Section 3501, "Excavations for On-Site Construction" is defined as "Earth material moving activities that are required to prepare a site for construction of structures, landscaping, or other land improvements (such as excavation, grading, compaction, and the creation of fills and embankments), or that in and of themselves constitute engineered works (such as dams, road cuts, fills, and catchment basins)." (Emphasis Added). Staff concludes that the proposed flood control basins are "engineered works" and that extractions of sand and gravel are "earth moving activities that are required to prepare (the) site for construction" of the basins, channel, spillways and other onsite structures and improvements.

For these reasons, staff will not recommend that preparation of a Reclamation Plan be made a condition of approval of the Conditional Development Permit required for this project. The Rialto City Attorney concurs in this opinion (see City Attorney's written opinion following the next page).

As conditions of project approval, staff will recommend measures which serve essentially the same purpose as a Reclamation Plan. Specifically, staff will recommend that permits issued by the Flood Control District require the use of standard, accepted engineering practices regarding slope compaction, construction standards, etc. In addition, staff

will recommend that the District be required to prepare a written revegetation plan detailing the timing and the type, number and location of native plants to be replanted by the District in and around the basins. The purpose of this plan will be to ensure that aesthetic and basin stability goals are achieved without interfering with the project's basic flood control and groundwater recharge functions.

June 12, 1987

RECEIVED By_____
JUN 15 1987,
CITY OF RIALTO
PLANNING DEPT.

To: Rod Taylor, Planning Director

From: Robert G. Koch, Jr., City Attorney RGK

Subject: Legal Opinion re Cactus Basins

Pursuant to your request I have reviewed the relevant provisions of the Rialto Municipal Code as well as the state's surface mining and reclamation policies. Based on that review I am prepared to render the following opinions:

1. <u>Is the Flood Control District required to obtain a Conditional Development Permit</u>?

Yes. Based on the materials reviewed it is the opinion of this office that the District must obtain a conditional development permit from the City for the construction of the overall project. There is a strong liability issue which confronts the City given the massive amount of earth removal which will be generated by this project.

As noted in your memorandum a conditional development permit is required by Chapter 18.66 of the RMC for "Natural resources development, together with the necessary buildings, apparatus or appurtenances." California Public Resources Code, section 3253, defines "natural resources" as:

> ". . . land, water, air, minerals, vegetation, wildlife, historical or aesthetic sites, or any other natural resource which, irrespective of ownership, contributes to the health, safety, welfare, or enjoyment of a substantial number of persons, or to the substantial balance of an ecological community."

It would appear that the work that is described in your memorandum which will be taking place in the Cactus Basin clearly falls within the definition quoted above in that substantial amounts of land is being moved and water being rechanneled for the safety and welfare of a substantial number of persons.

In addition, a review of Public Resources Code, section 6303, which relate directly to the subject at hand, to wit, flood control work, speaks of permits being granted by "any authorized public agency."

Based on this the City is within its legal rights to require a conditional development permit and to insure that all matters which are of concern to City staff (especially those to which liability may attach) are appropriately made conditions.

2. Is the project a surface mining operation?

No. A reading of both the submitted policy and, additionally, the appropriate state codes regarding surface mining do not appear to place the contemplated project within the definition of "surface mining operation." The basic gist of "surface mining" is the extraction of a substance which has some type of value, and the resultant controls are to insure that a minimum amount of damage is being done to the environment.

In the instant situation the work is not being done for the purpose of extracting some beneficial substance, but rather to resolve a flood control problem within the City. All of the necessary controls over this type of operation should be able to be imposed by the conditional development permit discussed above.

3. Is the City's ability to require a Conditional Development Permit affected by the answer to Question No. 2?

No. The research conducted shows no connection between the two issues. In fact, as noted above the requirement of the conditional development permit somewhat stands in the place of the absent "surface mining" requirements.

Should you have any more questions, please contact this office.

RGK/m

APPENDIX G
SUMMARY OF PLANNING COMMISSION MEETING ON PROPOSED PROJECT

EXCERPT FROM PLANNING COMMISSION MEETING MINUTES OF AUGUST 30, 1988

******

PUBLIC HEARING DRAFT ENVIRONMENTAL IMPACT REPORT, UPPER CACTUS BASINS FLOOD CONTROL PROJECT	APPLICANT: CITY OF RIALTO LOCATION: AYALA DRIVE TO CACTUS AVENUE & BASELINE RD. TO EASTON STREET ALIGNMENT

Chairperson Hirtz stated this item on the agenda was a public hearing for the Draft Environmental Impact Report for the Upper Cactus Basins Flood Control Project.

Mr. McQuern gave the staff presentation of the project. The project is a multi-use project on approximately 140 acres of land on the corner of Cactus Avenue and Baseline Road. Attachments to the staff report included: a location map, comments from three agencies received on the Draft Environmental Impact Report and responses from the consultants who prepared the DEIR, and a comment received from the County Flood Control District. The Draft Environmental Impact Report was prepared by Harmsworth and Associates of Laguna Hills.

Mr. McQuern stated that Tom Gardner, the Project Manager with Harmsworth and Associates would make a brief presentation of the project. Also present were representatives from the County Flood Control District present, and Mr. Dick Polen, Public Works Director for the City of Rialto. It was the recommendation of staff that after the public hearing, the Commission recommend to the City Council that the Draft EIR, the attachments and other supporting material be certified as the final EIR for the project. Once the certification has been completed, the Flood Control District, which owns the property on which the project will be constructed, will file a conditional development application and at that time conditions will be applied to the project.

Chairperson Hirtz stated this was the time and place for the public hearing for the Draft Environmental Impact Report for the Upper Cactus Basins Flood Control Project, and asked if there was anyone in the audience to speak in favor of or in opposition to the proposed DEIR.

Tom Gardner, representing Harmsworth Associates, 23232 Peralta Drive, #209, Laguna Hills, CA, gave a summary of what the project is and what the major impact areas are. The project consists of four elements: the first being a channel which will run from the north end of the project site down to Basin C. This will be a concrete lined channel approximately 20 feet wide, 12 feet deep, and approximately 3450 feet long. The remaining elements all involve basins. Basin A at the north end will be about 35 acres; Basin B will be about 32 acres; and Basin C is about 41 acres.

Mr. Gardner stated the major impacts that result from the project occur primarily during the construction phase. The construction period, based on a 3,000 cubic yard a day extraction rate, could be completed in about 3.9 years. However, because of the way it is anticipated they will be developed, the project could take up to 10 years to complete. They have found two unavoidable impacts. The first of these would involve dust generated during the excavation activity. They have used an extremely conservative approach using the maximum extraction rate and maximum site disturbance and this is why it is in the report that the mitigation measures focus on limiting the site disturbance. That is the single most effective way they could come up with reducing dust emissions. If, however, it is worked at the maximum rate, it may be a significant impact, which cannot be avoided with this type of project. When sand is excavated it will emit dust. There are certain limits to how much it can be controlled. Watering of roads works, but there are other activities and climatic conditions, prevailing winds, etc., and it may not be controlled 100%.

The second area is noise, which was treated in a very conservative manner to try to anticipate the maximum sound generated by the project. Mr. Gardner stated they looked at the equipment being put under fairly heavy load for most of the day and determined what the impact on various residential areas would be. This is if the project would be completed in just under 4 years. If the project extended out to the 10 year period, the noise impacts would likely be reduced because of less equipment operating on the site. However, he said in their approach they need to know the worst they would expect to occur.

Mr. Gardner stated there are two areas where they expect significant beneficial impacts from the project. The first being in flood control. He said with development that has been proposed with the Northwest Specific Plan, there is going to be more and more impervious area above the project. This is going to cause increased run-off, and this project will respond to that problem and from the numbers they have seen, should eliminate almost any flood potential from this particular area.

The second beneficial impact which will arise because of this project is groundwater recharge. Water run-off or water that can be obtained from state project water can be put into these basins and recharged.

Mr. Gardner concluded that there were a lot of other areas covered in the document and most of the areas that they looked at and the impacts that arose could be handled relatively easy through mitigation measures as presented in the document. Mr. Gardner stated he would answer any questions.

Chairperson Hirtz asked if there was anyone else in the audience to speak regarding the Draft Environmental Impact Report.

Ken Cooper, 774 West Mariana, stated that he lives approximately 300 meters

east of Basin B and had concerns regarding the dust and the noise. He asked if the residents in the neighborhood would have a forum to obtain information about the dust and noise regarding the project. He also questioned the length of time for the project completion, since there was mention of the 3-4 year period and a 10 year period. Mr. Cooper stated he did not want to take the time of the Commission and asked if there would be a forum at which the residents could have their questions answered. Mr. Cooper indicated that he had a list of questions.

Mr. McQuern responded that there are two forums, one of which was this meeting, and then the City Council meeting. Mr. McQuern stated that notices were sent to residents within 600 feet of the boundaries on two occasions (405 notices were sent). The first time, thirty notices were returned as undeliverable, and the second time notices were sent, none were returned. Mr. McQuern stated that Mr. Cooper was the only person to take advantage of the opportunity to address the Commission and City staff. He stated there will also be a public hearing at the time of the Conditional Development Permit process which will take place in late September or in October. There will be another notice mailed at that time and those concerned can discuss specific mitigation measures for the conditions of approval of the project. Mr. McQuern added if Mr. Cooper had specific measures or specific controls which he believes will reduce the impacts, he could come into the Planning Department office and discuss the project with staff and staff will then consider at the time of the Conditional Development Permit public hearing.

Chairperson Hirtz asked if there was anyone else in the audience to speak regarding the Draft Environmental Impact Report. There was no further response from the audience.

Motion by Commissioner Hand, seconded by Commissioner Gnuschke and carried by unanimous vote that the public hearing be closed.

Commissioner Downing asked if the ordinance amendment of the Surface Mining and Land Reclamation Act satisfies the problems indicated in the Draft EIR.

Mr. McQuern stated that it will not be recommended that a Reclamation Plan be required for the project, because the project is not a commercial surface mining activity.

Chairperson Hirtz commented on the quality of the Draft EIR and complimented Harmsworth and Associates for the work that went into it.

Chairperson Hirtz asked where people would go with complaints of dust and noise.

Mr. McQuern stated the City would receive the complaints. Mr. Taylor added that the City would work with the Flood Control District to see there is compliance for control measures.

Motion by Commissioner Hand, seconded by Commissioner Downing and carried by unanimous vote to receive the Draft EIR and recommend that the City Council certify the document as the Final EIR, with the attachments and supporting materials, for the Upper Cactus Basins Flood Control Project.

******

APPENDIX H
CITY COUNCIL ACTION ON PROPOSED PROJECT

RESOLUTION NO. 3315

Y OF RIALTO
ANNING DEPT

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF RIALTO, CERTIFYING THE COMPLETION OF THE FINAL ENVIRONMENTAL IMPACT REPORT FOR THE PROPOSED UPPER CACTUS BASINS FLOOD CONTROL PROJECT, IN COMPLIANCE WITH THE CALIFORNIA ENVIRONMENTAL QUALITY ACT OF 1970 AND CITY GUIDELINES APPLICABLE TO SUCH ACT, AND MAKING CERTAIN FINDINGS THEREOF.

WHEREAS, the City of Rialto, acting in compliance with State of California and City of Rialto Environmental Guidelines, required the preparation of a Draft Environmental Impact Report (DEIR) for the proposed Upper Cactus Basins Flood Control Project; and

WHEREAS, a DEIR was prepared by a consultant for the City of Rialto and said Draft Environmental Impact Report was reviewed by City staff; and

WHEREAS, a Notice of Completion was submitted to the Secretary of Resources, State of California; and

WHEREAS, the DEIR was submitted for review to the State of California Office of Planning and Research and other responsible and interested public and quasi-public agencies and individuals; and

WHEREAS, comments relating to said DEIR have been received during the 45-day review period required by law, and adequate responses thereto have been prepared; and

WHEREAS, the DEIR was the subject of an advertised public hearing before the City of Rialto Planning Commission on August 30, 1988; and

WHEREAS, the Rialto Planning Commission, after hearing and considering all submitted testimony, recommended that the DEIR be approved as adequate and as having been completed in compliance with the California Environmental Quality Act of 1970, as amended, and the City of Rialto Guidelines for implementing the Act; and

WHEREAS, the DEIR, comments and responses and other supporting materials

as submitted, constitute the Final EIR for this project;

NOW, THEREFORE, the City Council of the City of Rialto resolves as follows:

SECTION 1. That the City Council, and each member thereof, has reviewed and considered the information in said Final EIR.

SECTION 2. Based upon the foregoing findings and as a result of its review and consideration of the information contained in said Final EIR, the City Council of the City of Rialto hereby certifies that the Final EIR for the proposed Upper Cactus Basins Flood Control Project has been completed in compliance with the California Environmental Quality Act and with local guidelines.

PASSED, APPROVED AND ADOPTED this 20th day of September, 1988.

John Longville, Mayor

ATTEST:

JOSEPH H. SAMPSON, CITY CLERK

APPROVED AS TO FORM:

ROBERT G. KOCH, JR., CITY ATTORNEY

STATE OF CALIFORNIA)
COUNTY OF SAN BERNARDINO) SS.
CITY OF RIALTO)

I, JOSEPH H. SAMPSON, City Clerk of the City of Rialto, do hereby certify that the foregoing Resolution No. 3315 was duly passed and adopted at a regular meeting of the City Council of the City of Rialto held on the 20th day of the September, 1988.

Upon motion of Councilmember McClure, seconded by Councilmember Sawyer, the foregoing Resolution No. [illegible] was duly passed and adopted.

Vote on the motion:

AYES: Mayor Longville; Councilmen: McClure, Sawyer, Curtis and Nix

NOES: None

ABSENT: None

IN WITNESS WHEREOF, I have hereunto set my hand and the Official Seal of the City of Rialto this 27th of September, 1988.

Joseph H. Sampson

JOSEPH H. SAMPSON, CITY CLERK

FINAL
SUPPLEMENTAL ENVIRONMENTAL IMPACT REPORT
(SCH No. 1987110914)

CACTUS BASINS 3 AND 3A FLOOD CONTROL FACILITY ENHANCEMENTS

Prepared for:

San Bernardino County
Flood Control District

Contact Person:
Mr. Frank Molina
Supervising Planner

Prepared by:

Lilburn Corporation
1905 Business Center Drive
San Bernardino, California 92408

April 21, 2008

TABLE OF CONTENTS

Page

FINAL ENVIRONMENTAL IMPACT REPORT

F.1 INTRODUCTION TO FINAL EIR F-1
F.2 REVISIONS TO THE DRAFT EIR F-1
F.3 PERSONS, ORGANIZATIONS AND PUBLIC AGENCIES COMMENTING ON THE DRAFT EIR F-1
F.4 DISPOSITION OF THE FINAL PROGRAM EIR F-2

6.0 MITIGATION MONITORING AND REPORTING PROGRAM 6-1
6.1 INTRODUCTION 6-1

7.0 PUBLIC COMMENTS AND LEAD AGENCY RESPONSES 7-1

FINAL ENVIRONMENTAL IMPACT REPORT

F.1 INTRODUCTION TO FINAL EIR

This Final Supplemental Environmental Impact Report (Final SEIR) for the Cactus Basins 3 and 3A Flood Control Facility Enhancements Project (SCH No. 1987110914) has been prepared in accordance with the California Environmental Quality Act (CEQA) and the State guidelines for implementation of CEQA. The public comment period for the Draft EIR began on January 16, 2008 and ended on March 3, 2008.

The Final SEIR consists of:

(a) Revisions to the Draft SEIR;

(b) Comments and recommendations received on the Draft SEIR either verbatim or in summary;

(c) A list of persons, organizations and public agencies commenting on the Draft SEIR;

(d) The responses of the Lead Agency to significant environmental points raised in the review and consultation process; and

(e) Any other information added by the Lead Agency.

The Final SEIR is comprised of the Comments and Responses sections, the revised Draft SEIR text and the technical appendices and constitutes the whole of the EIR as defined by CEQA Guidelines Section 15162.

F.2 REVISIONS TO THE DRAFT EIR

Revisions to the Draft SEIR in response to written comments were not required. However two figures incorrectly showed the project boundaries. Figure 2 and 3 have been revised and are included at the end of this section.

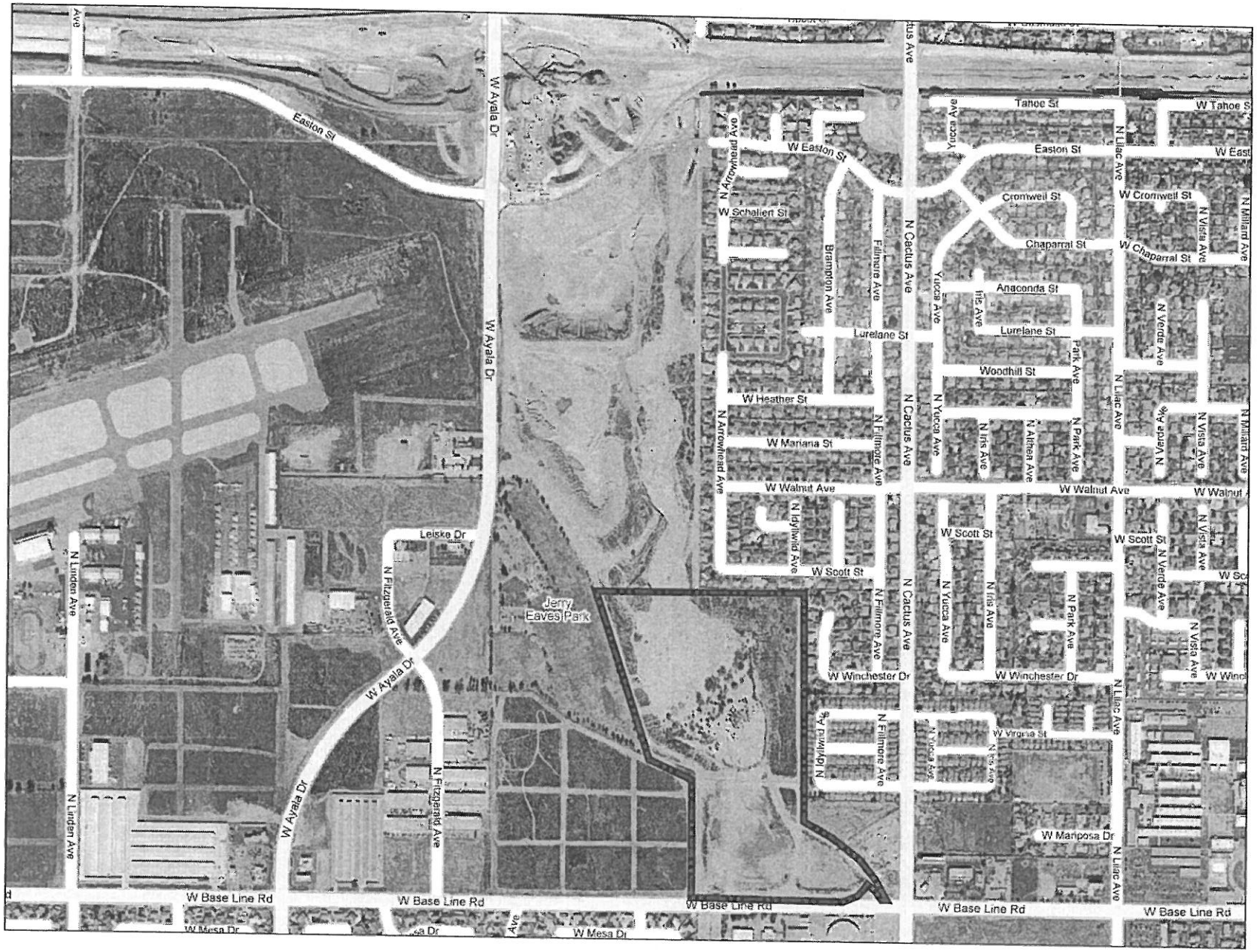
F.3 PERSONS, ORGANIZATIONS AND PUBLIC AGENCIES COMMENTING ON THE DRAFT EIR

The public comment period for the Draft SEIR ended March 3, 2008. A total of five comment letters were received. These are listed in Table 7-1 of Chapter 7.0 Public Comments and Responses. Comment letters received and the District's responses are provided in their entirety in Chapter 7.0.

F.4 DISPOSITION OF THE FINAL EIR

Upon certification of the Final SEIR, adoption of the Mitigation Monitoring and Reporting Program (MMRP), and approval of the project, the District will file a Notice of Determination (NOD) with the San Bernardino County Clerk.

The Final SEIR used to support implementation of the Cactus basins 3 and 3A Flood Control Facility Enhancements Project will be compiled with the Draft EIR and other pertinent documents (NOD, staff reports, etc.) and will be kept on file at the San Bernardino County Flood Control District (District). The Final SEIR, including the Mitigation Monitoring Program, will be consulted during each phase of the project to ensure that implementation of mitigation measures occurs at the appropriate time.



Project Vicinity

Upper Cactus Basin 3
City of Rialto, California

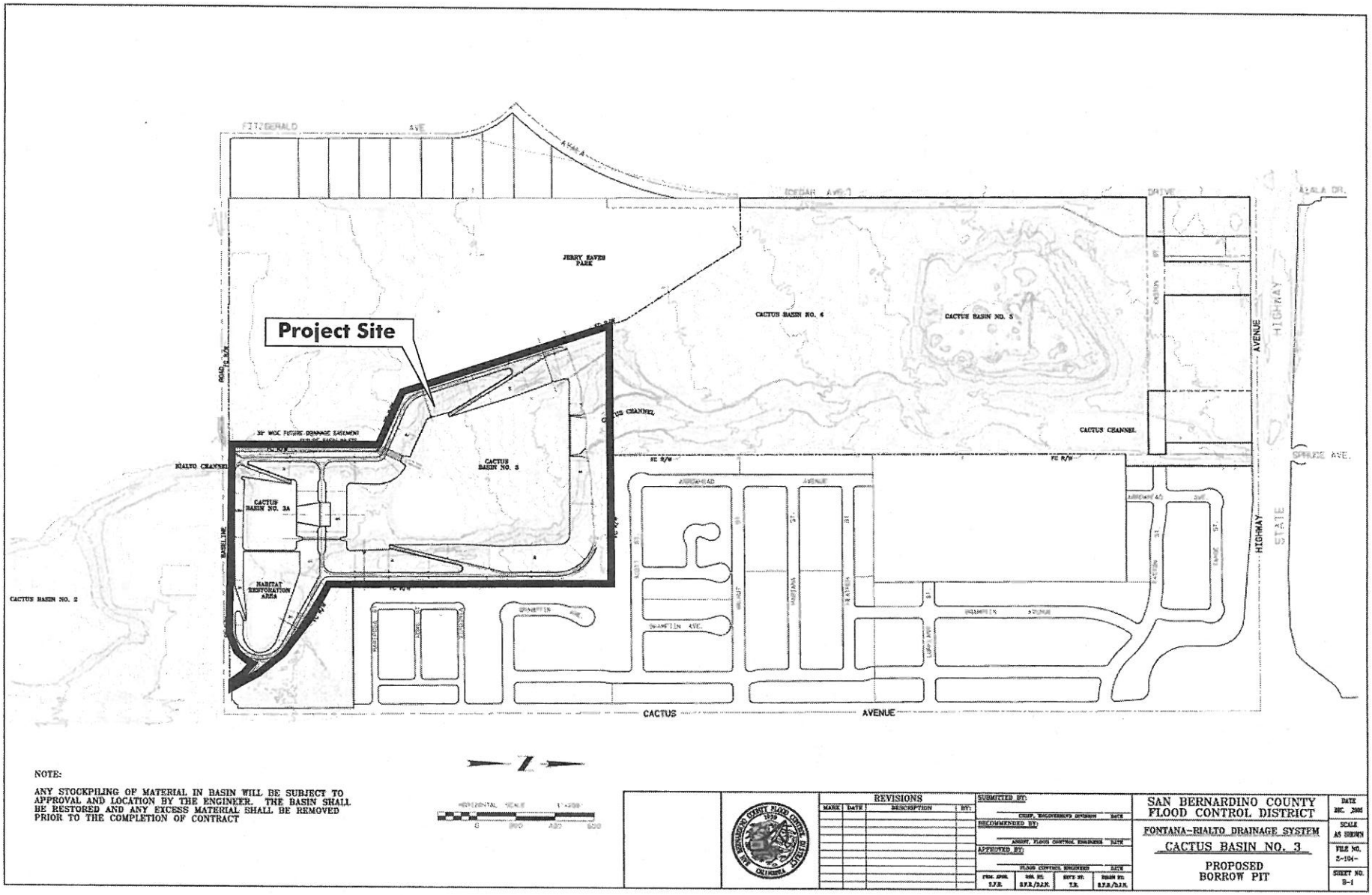
Figure 2

Legend

Project Site

N

0 550
Feet



Project Site

Upper Cactus Basin 3
City of Rialto, California

Figure 3

6.0 MITIGATION MONITORING AND REPORTING PROGRAM

6.1 INTRODUCTION

The mitigation monitoring and reporting program (MMRP) has been prepared to implement the mitigation measures identified in the Cactus Basins 3 and 3A Flood Control Facility Enhancements EIR. CEQA Section 21081.6 requires adoption of a monitoring program when mitigation measures have been identified that would reduce or avoid significant environmental effects. The MMRP is included in the Final SEIR as Table 6-1.

CEQA requires adoption of a monitoring program for those measures or conditions placed on a project to mitigate or avoid adverse effects on the environment. The law states that the monitoring program shall be designed to ensure compliance during project implementation. When implemented environmental effects associated with the Cactus Basins 3 and 3a Enhancements project will be reduced or eliminated.

The MMRP has been prepared as a matrix containing the following elements:

1. Measures that act as to mitigate significant impacts on the environment are recorded with the action and the procedure necessary to ensure compliance.
2. A procedure of compliance and verification has been outlined for each action necessary. This procedure designates who will take action, what action will be taken and when, and to whom and when compliance will be reported.
3. The MMRP has been designed to provide focused, yet flexible guidelines. As monitoring progresses, changes to compliance procedures may be necessary based upon recommendations by those responsible for the program.

Program Management - The MMRP will be in place through all phases of the project. The project planner, assigned by the Flood Control Engineer, shall coordinate enforcement of the MMRP and oversee the MMRP to ensure that proper action is taken on each mitigation measure. The District shall ensure compliance of the conditions (mitigation) that relate to the project.

For impacts related to construction of the project, the project planner or an authorized representative has the authority to stop the work of construction contractors if compliance with any aspects of the MMRP are not occurring after written notification has been issued. The project planner or an authorized representative also has the authority to hold certificates of occupancies if compliance with a mitigation measure does not occur.

Any mitigation measures that require monitoring after construction is completed shall be the responsibility of the San Bernardino County Flood Control District, Environmental Management Division.

TABLE 6-1
MITIGATION MONITORING AND REPORTING PROGRAM
CACTUS BASINS 3 AND 3A FLOOD CONTROL FACILITY ENHANCEMENTS

IDENTIFIED IMPACTS	MITIGATION MEASURES	COMPLIANCE/MONITORING PROCEDURE	RESPONSIBLE PARTY
AIR QUALITY			
AQ-1: Enhancement of the Cactus Basins 3 and 3A may violate pollutant level thresholds as established by the SCAQMD during the construction phase.	**AQ-1:** The project shall comply with the requirements of the SCAQMD Rules 402 Nuisance, and 403, Fugitive Dust, which require the implementation of Best Available Control Measures (BACM) for each fugitive dust source, and the AQMP), which identifies Best Available Control Technologies (BACT) for area sources and point sources, respectively. This would include, but not be limited to the following: A. The project proponent shall ensure that any portion of the site to be graded shall be pre-watered to a depth of three feet prior to the onset of grading activities. (a) The project proponent shall ensure that watering of the site or other soil stabilization method shall be employed on an on-going basis after the initiation of any grading activity on the site. Portions of the site that are actively being graded shall be watered regularly to ensure that a crust is formed on the ground surface, and shall be watered at the end of each workday. (b) The project proponent shall ensure that landscaped areas are installed as soon as possible to reduce the potential for wind erosion. (c) The project proponent shall ensure that all grading activities are suspended during first and second stage ozone episodes or during any period when winds exceed 25 miles per hour.	Construction contract review and monitoring during construction	San Bernardino County FCD, Environmental Management
	AQ-2: To reduce emissions, all equipment used in grading and construction must be tuned and maintained to the manufacturer's specification to maximize efficient burning of vehicle fuel.	Construction contract review and monitoring during construction	San Bernardino County FCD, Environmental Management

TABLE 6-1
MITIGATION MONITORING AND REPORTING PROGRAM
CACTUS BASINS 3 AND 3A FLOOD CONTROL FACILITY ENHANCEMENTS

IDENTIFIED IMPACTS	MITIGATION MEASURES	COMPLIANCE/MONITORING PROCEDURE	RESPONSIBLE PARTY
AIR QUALITY (Continued)			
	AQ-3: The project proponent shall, prepare an erosion control plan and PM_{10} plan.	Prior to construction	San Bernardino County FCD, Environmental Management
	AQ-4: The project proponent shall ensure that construction personnel are informed of ride sharing and transit opportunities.	Construction contract review and prior to construction	San Bernardino County FCD, Environmental Management and Contractor
BIOLOGICAL RESOURCES			
Project approval and subsequent enhancement would result in removing almost all natural vegetation and maintaining the site for flood control uses.	**BIO-1:** Pursuant to the 1988 EIR, the loss of alluvial fan sage scrub shall be mitigated off-site by preserving approximately 45 acres of alluvial fan sage scrub reserve. The potential locations identified in the 1988 EIR were Lytle Creek, San Sevaine Creek and Cucamonga Creek. San Bernardino County Flood Control District (SBCFCD) has agreed to set-aside a parcel of land in Cajon Creek for the off-site mitigation (See Figure 6).	Consult with USFWS and CDFG regarding mitigation land	San Bernardino County FCD, Environmental Management
	BIO-2: A revegetation plan shall be prepared according to the 1988 EIR to revegetate approximately 41 acres. The revegetation plan would include placement of native duff (decaying vegetation) from stockpile and hydroseed with alluvial fan sage scrub seed mix in accordance with the Cactus Basin No. 3 Habitat Restoration/Revegetation Plan Specifications dated November of 2005. Most of all of the disturbed areas within the clearing and grubbing limits shall be hydroseeded.	Prior to construction	San Bernardino County FCD, Environmental Management

TABLE 6-1
MITIGATION MONITORING AND REPORTING PROGRAM
CACTUS BASINS 3 AND 3A FLOOD CONTROL FACILITY ENHANCEMENTS

IDENTIFIED IMPACTS	MITIGATION MEASURES	COMPLIANCE/MONITORING PROCEDURE	RESPONSIBLE PARTY
BIOLOGICAL RESOURCES (Continued)			
	BIO-3: U.S. Fish and Wildlife shall be contacted to discuss the need for a mitigation plan for the one SBKR trapped. If necessary, the U.S. COE shall formally consult with the Service under Section 7 of the Federal Endangered Species Act and prepare a Habitat Conservation Plan.	Consult with USFWS and CDFG regarding mitigation land	San Bernardino County FCD, Environmental Management
	BIO-4: To avoid incidental killing of birds protected under the Migratory Bird Treaty Act and the California Fish and Game Code, initial grading and brush removal of any previously undisturbed habitat shall be scheduled outside the breeding season.	Initial grading and brush removal in undisturbed areas to occur during months of September-February	San Bernardino County FCD, Environmental Management
	BIO-5: Although not observed during field surveys of the project site, burrowing owls may occur in areas not covered by the field survey (particularly sand and gravel areas). Pre-construction clearance surveys shall be conducted to determine whether or not burrowing owls occur on the site. If they occur, the District will engage in a passive relocation program that will be conducted outside of the breeding season, March-August. The District will create on-site artificial burrows above the flood level of the basin prior to engaging in passive relocation of burrowing owls. Artificial burrows will be: 1) located as close as possible to the location of occupied burrows; 2) constructed at a ratio of 2:1 for every occupied burrow found and; 3) be approved by the California Department of Fish and Game prior to their installation. Maintenance of said burrows will be conducted by District personnel utilizing hand tools or powered weed mowers at least once a year. Heavy earth moving equipment, i.e., graders, scrapers, etc., shall not be utilized in maintenance operations of said burrows.	Conduct pre-construction clearance surveys prior to any ground disturbing activities	San Bernardino County FCD, Environmental Management

TABLE 6-1
MITIGATION MONITORING AND REPORTING PROGRAM
CACTUS BASINS 3 AND 3A FLOOD CONTROL FACILITY ENHANCEMENTS

IDENTIFIED IMPACTS	MITIGATION MEASURES	COMPLIANCE/MONITORING PROCEDURE	RESPONSIBLE PARTY
CULTURAL RESOURCES			
There is minimal to no potential for discovery of buried or subsurface archaeological and/or cultural materials as a result of the proposed project.	**CR-1:** An archaeological monitor shall be employed during initial grading and/or excavation of undisturbed soils only. This amounts to an estimated 1-3% of the total project area. The monitor shall have the authority to halt construction activity in the immediate vicinity of the discovery of any potentially significant subsurface archaeological remains in order that a Phase II Archaeological Investigation may be conducted under the direction of a qualified consulting archaeologist in accordance with CEQA guidelines.	Archaeological monitor on-site during initial grading of undisturbed areas	San Bernardino County FCD, Environmental Management and Contractor
	CR-2: If human remains are unearthed during construction, State Health and Safety Code Section 7050.5 states that, "no further disturbance shall occur until the County Coroner has made the necessary findings as to origin and disposition pursuant to Public Resources Code Section 5097.98."	Throughout construction	San Bernardino County FCD, Environmental Management and Contractor
HYDROLOGY AND DRAINAGE			
Flood control aspects of the proposed project will modify the surface water flow regime of the upper Rialto Channel drainage.	**HW-1:** The contractor for the proposed project shall comply with the SWPPP for Upper Cactus Basins 3 and 3A.	Prior to and during construction	San Bernardino County FCD, Environmental Management

7.0 PUBLIC COMMENTS AND LEAD AGENCY RESPONSES

The 45-day public comment period for the Supplement DEIR began January 16, 2008 and ended March 3, 2008. A total of five comment letters were received. These are listed in Table 7-1 and are identified by a number. Individual comments within each letter are identified with a unique numeric indicator. For example the comment letter from the California Division of Safety of Dams, is Letter 1. The letter contains one comment identified as Comment 1-1.

Table 7-1
Comment Letters Received on the Draft Environmental Impact Report

Letter	Name	Date on Letter
1	California Division of Safety of Dams	February 19, 2008
2	State Water Resources Control Board	February 20, 2008
3	Department of Fish and Game	March 4, 2008
4	Native American Heritage Commission (NAHC)	February 15, 2008
5	San Bernardino Valley Municipal Water District	February 25, 2008

State of California

The Resources Agency

Letter 1

Memorandum

Date: FEB 19 2008

To: 1. Ms. Nadell Gayou
Resources Agency Project Coordinator
Environmental Review Section, DPLA
901 P Street
Sacramento, California 95814

2. Mr. Frank Molina
San Bernardino County Flood Control District
825 East Third Street, Room 201
San Bernardino, California 92415-0835

RECEIVED
49285
FEB 21 2008
DEPT. OF PUBLIC WORKS
ENVIRO. MGMT. DIV.

From: **Department of Water Resources**

Subject: SCH #1987110914, Notice of Completion and Environmental Document Transmittal of Draft Supplemental Environmental Impact (EIR) for Cactus Basins 3 and 3A Flood Control Facility Enhancements project, January 2008, San Bernardino County

The Division of Safety of Dams has reviewed the Supplemental EIR for the subject project, which includes two new flood control facilities. We have also been working directly with San Bernardino County Flood Control District, the owner of these proposed facilities, to address jurisdictional issues and related follow-up work.

Basin 3, with a storage capacity of 518 acre-feet and a dam height of 37 feet will be subject to State jurisdiction for safety. The owner has submitted a construction application for this facility, which is currently under our review. John Vrymoed, Design Engineering Branch Chief, is responsible for the application approval process and can be reached at (916) 227-4660. 1-1

Basin 3A, with a storage capacity of 26 acre-feet and a dam height of 24 feet will not be subject to State jurisdiction. As defined in Sections 6002 and 6003, Division 3, of the California Water Code, dams 25 feet or higher with a storage capacity of more than 15 acre-feet, and dams higher than 6 feet with a storage capacity of 50 acre-feet or more, are subject to State jurisdiction.

If you have any questions or need additional information, you may contact Office Engineer Chuck Wong at (916) 227-4601 or Regional Engineer Mutaz Mihyar at (916) 227-4600

M. Zumot

Mike Zumot, Acting Chief
Division of Safety of Dams
(916) 227-9800

cc: Governor's Office of Planning
and Research
State Clearinghouse
Post Office Box 3044
Sacramento, California 95812-3044

Comment 1-1

Comment provides status of Division of Safety of Dams' review of project's application regarding state jurisdiction over dams.

Response 1-1

Comment acknowledged; the District is continuing to work with DSOD.

Letter 2

State Water Resources Control Board

Linda S. Adams
Secretary for Environmental Protection

Division of Water Rights
1001 I Street, 14th Floor ♦ Sacramento, California 95814 ♦ 916.341.5300
Mailing Address: P.O. Box 2000 ♦ Sacramento, California 95812-2000
FAX: 916.341.5400 ♦ www.waterrights.ca.gov

Arnold Schwarzenegger
Governor

In Reply Refer to:KDM:266.0

FEB 2 0 2008

Frank Molina
San Bernardino County Flood Control District
825 East Third Street, Room 201
San Bernardino, CA 92415

Dear Mr. Molina:

CACTUS BASINS 3 AND 3A FLOOD CONTROL FACILITY ENHANCEMENTS PROJECT SUPPLEMENTAL ENVIRONMENTAL IMPACT REPORT (SCH NO. 1927110914), LYTLE CREEK IN SAN BERNARDINO COUNTY

The Division of Water Rights (Division) has reviewed the document identified above which indicates that the San Bernardino County Flood Control District intends to construct three retention basins and a segment of a flood control channel (Rialto Channel), collectively termed the Upper Cactus Basins in the widespread alluvial fan area of Lytle Creek. The Division does not have a record of a water right for this project. The Division is responsible for the administration of all appropriative water rights in California initiated after 1914; commonly referred to as "post-1914 appropriative rights." The State Water Resources Control Board regulates diversions from surface and subterranean streams flowing through known and definite channels and a water right permit is required for surface water diversion. 2-1

The project is designed to control runoff from proposed and existing development. If surface flows are not routed into the basins, an appropriative water right is not needed. If surface flows are routed into or retained in the basins for 30 or more days an appropriative right is required. A response is requested within the next 30 days stating whether surface flows will be used for this project.

Any project that diverts from surface streams should analyze the impacts to instream resources of the diversion and provide appropriate mitigation.

If you have any questions, please contact me at (916) 341-5363.

Sincerely,

Katherine Mrowka

Katherine Mrowka, Chief
Watershed Unit 3

RECEIVED
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FEB 25 2008
DEPT. OF PUBLIC WORKS
ENVIRO. MGMT. DIV.

Comment 2-1

Comment requests clarification regarding design and use of the basins.

Response 2-1

The basins are being enhanced to detain increased flows due to development in the watershed and flows diverted to the basin as a result of the construction of Interstate 210. The project has not been designed for the diversion and recharge of surface flows; therefore, an appropriative water right is not being sought.

STATE OF CALIFORNIA - THE RESOURCES AGENCY

Letter 3

ARNOLD SCHWARZENEGGER, *Governor*

DEPARTMENT OF FISH AND GAME
http://www.dfg.ca.gov
Inland Deserts Region
3602 Inland Empire Boulevard, C-220
Ontario, California 91764
Phone (909) 484-0167
Fax (909) 481-2945

RECEIVED
MAR - 6 2008
DEPT. OF PUBLIC WORKS
ENVIRO. MGMT. DIV.

March 4, 2008

Mr. Frank Molina
Supervising Planner
San Bernardino County Department of Public Works
825 E. Third Street, Room 201
San Bernardino, CA 92415

Re: Supplemental Environmental Impact Report: Cactus Basins 3 and 3A Flood Control Facility, Rialto. SCH#1987110914

Mr. Molina:

The Department of Fish and Game (Department) appreciates this opportunity to comment on the Draft Supplemental Environmental Impact Report (SEIR) for the above-referenced project with regards to impacts to biological resources. The proposed project consists of modifications to two detention basins (Upper Cactus Basin 3 and 3A) and a segment of flood control channel in the City of Rialto, the County of San Bernardino. San Bernardino County Flood Control (SBCFC) is the lead agency for CEQA.

The Department is responding as a Trustee Agency for fish and wildlife resources [Fish and Game Code sections 711.7 and 1802 and the California Environmental Quality Act Guidelines (CEQA) section 15386] and as a Responsible Agency regarding any discretionary actions (CEQA Guidelines section 15381), such as a Streambed Alteration Agreement.

The proposed development is located near Highland Avenue, Ayala Drive, Baseline Road and Cactus Avenue. The stated objective of the proposed project is to eliminate any potential increase in flood control hazard due to planned development in the northern portions of Rialto. However, the runoff from new residential development is required by the Regional Water Quality Board to be held on site. The County is proposing to remove all vegetation on the site, Riversidean Alluvial Fan Sage Scrub (RAFSS), Riversidean sage scrub (RSS) and riparian vegetation.

Project History

The City of Rialto certified a Final EIR in 1988 for a project consisting of the construction of three unlined retention basins (Basins A, B and C), a rectangular concrete channel from Highland Avenue to Basic C, and a system of basin inlets and outlets. After construction the proposed use of the basins was for groundwater recharge. The San Bernardino Valley Municipal Water District (SBVMWD) would use the basins for recharge of State Water Project water. The project was approved by the City of Rialto because of the critical nature of the project. The document included mitigation measures but impacts still remained so the City Council adopted Findings and a Statement of Overriding Consideration for unavoidable impacts to topography, hydrology, biology, traffic and circulation, air quality, noise and visual quality. The project was never implemented.

The SEIR states that none of the improvements proposed in the 1988 FEIR were implemented

and that the site had been used for sand and gravel mining since 1984. On page 4.2-2 the SEIR notes that the project site was disturbed because it had been utilized for sand and gravel mining and as "existing" flood control basins.

Viability of Underlying FEIR

Most CEQA documents prepared in 1988 would not be adequate in today's regulatory environment. Any issues concerning the environmental setting, land use, demographics, alternatives analysis or cumulative impact analysis would be over 20 years old and not applicable to the current planning environment. An enormous amount of growth has occurred since 1988, making any housing or population analysis outdated. The applicants are proposing a supplemental EIR for the underlying 1988 FEIR approved by the City of Rialto in 1988. The SEIR includes analysis of air quality, biological resources, cultural resources, and hydrology and water quality. The SBCFC did update the sections on biology, cultural resources, air quality and hydrology and water quality. 3-1

The SEIR states that the current flood control channel is not adequate to contain the 100 peak stormwater flows. As stated in the SEIR, the purpose of this project is because development will continue to increase the magnitude and peak flows and volume of storm runoff. Thus, the project will be growth inducing, because future development is reliant upon the proposed project. The Department does not know whether residential and commercial development has been constructed in the area with inadequate flood control protection. The Department also does not know if existing and previous development was enabled by the use of the former mining sites for flood control, whether the use of the site for flood control was ever permitted or what resources were impacted by use of the site originally and on an ongoing basis. 3-2

The SEIR did not update the alternatives analysis section of the FEIR. In addition, the SEIR does not discuss cumulative impacts and growth-inducing effects of the proposed project. These areas need to be updated in the FEIR. 3-3

LSAA / Dam Issues

Appendix F is the 2006 "Jurisdictional wetlands, streambeds, and water of the United States: Cactus Basin No. 3 and 3A". This delineation concludes that: "Thus, all areas mapped as riparian woodland, flood channel, and maintained flood basins (Scott White Biological Consulting 2006) meet jurisdictional criteria". This delineation also reports that discing, dredging and maintenance activities have occurred in the basins and that the sites would likely support hydrophytic vegetation in the absence of maintenance work.

The 1988 project was never implemented by the City of Rialto. The SEIR does not state when the location stopped being used for mining and started being used as flood control basins, under what federal or state permits and/or CEQA documents the site was authorized to be used for flood control or what impacts were involved in operating the basins for flood control and their maintenance or management. The history of the site and permits involved should be discussed in more detail in an FEIR. Appendix C (Revegetation Plan Cactus Basin No. 3, 2003) of the SEIR was prepared as a condition of Army Corps of Engineers 404 permit No. 200300220-GS and Department LSAA No. 6-2002-193. This is not discussed in the biological resources section of the SEIR. 3-4

The Department concurs with conclusions of the 2006 wetland delineation included in the SEIR that the riparian woodlands, flood channel and basins are jurisdictional. The Department opposes the elimination of drainages and their associated habitats. The Department recommends avoiding the stream and riparian habitat to the greatest extent possible. Any unavoidable impacts need to be compensated with the creation and/or restoration of in-kind habitat either on-site or off-site at a 3-5

minimum 3:1 replacement-to-impact ratio, depending on the impacts and proposed mitigation. Additional mitigation requirements through the Department's Streambed Alteration Agreement process may be required depending on the quality of habitat impacted, proposed mitigation, project design, and other factors. We recommend submitting a notification early on, since modification of the proposed project may be required to avoid or reduce impacts to fish and wildlife resources. **3-5 Cont.**

The project also involves the construction of a dam between Basins 3 and 3A. As acknowledged in the SEIR, and falls within the jurisdiction of the California Division of Safety of Dams. Article 2 (Dams and Obstructions) of the Fish and Game Code details the Department's regulations concerning dams. When the applicant submits an application with the Department of Water Resources for construction or enlargement of a dam, an application is also forwarded to the Fish and Game Commission to determine whether fish passage will be obstructed. This issue must be addressed by the applicant and a determination made whether there are fish issues involved in the project. **3-6**

San Bernardino Kangaroo Rat

Special Status species at the project site include: San Diego black-tailed jackrabbit (*Lepus californicus*), horned lark (*Eremophila alpestris actia*), western whiptail (*Cnemidophorus tigris multisculatis*), San Diego pocket mouse (*Peregnathus fallax pallidus*) and Cooper's hawk (*Accipiter cooperii*). In addition, the Federal Endangered Species Act (FESA) listed San Bernardino kangaroo rat (*Dipodomys merriami parvus*) also occurs on-site. **3-7**

Although the revegetation and other mitigation proposed by the applicant may mitigate impacts to the sensitive species and vegetation, no mitigation is proposed for potential impacts to the San Bernardino kangaroo rat. Any agreements reached with the United States Fish and Wildlife Service should be included in an FEIR to comply with the information requirements of CEQA.

Thank you for this opportunity to comment. Please contact Robin Maloney-Rames, Environmental Scientist, at (909) 980-3818, if you have any questions regarding this letter.

Sincerely,

Scott Dawson
Senior Environmental Scientist
Habitat Conservation Planning

cc: Nancy, Ferguson, USFWS, Carlsbad
State Clearinghouse, Sacramento

Comment 3-1

The comment concludes that the 1988 EIR would not be adequate because of its age and not applicable to the current planning environment.

Response 3-1

The adequacy of a CEQA document and its use for tiering off of for a subsequent document is a decision of the Lead Agency. The San Bernardino County Flood Control District determined that since little change has occurred in the environment of the project's vicinity, the only updates necessary were those required to address changes in the regulatory environment.

Comment 3-2

The comment states that the Department has not been made aware of development that has occurred in the area since the time of the original EIR and makes a determination that the project may be considered growth inducing.

Response 3-2

As stated on page 2-1 of the Draft SEIR, the original stated objective for the proposed project was to eliminate any potential increase in flood hazard due to planned development in the northern portion of the City and to help alleviate stress on other storm water facilities located downstream of the proposed project, thereby allowing the regional flood control system to function more effectively. The project is a public flood control project and therefore responds to growth in order to protect the public from flood impacts that may threaten life or property. Development in the region, as well as, completion of I-210 north of the project have substantially increased flows into the Cactus Basins, making it necessary for the District to initiate immediate improvements to the system.

Comment 3-3

The Department states that the SEIR needs to include an update to the Alternatives, Cumulative Impacts, and Growth Inducing sections of the EIR.

Response 3-3

See Response 3-1

Comment 3-4

This comment requests that additional information be provided regarding any prior CEQA analysis or permits issued for the past mining activities at the project site.

Response 3-4

Cactus Basin No. 3 was part of the Rialto Channel system and has acted as a flood control facility from the time that it was utilized as a borrow pit in 1976. 1990 is the first known date of the project site receiving a Streambed Alteration Agreement, No. 5-040-90, issued by the California Department of Fish and Game (CDFG). The Agreement was for an interim graded earth channel with rock slope protection for Cactus Basin. CDFG subsequently issued other Streambed Alteration Agreements, Nos. 5-387-94 and 6-2002-193, for the project site as a flood control facility. The latter agreement, 6-2002-193, utilized the 1988 EIR as the CEQA document that was accepted by CDFG in issuing this Agreement. Per the 1988 EIR, the project is subdivided into three (3) main aspects or phases: 1) construction of the basins and channel. 2) operation of the facility for flood control purposes, and 3) operation of the facility for artificial recharge of retained storm runoff and State Water Project water, to the groundwater system. Excavation of the basins was done under contract by the District with project excavations (sand and gravel operators). The excavation activity was anticipated to involve 10 years (1989-1998). Excavation activities for Basin No. 3 were completed in 1990 according to District records. The adoption by the City of Rialto of the 1988 EIR served as the CEQA document for the excavation activities of the project. At this time, Cactus Basin No. 3 is at the end of the 1st phase and the beginning of the 2nd phase of the upper Cactus Basin Flood Control Facility.

Comment 3-5

This comment states that the Department concurs with the District's conclusion of jurisdictional wetlands on-site and indicates that mitigation will be required to compensate for and/or restore habitat impacted by the project.

Response 3-5

As stated in the Draft SEIR:

Based on hydrology and vegetation indicators (where available) it was concluded that the eastern portion of Basin 3A and part of the western portion, mapped as maintained flood basin (refer to Appendix E), meet state and federal criteria as wetlands. The southern portion of Basin 3, mapped as mulefat scrub and riparian woodland also meets state and federal wetland criteria. The northern portions of both basin, mapped as flood channel, meet criteria as jurisdictional waters of the United States and as a streambed but do not meet criteria as a wetland. Thus, all areas mapped earlier as riparian woodland, flood channel, and maintained flood basins meet jurisdictional criteria.

Mitigation Measures

BIO1 *Pursuant to the 1988 EIR, the loss of alluvial fan sage scrub shall be mitigated off-site by preserving approximately 45 acres of alluvial fan sage scrub reserve. The potential locations identified in the 1988 EIR were Lytle Creek, San Sevaine Creek and Cucamonga Creek. San Bernardino County Flood Control District (SBCFCD) has*

agreed to set-aside a parcel of land in Cajon Creek for the off-site mitigation (See Figure 6).

BIO2 *A revegetation plan shall be prepared according to the 1988 EIR to revegetate approximately 41 acres. The revegetation plan would include placement of native duff (decaying vegetation) from stockpile and hydroseed with alluvial fan sage scrub seed mix in accordance with the Cactus Basin No. 3 Habitat Restoration/Revegetation Plan Specifications dated November of 2005. Most of all of the disturbed areas within the clearing and grubbing limits shall be hydroseeded.*

Further, the District met with the Department on-site in December 2006, and discussed potential mitigation plans. Mr. Jeff Brandt of the Department of Fish and Game requested that the District set aside a mitigation/conservation area that would provide for mitigation of any future flood control projects in the area with similar habitat. A mitigation bank in the Cajon Creek area is presently under development to respond to that request.

An application for a 1602 permit is being prepared for submittal to the Department.

Comment 3-6

This comment notes that the project involves the construction of a dam and therefore requires an application for a construction permit from the Department of water resources with a simultaneous application to the Department to determine impacts to fish passage.

Response 3-6

The Department has been working with the Division of Safety of Dams (see Comment Letter No. 1).

Our understanding is that the Fish and Game Commission normally reviews the impact of dams on anadromous fish (e.g. trout, steelhead) and that a flood control facility for the detention of storm flows (ephemeral flows) would not be required to submit such application to the Department. However, we will forward our application to the Division of Safety of Dams to the Commission.

Comment 3-7

This comment states that no mitigation is recommended in the SEIR for potential impacts to the San Bernardino kangaroo rat and that any agreements with U.S. Fish and Wildlife Service regarding such species should be included in the Final SEIR.

Response 3-7

As stated on page 4.2-10 of the SEIR – "U.S. Fish and Wildlife shall be contacted to discuss the need for a mitigation plan for the one SBKR trapped. If necessary, the U.S. ACOE shall formally

consult with the Service under Section 7 of the Federal Endangered Species Act and prepare a Habitat Conservation Plan"

Letter 4

STATE OF CALIFORNIA Arnold Schwarzenegger, Governor

NATIVE AMERICAN HERITAGE COMMISSION
915 CAPITOL MALL, ROOM 364
SACRAMENTO, CA 95814
(916) 653-6251
Fax (916) 657-5390
Web Site www.nahc.ca.gov
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February 15, 2008

Mr. Frank Molina, Supervising Planner
COUNTY OF SAN BERNARDINO DEPARTMENT OF PUBLIC WORKS/
SAN BERNARDINO COUNTY FLOOD CONTROL DISTRICT
825 East Third Street, Room 201
San Bernardino, CA 92415-0835

Re: SCH#1987110914; CEQA Notice of Completion; Supplemental Environmental Impact Report (SEIR) for the Cactus Basins 3 and 3A Flood Control Facility Enhancements; San Bernardino County Flood Control District; San Bernardino County, California

Dear Mr. Molina:

The Native American Heritage Commission is the state agency designated to protect California's Native American Cultural Resources. The California Environmental Quality Act (CEQA) requires that any project that causes a substantial adverse change in the significance of an historical resource, that includes archaeological resources, is a 'significant effect' requiring the preparation of an Environmental Impact Report (EIR) per the California Code of Regulations §15064.5(b)(c (CEQA guidelines). Section 15382 of the 2007 CEQA Guidelines defines a significant impact on the environment as "a substantial, or potentially substantial, adverse change in any of physical conditions within an area affected by the proposed project, including ...objects of historic or aesthetic significance." In order to comply with this provision, the lead agency is required to assess whether the project will have an adverse impact on these resources within the 'area of potential effect (APE)', and if so, to mitigate that effect. To adequately assess the project-related impacts on historical resources, the Commission recommends the following action:

√ Contact the appropriate California Historic Resources Information Center (CHRIS) for possible 'recorded sites' in locations where the development will or might occur.. Contact information for the Information Center nearest you is available from the State Office of Historic Preservation (916/653-7278)/ http://www.ohp.parks.ca.gov. The record search will determine:

- If a part or the entire APE has been previously surveyed for cultural resources.
- If any known cultural resources have already been recorded in or adjacent to the APE.
- If the probability is low, moderate, or high that cultural resources are located in the APE.
- If a survey is required to determine whether previously unrecorded cultural resources are present.

√ If an archaeological inventory survey is required, the final stage is the preparation of a professional report detailing the findings and recommendations of the records search and field survey.

- The final report containing site forms, site significance, and mitigation measurers should be submitted immediately to the planning department. All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum, and not be made available for pubic disclosure. 4-1
- The final written report should be submitted within 3 months after work has been completed to the appropriate regional archaeological Information Center.

√ Contact the Native American Heritage Commission (NAHC) for:

  * A Sacred Lands File (SLF) search of the project area and information on tribal contacts in the project vicinity that may have additional cultural resource information. Please provide this office with the following citation format to assist with the Sacred Lands File search request: USGS 7.5-minute quadrangle citation with name, township, range and section; .

- The NAHC advises the use of Native American Monitors to ensure proper identification and care given cultural resources that may be discovered. The NAHC recommends that contact be made with Native American Contacts on the attached list to get their input on potential project impact (APE). In some cases, the existence of a Native American cultural resources may be known only to a local tribe(s).

√ Lack of surface evidence of archeological resources does not preclude their subsurface existence.

- Lead agencies should include in their mitigation plan provisions for the identification and evaluation of accidentally discovered archeological resources, per California Environmental Quality Act (CEQA) §15064.5 (f). In areas of identified archaeological sensitivity, a certified archaeologist and a culturally affiliated Native American, with knowledge in cultural resources, should monitor all ground-disturbing activities.
- A culturally-affiliated Native American tribe may be the only source of information about a Sacred Site/Native American cultural resource.

- Lead agencies should include in their mitigation plan provisions for the disposition of recovered artifacts, in consultation with culturally affiliated Native Americans.

√ Lead agencies should include provisions for discovery of Native American human remains or unmarked cemeteries in their mitigation plans.

* CEQA Guidelines, Section 15064.5(d) requires the lead agency to work with the Native Americans identified by this Commission if the initial Study identifies the presence or likely presence of Native American human remains within the APE. CEQA Guidelines provide for agreements with Native American, identified by the NAHC, to assure the appropriate and dignified treatment of Native American human remains and any associated grave liens.

√ Health and Safety Code §7050.5, Public Resources Code §5097.98 and Sec. §15064.5 (d) of the California Code of Regulations (CEQA Guidelines) mandate procedures to be followed, including that construction or excavation be stopped in the event of an accidental discovery of any human remains in a location other than a dedicated cemetery until the county coroner or medical examiner can determine whether the remains are those of a Native American. . Note that §7052 of the Health & Safety Code states that disturbance of Native American cemeteries is a felony.

√ Lead agencies should consider avoidance, as defined in §15370 of the California Code of Regulations (CEQA Guidelines), when significant cultural resources are discovered during the course of project planning and implementation

4-1 Cont.

Please feel free to contact me at (916) 653-6251 if you have any questions.

Sincerely,

Dave Singleton
Program Analyst

Attachment: List of Native American Contacts

Cc: State Clearinghouse

Native American Contacts
San Bernardino County
February 15, 2008

Cahuilla Band of Indians
Anthony Madrigal, Jr., Chairperson
P.O. Box 391760 Cahuilla
Anza , CA 92539
tribalcouncil@cahuilla.net
(951) 763-2631

(951) 763-2632 Fax

Soboba Band of Mission Indians
Chairperson
P.O. Box 487 Luiseno
San Jacinto , CA 92581
varres@soboba-nsn.gov
(951) 654-2765
(951) 654-4198 - Fax

Pechanga Band of Mission Indians
Paul Macarro, Cultural Resource Center
P.O. Box 1477 Luiseno
Temecula , CA 92593
(951) 308-9295 Ext 8106
(951) 676-2768
(951) 506-9491 Fax

Ti'At Society
Cindi Alvitre
6515 E. Seaside Walk, #C Gabrielino
Long Beach , CA 90803
calvitre@yahoo.com
(714) 504-2468 Cell

Ramona Band of Mission Indians
Joseph Hamilton, vice chairman
P.O. Box 391670 Cahuilla
Anza , CA 92539
admin@ramonatribe.com
(951) 763-4105
(951) 763-4325 Fax

Gabrieleno/Tongva San Gabriel Band of Mission
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ChiefRBwife@aol.com
(626) 286-1632
(626) 286-1758 - Home
(626) 286-1262 Fax

San Manuel Band of Mission Indians
Henry Duro, Chairperson
26569 Community Center Drive Serrano
Highland , CA 92346
(909) 864-8933
(909) 864-3724 - FAX
(909) 864-3370 Fax

Gabrielino/Tongva Council / Gabrielino Tongva Nation
Sam Dunlap, Tribal Secretary
761 Terminal Street; Bldg 1, 2nd floor Gabrielino Tongva
Los Angeles , CA 90021
office @tongvatribe.net
(213) 489-5001 - Officer
(909) 262-9351 - cell
(213) 489-5002 Fax

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native American with regard to cultural resources for the proposed SCH#1987110914; CEQA Notice of Completion; Supplemental Environmental Impact Report (SEIR) for the Cactus Basins 3 and 3A Flood Control Facility Enhancements; San Bernardino County Flood Control District; San Bernardino County, California.

Native American Contacts
San Bernardino County
February 15, 2008

Gabrielino Band of Mission Indians of CA
Ms. Susan Frank
PO Box 3021 Gabrielino
Beaumont , CA 92223
(951) 897-2536 Phone/Fax

Serrano Nation of Indians
Goldie Walker
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Highland , CA 92346
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Morongo Band of Mission Indians
Cultural Resources-Project Manager
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Cabazon , CA 92230 Serrano
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(951) 755-5200/323-0822-cell
(951) 922-8146 Fax

Soboba Band of Luiseno Indians
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FAX: (951) 654-4198

San Manuel Band of Mission Indians
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abrierty@sanmanuel-nsn.gov
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(909) 862-5152 Fax

Morongo Band of Mission Indians
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(951) 922-8146 Fax

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native American with regard to cultural resources for the proposed SCH#1987110914; CEQA Notice of Completion; Supplemental Environmental Impact Report (SEIR) for the Cactus Basins 3 and 3A Flood Control Facility Enhancements; San Bernardino County Flood Control District; San Bernardino County, California.

Comment 4-1

Comment recommends actions to evaluate impacts on Native American Cultural Resources.

Response 4-1

Pages 4.3-2 – 4.3-3 of the Draft SEIR state that there is minimal to no potential for discovery of burial resources, and recommends the following mitigation measures that will be implemented by the District.

CR1 An archaeological monitor shall be employed during initial grading and/or excavation of undisturbed soils only. This amounts to an estimated 1-3% of the total project area. The monitor shall have the authority to halt construction activity in the immediate vicinity of the discovery of any potentially significant subsurface archaeological remains in order that a Phase II Archaeological Investigation may be conducted under the direction of a qualified consulting archaeologist in accordance with CEQA guidelines.

CR2 If human remains are unearthed during construction, State Health and Safety Code Section 7050.5 states that, "no further disturbance shall occur until the County Coroner has made the necessary findings as to origin and disposition pursuant to Public Resources Code Section 5097.98."

Letter 5

San Bernardino Valley Municipal Water District

1350 SOUTH "E" STREET - P. O. BOX 5906 - SAN BERNARDINO, CALIFORNIA 92412-5906 -(909) 387-9200
FAX (909) 387-9247

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February 25, 2008

Mr. Frank Molina
Supervising Planner
San Bernardino County Flood Control District
825 East Third Street, Room 201
San Bernardino, CA 92415-0835

RE: Draft Supplemental Environmental Impact Report for Cactus Basins No. 3 & 3A Flood Control Facility Enhancement Project (SCH 1987110914)

Dear Mr. Molina:

The San Bernardino Valley Municipal Water District (SBVMWD) has reviewed the Draft Supplemental Environmental Impact Report (DSEIR) for the Cactus Basins No. 3 & 3A Flood Control Facility Enhancements Project, and has the following comments:

1. The SBVMWD was not included in the original distribution for the Notice of Preparation or Notice of Availability of the DSEIR. We would appreciate being added to the distribution list for future notices regarding this project and Draft SEIR. **5-1**

2. As noted in the previously certified (1988) Environmental Impact Report, SBVMWD is working with the County to implement a groundwater recharge program of up to 35,000 acre-feet of water annually in the Cactus Basins 3 and 3A for the Rialto-Colton Basin Area. Such recharge is a critical element of the Valley District's basin-wide planning and management programs, and is necessary to support increasing groundwater demands in the Rialto-Colton Basin area. As proposed, the DSEIR would modify the project description in the previously certified EIR by eliminating the water recharge component of the project. The DSEIR does not include the rationale for this change. If adopted, this change in the project would likely impair ongoing efforts to recharge surface water and/or imported water in the basin . **5-2**

   This cooperation is reflected in the recently completed Integrated Regional Water Management Plan (IRWMP), which has been adopted by water agencies throughout the Upper Santa Ana River Watershed, including the San Bernardino County Board of Supervisors. Basin management and groundwater recharge activities are key elements of the IRWMP, and the Cactus Basins (3, 4 and 5) are included as necessary projects within the IRWMP. **5-3**

Directors and Officers

EDWARD B. KILLGORE Division I | GEORGE A. AGUILAR Division II | PAT MILLIGAN Division III | MARK BULOT Division IV | STEVE COPELAN Division V | RANDY VAN GELDER General Manager

3. The SBVMWD expects to receive approval in mid-2008 from the State Water Resources Control Board for additional surface water diversions from the Santa Ana River. SBVMWD previously completed and certified an Environmental Impact Report in 2004 to provide for required diversion, conservation and conveyance facilities pending receipt of a permit from the State Water Resources Control Board. Upon approval, this permit will allow for additional water diversions from the Santa Ana River to be conveyed and recharged at the Cactus Basins as well as other recharge facilities that are operated by the Flood Control District and others, subject to established agreements and permitting procedures. The Cactus Basin and Lower Lytle Creek Pipelines provide for water conveyance to the Cactus Basins, and are included in the 2004 EIR referenced above. 5-4

   SBVMWD is actively planning for completion of these pipelines, and has invested significant public resources based on planned water recharge at the Cactus Basins. Removal of the recharge component from the County's current DSEIR would be a significant and detrimental change in direction that SBVMWD has relied upon for long-term resource and capital planning decisions. 5-5

   The San Bernardino Valley Municipal Water District respectfully requests that the Flood Control District retain the groundwater recharge element of the project as set forth in the previously certified EIR. SBVMWD is prepared to work closely with the County to implement recharge activities, and recognizes that recharge programs cannot interfere with or conflict with the primary flood control functions of the Cactus Basin facilities. 5-6

The San Bernardino Valley Municipal Water District appreciates the opportunity to work with the Flood Control District on this and other issues of mutual interest. If you have any questions regarding these comments, please contact me at (909) 387-9218 or Greg Gage at (909) 387-9223.

Sincerely,

Douglas D. Headrick

for Randy Van Gelder
General Manager

cc: Vana Olson, SBCFCD
Naresh P. Varma, SBCFCD
Ken Eke, SBCFCD
Melissa Walker, SBCFCD
Kirby Warner, City of Rialto
Tom Crowley, West Valley Water District
Douglas Headrick, SBVMWD
Greg Gage, SBVMWD

Comment 5-1

The comment notes that the SBVMWD did not receive a copy of the Notice of Preparation or Draft EIR.

Response 5-1

The District did not include the SBVMWD on the notification lists as the SBVMWD has no jurisdiction over the project nor do they own any property within a 200-foot radius. However, the District acknowledges that the SBVMWD should have been on the distribution list due to their prior involvement in planning for use of the project site.

Comment 5-2

The comment states that the previously-certified 1988 EIR indicated that the District and the SBVMWD were working to implement a groundwater recharge program for the Cactus Basins and that the current Supplemental EIR eliminates that water recharge component without any rationale.

Response 5-2

As stated on page 2-1 of the Draft SEIR, the original stated objective for the proposed project was to eliminate any potential increase in flood hazard due to planned development in the northern portions of the City and to help alleviate stress on other storm water facilities located downstream of the proposed project, thereby allowing the regional flood control system to function more effectively. Development in the region, as well as, completion of I-210 north of the project have substantially increased flows into the Cactus Basins, making it necessary for the District to initiate immediate improvements to the system.

The District is responsible for providing flood control and related services throughout the County. The principal functions of the District include water conservation, as well as, flood control protection on major streams, and storm drain construction. Although development, contributing to the reduction in capacity of the Cactus Basin and Rialto Channel flood control system, has occurred since 1988 it has been at a slower pace than originally projected. The completion of I-210 moved up the schedule for completion of the flood control facilities to provide necessary protection from runoff diverted by the freeway. Therefore, the rationale for changing the project was the eminent need for enhanced flood control capacity, with the intent that future recharge operations could be considered as a separate project.

Comment 5-3

This comment notes that use of the Cactus Basins as groundwater recharge facilities were included in the recently-completed Integrated Regional Water Management Plan (IRWMP) that has been adopted by the County Board of Supervisors as well as water agencies throughout the watershed.

Response 5-3

The District concurs that future use of the Cactus Basins as recharge facilities may be allowed to occur, with proper hydrology and water quality studies to ensure the recharge does not impact flood control objectives or impair existing downstream groundwater quality. Such recharge operations may be studied by SBVMWD or others and concurred upon by the District. The District is open to such future discussion for implementation of planned projects under the IRWMP.

At present, the District will be implementing a Storm Water Pollution Prevention Plan with Best Management Practices as stated in the Draft SEIR. Any future recharge operations should not significantly impact the District's efforts to reduce pollutants from entering the groundwater or surface water systems. As stated on page 4.4-3 and 4.4-4 of the Draft SEIR:

The following describes potential sources which are likely to add pollutants to storm water discharges or which may result in non-storm water discharges from the construction site:

- *The most likely source of pollution to storm water discharges is sediment eroding from the construction-disturbed areas, especially the embankment slopes.*
- *The detention basins are designed to convey off-site storm water such that the runoff from areas north of Basin 3 is expected to contact areas disturbed by construction. However, the configuration of the embankment sideslopes will limit the amount of off-site runoff entering the construction-disturbed areas. The embankment crests are raised above the surrounding off-site ground and there are earthen swales on the east and west sides of Basin 3. These features will minimize the amount of off-site surface water entering the basins except through the designed inlets.*
- *Construction storage and service areas; construction material loading, unloading, and access areas; and equipment storage, cleaning, and maintenance areas will follow spill prevention and cleanup procedures. Potential pollutants include:*

  - *Oil, grease, and other vehicle-related fluids,*
  - *Cement-related materials,*
  - *Paint,*
  - *Soil stabilizers, and*
  - *Other pollutants identified by the contractor.*

Pollutant source identification monitoring typically consists of both visual BMP inspection and sampling storm water discharges from the detention basins during construction. BMP inspection will be conducted before, during, and after storm events. Sampling of storm water discharges

from the detention basins in this project is not required since the receiving water body, the Rialto Channel, is not listed in Attachment 3 of the General Permit (Clean Water Act Section 303(d) [303(d)] Water Bodies listed for Sedimentation).

Comment 5-4

This comment notes that a certified EIR prepared by the SBVMWD, as a part of its Water Rights Application to divert water from the Santa Ana River, included the use of the Cactus Basins, subject to established agreements and permitting procedures.

Response 5-4

We concur that the Cactus Basins may be used for future water recharge, subject to established agreements and permitting requirements.

Comment 5-5

This comment states that the SBVMWD is actively planning for the necessary pipelines to convey water to the Cactus Basins and that significant public resources have been invested in planned recharge at Cactus Basins.

Response 5-5

The project evaluated in the District's current Draft SEIR does not preclude future use of the Cactus Basins as a recharge facility. The District is committed to working with the SBVMWD in its efforts to continue planning and evaluating the potential future use of the Cactus Basins.

Comment 5-6

This comment requests that the recharge component of the project, as addressed in the 1988 EIR be retained.

Response 5-6

A modification to the current Project Description would require additional studies to address groundwater hydrology and quality as the environment has changed with the discovery of plumes of contamination in the area of the Cactus Basins. The District has identified the need for providing enhanced flood control capability as a priority and is concerned about the time that would be required to conduct additional studies.

See Response 5-5.

Upper Cactus Basins Flood Control System Enhancement Project Draft Supplemental Environmental Impact Report

SCH No. 1987110914

Prepared by:

Lilburn Corporation
San Bernardino, California

Lead Agency:

San Bernardino County Flood Control District
San Bernardino, California

November 2012

TABLE OF CONTENTS

Page

1.0 INTRODUCTION 1-1
1.1 PROJECT UNDER REVIEW 1-2
1.2 PURPOSE OF THE SUPPLEMENTAL EIR 1-2
1.2.1 Lead Agency 1-6
1.2.2 Responsible, Trustee, and Other Interested Public Agencies 1-6
1.2.3 Required Permits and Approvals 1-6
1.3 ENVIRONMENTAL REVIEW PROCESS 1-7
1.3.1 Notice of Preparation 1-7
1.3.2 Draft Supplemental EIR 1-11
1.3.3 Final Supplemental EIR 1-12
1.4 ORGANIZATION OF THE SUPPLEMENTAL EIR 1-12
1.4.1 Type and Purpose of the EIR 1-13
1.5 INCORPORATED BY REFERENCE 1-13
1.6 ACRONYMS 1-13
1.7 GLOSSARY OF TERMS 1-16

2.0 SUMMARY 2-1
2.1 PROJECT UNDER REVIEW 2-1
2.1.1 Project Location 2-1
2.1.2 Project Summary 2-2
2.1.3 Project Alternatives 2-2
2.2 EIR IMPACT EVALUATION FORMAT 2-4
2.3 SUMMARY OF THE ENVIRONMENTAL EVALUATION 2-5
2.4 SUMMARY OF ENVIRONMENTAL IMPACTS 2-5
2.4.1 Findings of No or Less Than Significant Impacts 2-5
2.4.2 Findings of Less Than Significant Impacts After Mitigation Measures Have Been Implemented 2-5
2.4.3 Findings of Significant Impacts After Mitigation Measures Have Been Implemented 2-6

3.0 PROJECT DESCRIPTION 3-1
3.1 BACKGROUND 3-1
3.2 REGIONAL SETTING 3-2
3.3 LOCAL SETTING 3-2
3.4 SITE CHARACTERISTICS 3-5
3.5 PROJECT DESCRIPTION 3-6
3.5.1 Project Need and Objectives 3-6
3.5.2 Major Components of Proposed Project 3-6

4.0 ENVIRONMENTAL CONSEQUENCES 4-1
4.0.1 1988 EIR: UNAVOIDABLE ADVERSE IMPACTS 4-1
4.0.2 SUPPLEMENTAL EIR: ENVIRONMENTAL IMPACTS 4-2

TABLE OF CONTENTS

Page

4.1 AIR QUALITY 4.1-1
4.1.1 Introduction 4.1-1
4.1.2 Environmental Setting 4.1-1
4.1.3 Impacts and Mitigation Measures 4.1-9
4.2 BIOLOGICAL RESOURCES 4.2-1
4.2.1 Introduction 4.2-1
4.2.2 Environmental Setting 4.2-2
4.2.3 Impacts and Mitigation Measures 4.2-5
4.3 CULTURAL RESOURCES 4.3-1
4.3.1 Introduction 4.3-1
4.3.2 Environmental Setting 4.3-1
4.3.3 Impacts and Mitigation Measures 4.3-2
4.4 GREENHOUSE GASES/CLIMATE CHANGE 4.4-1
4.4.1 Introduction 4.4-1
4.4.2 Environmental Setting 4.4-1
4.4.3 Applicable Policies, Plans and Regulations 4.4-3
4.4.4 Impacts and Mitigation Measures 4.4-9
4.5 HYDROLOGY AND WATER QUALITY 4.5-1
4.5.1 Introduction 4.5-1
4.5.2 Environmental Setting 4.5-1
4.5.3 Impacts and Mitigation Measures 4.5-6

5.0 PREPARERS & BIOBLIOGRAPHY 5-1
5.1 LIST OF PREPARERS 5-1
5.2 OTHERS CONSULTED 5-1
5.3 BIBLIOGRAPHY 5-2

TECHNICAL APPENDICES

Appendix A NOP, NOP Distribution List, Public Comments
Appendix B Air Quality Calculations
Appendix C Biological Resources Assessment, September 2012
Appendix D Jurisdictional Delineation, September 2012
Appendix E Botanical Survey Report, May 2012
Appendix F San Bernardino Kangaroo Rat Presence/Absence Trapping Studies, June 2012
Appendix G Results of California Gnatcatchers Surveys at Cactus Basins 3, 4, and 5, July 2012
Appendix H Least Bell's Vireo Survey Report, September 2012
Appendix I A Phase I and Class III Cultural Resources Investigation of the Proposed Cactus Basins Improvements in the City of Rialto (Cover Sheet Only)
Appendix J Greenhouse Gas Calculations

TABLE OF CONTENTS

Page

LIST OF FIGURES

1-1 Regional Vicinity 1-3
1-2 Project Location 1-4
1-3 Project Plans 1-5

3-1 Regional Vicinity 3-3
3-2 Project Location 3-4
3-3 Project Plans 3-8

4.2-1 Habitat / Vegetation Map 4.2-4
4.2-2 SBKR Habitat 4.2-9

4.5-1 Groundwater Basins 4.5-3
4.5-2 Approximate Extent of TCE and Perchlorate Contamination 4.5-5

LIST OF TABLES

2-1 Summary of Impacts and Mitigation Measures/Regulatory Requirements for the Proposed Project 2-7

3-1 Basin Excavation and Stockpile Numbers 3-7

4.1-1 Ambient Air Quality Standards 4.1-4
4.1-2 Designations of Criteria Pollutants for the SCAB 4.1-5
4.1-3 Summary of Annual Air Quality Data Fontana-Arrow highway Air Quality Monitoring Station 4.1-8
4.1-4 SCAQMD Regional Pollutant Emission Thresholds of Significance 4.1-10
4.1-5 Basin Construction Enhancement Emissions Summary 4.1-12
4.1-6 Material Export Emissions 4.1-12
4.1-7 Typically Operational Emissions 4.1-13

4.2-1 Impacts to Habitat/Vegetation 4.2-6

4.4-1 Phase 1: Earthwork 4.4-10
4.4-2 Phase 2: Material Export 4.4-11
4.4-3 Typically Operational Emissions 4.4-11

1.0 INTRODUCTION

This second Supplement to the previously certified *Final Environmental Impact Report, Upper Cactus Basins Flood Control Facility* (EIR) (State Clearinghouse No. 1987110914) has been prepared by the County of San Bernardino Flood Control District ("District") to evaluate the environmental effects of the proposed Upper Cactus Basins 3/3A**,** 4, and 5 enhancement project on approximately 116 acres in the city of Rialto.

In 1988, the District, in association with the City of Rialto (City), prepared an EIR (SCH No. 87110914) for the construction of three retention basins and a segment of a flood control channel, collectively termed the Upper Cactus Basins. The City Council of Rialto determined that the proposed project as designed would have a significant effect upon the environment, certified a Final EIR, and adopted mitigation measures and a Statement of Overriding Considerations. It was determined that the principal areas of environmental impact were in the areas of: topographic modification, unavoidable displacement of vegetation and wildlife habitat, and substantial visual changes at the site. In addition, potentially significant construction phase impacts, occurring intermittently, would occur in the areas of air quality, traffic, and noise.

In 2008 the District prepared a Supplemental Environmental Impact Report (SEIR) for the enhancement of Basin 3/3A. The SEIR addressed changes in the environment since the certification of the 1988 EIR. The original 1988 EIR was prepared for a project described as the construction of three unlined retention basins (Basins A, B and C); a rectangular concrete channel approximately 3,450 feet in length from the south side of Highland Avenue to Basin C (the most downstream basin); and a system of basin inlets and outlets. After completion of the basins, it was envisioned that the San Bernardino Valley Municipal Water District (SBVMWD) would use the basins for groundwater recharge; the primary source of water would be State Water Project (SWP) water.

In 2006, none of the improvements had been constructed; however, sand and gravel excavation work had been conducted on all three basins. The SEIR prepared in 2008 for the enhancement of Basin 3/3A eliminated the groundwater recharge component of the basins and evaluated changes in the environment since certification of the Final EIR. Environmental changes evaluated in the SEIR included the February 1998 emergency-listing of the San Bernardino kangaroo rat (SBKR) as a federally listed endangered species, and the identification of the California gnatcatcher as federally threatened species and State species of special concern in 1993.

At present the District is proposing to construct flood control improvements, and on-going maintenance activities at Basins 3/3A, 4, and 5. The District will serve as the Lead Agency for CEQA review and has determined the need for a second Supplement to the 1988 EIR to address changes in the Project description not addressed in the 2008 SEIR.

The District is acting as the Lead Agency for this Supplemental EIR, as defined in Section 15051(d) of the Guidelines for implementing California Environmental Quality Act (CEQA) which states "Where the provisions of subdivision (a), (b), and (c) leave two or more public agencies with a substantial claim to be the Lead Agency, the public agencies may by agreement designate an agency as the Lead Agency."

1.1 PROJECT UNDER REVIEW

The proposed project site is situated in the north-central portion of the City of Rialto in the east half of Township 1 North, Range 5 West, Section 34 (See Figure 1-1). The District proposes the enhancement of three detention basins referred to as Upper Cactus Basins 3/3A, 4, and 5 in an area generally bounded by Easton Street, Ayala Drive, Baseline Road, and Cactus Avenue (see Figure 1-2). The overall project objective is to provide 100-year flood protection to residences, businesses, and public infrastructure adjacent to Cactus Channel and Rialto Channel in the cities of Rialto and Colton, San Bernardino County, California. Increased runoff from the construction of Interstate 210 to the north of the basins (completed in 2007), and continued development of new residential, commercial, and industrial uses upstream, have and will continue to increase demands of the flood control system and the subject basins.

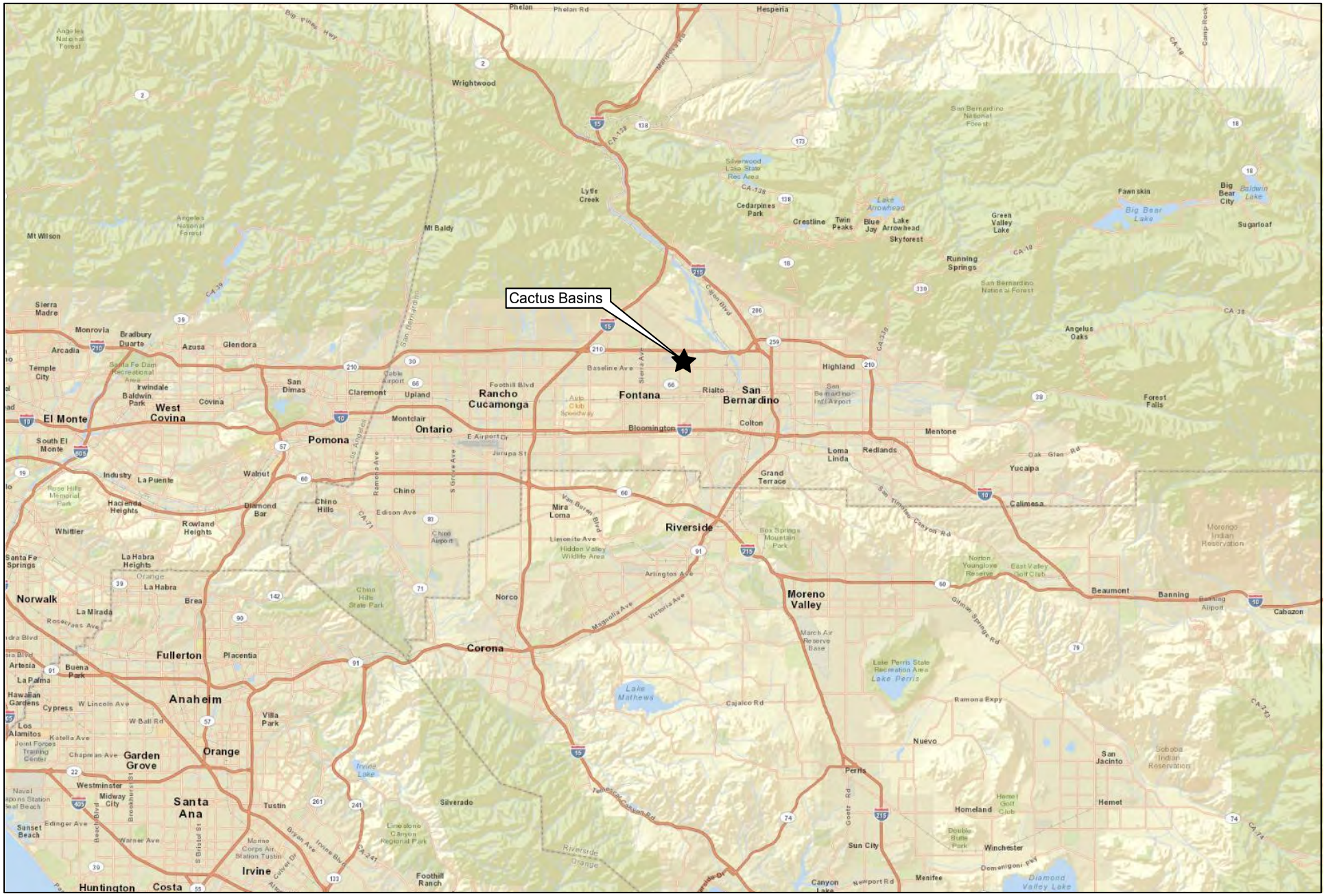
The Rialto Channel begins at the southwest corner of Basin 3/3A. This channel receives the majority of the storm runoff within the City and under existing conditions, is unable to handle the peak flow from a 100-year flood event. Completion of the Upper Cactus Basins has been determined by the District to be the most cost-effective means of offsetting flood hazard impacts associated with projected new development in northern Rialto.

Basins 1 and 2 have been completed and are located south of the three subject basins, below Baseline Road. The design proposed for the enhancement of Basins 3-5 calls for the widening and deepening of the three basins; the proposed design is shown on Figure 1-3. Generally the proposed project involves the following activities:

- Expansion and deepening of the three Upper Cactus Basins;
- Construction of tree dam banks under the regulation of the Division of Safety of Dams;
- Construction of basin appurtenant structures;
- Implementation of a flood control system maintenance plan; and,
- Utilization of the basins' perimeter road as a bicycle/walking trail.

1.2 PURPOSE OF THE SUPPLEMENTAL EIR

Pursuant to CEQA Guidelines, §15162(a), a Supplemental EIR may be required if there are: 1) substantial changes to the project; 2) there are substantial changes in the project's circumstances; or 3) new information that would not have been known at the time the EIR was certified becomes available. The original parameters of the 1988 EIR for the proposed project have not changed and the same significant impacts previously addressed are expected. In February of 1998, the San Bernardino kangaroo rat (SBKR) was emergency-listed as a federally listed endangered species. The California gnatcatcher was identified as a federally threatened species by United States Fish and Wildlife Service (USFWS) in 1993 and a species of special concern by the State of California. Additionally, new rules and regulations governing air quality emissions have been adopted by the South Coast Air Quality Management District. Given these new potential impacts and the lapse in time between the adoption of the original EIR in 1988 and the present proposal to enhance the Upper Cactus Basins regional flood control system, the District acting as the Lead Agency pursuant to CEQA Guidelines, §15051, has decided that a Supplemental EIR is warranted. Certain traffic/circulation mitigation measures listed in the 1988



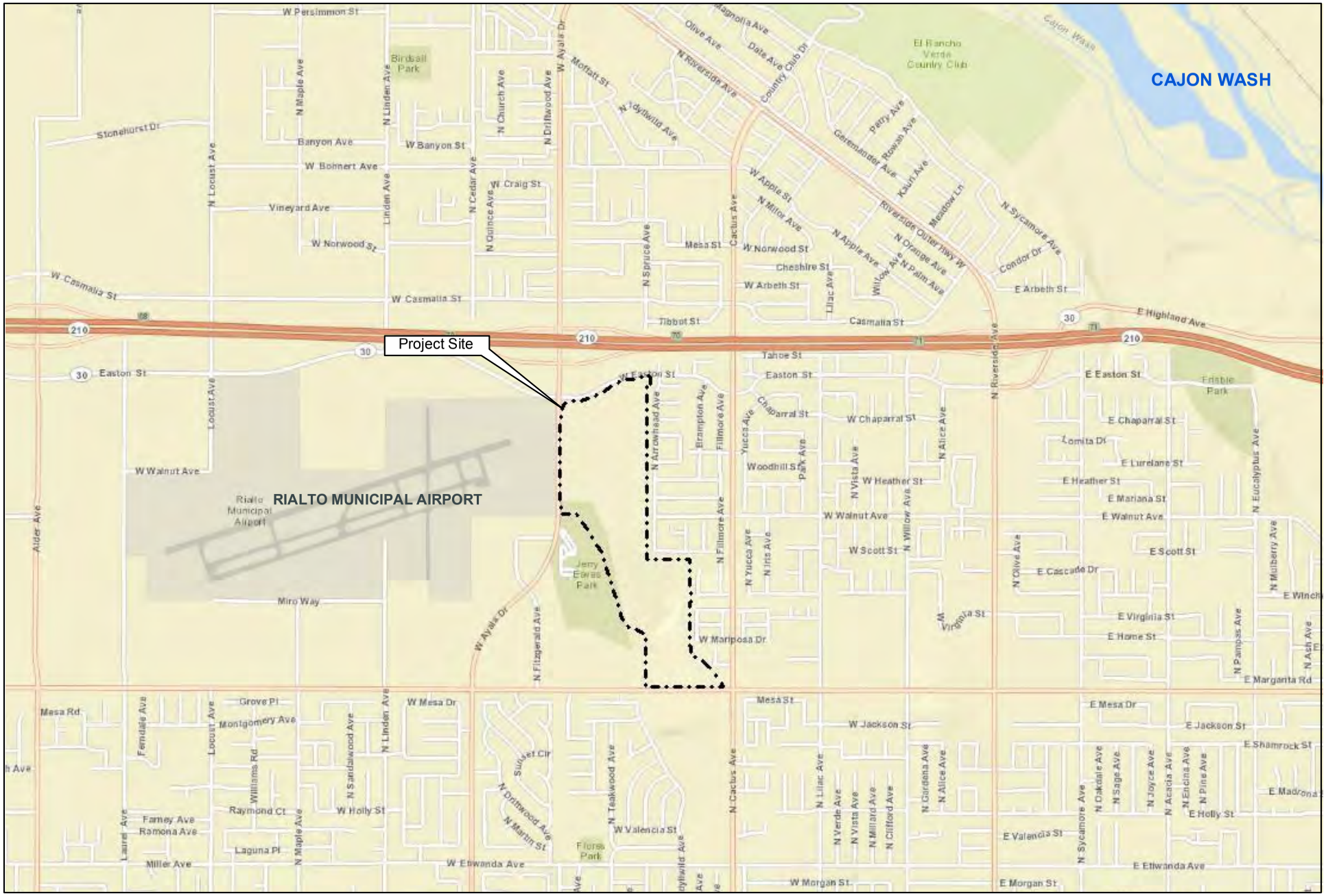
Regional Vicinity

Upper Cactus Basins Enhancement Project
City of Rialto, San Bernardino County, California

Figure 1-1

0 7.75
Approximate Miles

LILBURN CORPORATION



Project Location

Upper Cactus Basins Enhancement Project
City of Rialto, San Bernardino County, California

Figure 1-2

N

0 0.40
Approximate Miles

LILBURN CORPORATION

N

0 440

Approximate Feet

LILBURN CORPORATION

Project Plans

Upper Cactus Basins Enhancement Project

City of Rialto, San Bernardino County, California

Figure 1-3

EIR have been implemented by the City as a result of gravel extraction operations and to provide necessary circulation improvements for growth in Rialto. The County of San Bernardino also determined the need to document any additional cultural resources found in the vicinity.

1.2.1 Lead Agency

As the public agency with the greatest responsibility for supervising or approving the project, the County of San Bernardino Flood Control District ("District") is the Lead Agency as agreed to by the City of Rialto.

This Draft Supplemental EIR will circulate for a 45-day review period. Anyone reviewing the document may submit written comments to the District during this period. Responses to the comments received will be prepared and included in the Final Supplemental EIR to be prepared prior to the District taking action on the proposed project.

Comments on the Draft Supplemental EIR may be sent to:

Contact Person: County of San Bernardino Flood Control District
Attn: John Schatz
825 West Third Street, Room 201
San Bernardino, CA 92415

1.2.2 Responsible, Trustee, and Other Interested Public Agencies

A responsible agency means a public agency other than the lead agency, which has permitting authority or approval power over some aspect of the overall project. A trustee agency is a state agency having jurisdiction by law over natural resources affected by a project which are held in trust for the people of the State of California. Trustee agencies include: California Department of Fish and Game, State Lands Commission, State Department of Parks and Recreation, and the University of California. The following are responsible, trustee, and other interested agencies for this project:

- U.S. Army Corps of Engineers
- U.S. Fish and Wildlife Service
- California Department of Fish and Game
- California Regional Water Quality Control Board (RWQCB), Santa Ana Region
- South Coast Air Quality Management District (SCAQMD).

These agencies are not meant to be an all-inclusive list and other agencies may have responsibility over some aspect of the project.

1.2.3 Required Permits and Approvals

The discretionary actions listed below are required prior to implementation of the Upper Cactus Basins Enhancement Project. The lead agency and responsible agencies will use the Supplemental EIR in their consideration of the District's application for the various permits and

approvals. Additionally, an Environmental Assessment has been prepared in compliance with the National Environmental Policy Act (NEPA) for use by the U.S. Army Corps of Engineers in the consideration of issuing a Section 404 permit.

U.S. Fish and Wildlife Service

- Section 10(a) Permit

U.S. Army Corps of Engineers

- Clean Water Act Section 404 Permit

California Department of Fish & Game

- Section 1600 Streambed Alteration Agreement

Regional Water Quality Control Board

- Storm Water Pollution prevention Plan (SWPPP)
- Clean Water Act Section 401 Certification

1.3 ENVIRONMENTAL REVIEW PROCESS

1.3.1 Notice of Preparation

A Notice of Preparation (NOP) was prepared and circulated to all responsible agencies and interested parties on September 24, 2012 for a period of 30 days. The NOP was distributed to responsible agencies and interested parties as required by CEQA and the County of San Bernardino CEQA procedures. A copy of the NOP, the NOP distribution list, and written comments received by the District on the NOP are included in Appendix A of this Supplemental EIR. Responses to the NOP were used to establish the scope of issues to be addressed in this EIR. Issues raised in comments to the NOP are discussed below.

Responses to the NOP

Native American Heritage Commission

The Native American Heritage Commission (NAHC) NOP comment letter dated October 1, 2012 included a list of Native American Contacts of culturally affiliated tribes and individuals in the general project area. The NAHC urges the District to contact those on the list to avoid unanticipated discoveries of cultural resources or burial sites once the project is underway.

Consultation with local Native American representatives was conducted as part of the Phase I (CEQA) and Class III (Section 106) Cultural Resources Assessment Investigation for the proposed project and is discussed in Section 4.3 of this document.

South Coast Air Quality Management District

The South Coast Air Quality Management District (AQMD) NOP comment letter dated October 11, 2012 requests that a copy of the completed Draft SEIR be sent to the agency directly.

Additionally, the South Coast AQMD requests a copy of the original emission calculations spreadsheets and modeling files in order to complete its review of the air quality analysis.

Potential impacts to air quality and impacts associated with greenhouse gasses are discussed in Sections 4.1 and 4.4 of the Draft SEIR, respectively. Data included in these sections will be sent to the AQMD in the requested formats along with a copy of the Draft SEIR.

State of California Department of Water Resources

The Department of Water Resources comment letter requests clarification on the dam heights and reservoir storage capacities for the three basins to determine State jurisdiction for dam safety.

State jurisdiction for dam safety is discussed in Section 3 of the Draft SEIR.

California Department of Fish and Game

The California Department of Fish and Game (CDFG) responded to the NOP with a letter dated October 24, 2012. The CDFG requested the following:

- The SEIR should include a complete history of the 1988 EIR and the 2008 SEIR and report how the proposed Project is consisted with the 1988 EIR (addressed in Section 3).
- Analysis should include any mitigation requirements and permits associated with the 1988 EIR (addressed in Section 2).
- The SEIR should include any flood control improvements associated with the Project and an explanation of why the basins will now be operated for flood control (see Section 3).
- The SEIR should include analysis of what sections from the 1988 EIR are being addressed or not addressed and why (addressed in Section 2).
- The SEIR should include a description of the biological resources present on the site 1988 and the resources that are present now, as well as mitigation for the loss of biological resources (addressed in section 4.2).
- Mitigation associated with the 2008 [Streambed Alteration] Agreement and additional mitigation from the temporal loss of biological resources should be addressed in this document (specific mitigation from the Draft Agreement is not included, however new mitigation is addressed in Section 4.2).

Biological Impacts and Mitigation

- Cumulative impact analysis which focuses on environmental resources and ways to avoid or minimize impacts to those resources (addressed in Section 4.2).
- Provide a complete Project description that lists all activities covered by this Project, including on- and off-site development (addressed in Section 3).
- Any biological assessments or focused surveys for listed species should be conducted within one year of the distribution of the CEQA document (addressed in Section 4.2).

- Any biological reports should be included in the CEQA document (included in appendices).
- Any current jurisdictional delineation of State waters should be included in the CEQA document (included in appendices).
- Sensitive plant surveys should be conducted according to the CDFG's November 2009 guidance for Protocols for Surveying and Evaluation Impacts to Special Status Native Plant Populations and Natural Communities (addressed in Section 4.2).
- Please provide a complete assessment of the flora and fauna within and adjacent to the Project area, with particular emphasis upon identifying endangered, threatened, and locally unique species and sensitive habitats (addressed in Section 4.2).
- A through discussion of direct, indirect, and cumulative impacts expected to adversely affect biological resources, with specific measures to offset such impacts (addressed in Section 4.2).
- A range of alternatives should be analyzed to ensure that alternatives to the proposed Project are fully considered and evaluated (CEQA Guidelines 15126.6). A range of alternatives which avoid or otherwise minimize impacts to sensitive biological resources should be included. Specific alternative locations should also be evaluated in areas with lower resource sensitivity where appropriate (addressed in Section 2).
- A CESA Permit must be obtained, if the Project has the potential to result in "take" of species or plants or animals listed under CESA, either during construction or over the life of the Project. CESA Permits are issued to conserve, protect, enhance, and restore State–listed threatened or endangered species and their habitats. Early consultation is encouraged, as significant modification to the proposed Project and mitigation measures may be required in order to obtain a CESA Permit. Revisions to the California Fish and Game Code, effective January 1998, require that the Department issue a separate CEQA document address all Project impacts to listed species and specifies a mitigation monitoring and reporting program that will meet the requirements of a CESA permit. For these reasons, the following information is requested.
    - Biological mitigation, monitoring, and reporting proposals should be of sufficient detail and resolution to satisfy the requirements for a CESA Permit (addressed in Section 4.2).
    - A Department-approved Mitigation Agreement and Mitigation Plan are required for plants listed as rare under the Native Plant Protection Act (addressed in Section 4.2).
- All wetlands and watercourses as defined by the Department must be evaluated for their conservation value and provided with substantial setbacks which preserve the riparian and aquatic values and maintain their value to on-site and off-site wildlife populations (addressed in Section 4.2).

City of Rialto

The following comments were received from the City of Rialto in a letter dated October 25, 2012.

- It appears that water conservation is not part of the proposed basin project. Are there provisions for groundwater recharge at a later time (addressed in Sections 3 and 4.5). Is there a potential financial benefit to providing a "recharge pool"?
- Is the concrete lined channel from Highland to Basin 3 (formerly Basin C) part of the current project (addressed in Section 3).
- What is meant by the U.S. Army Corps of Engineers being "responsible for NEPA compliance"? Are federal dollars included in the project funding? (addressed in Section 3).
- The description states that "The overall objective of the Project is to provide 100 year flood protection to residences, businesses, and public infrastructure adjacent to Cactus Channel and Rialto Channel in the cities of Rialto and Colton, and unincorporated San Bernardino County, California". Has the Flood Control District identified the 100 year floodplain for protection? Has there been an economic cost/benefit analysis that will determine the dollar value of 100 year flood protection? And also including flood insurance? What is the "Cactus Channel"? (addressed in Sections 3 and 4.5; the cost/benefit analysis and insurance issues are not CEQA requirements).
- The description states that the Flood Control District is "to implement an on – going maintenance plan." Is there a maintenance plan available for review? (addressed in Section 3).
- What are the potential construction impacts to evaluate? (all project construction impacts evaluated throughout the SEIR)

Non CEQA Issues not Addressed in the Rialto Letter:

- Is this Supplemental EIR being prepared by an EIR Consultant?
- Are there potential "hard dollar" costs to be included in the project cost as a result of mitigation of the environmental issues identified for study in this Supplemental EIR?
- Does the Flood Control District intend to construct the entire project at one time?
- What is the source of funding for the Project – current and planned?

San Bernardino Valley Municipal Water District

The San Bernardino Valley Municipal Water District requested in a letter dated October 30, 2012 that the SBCFCD continue to include water conservation and groundwater recharge functions in the evaluation of the upper Cactus Basins Enhancement Project (addressed in Sections 3 and 4.5). The District further committed to paying all incremental costs for recharge components associated with the Cactus Basins.

City of Rialto – Letter No. 2

The City of Rialto submitted a second comment letter, dated November 5, 2012. Comments are summarized as:

- The County's Supplemental EIR has described the Upper Cactus Basins Enhancement Project as being "…for detention basins for flood control purposes only; the basin improvements are not currently designed as retention basins as described in the 1988 EIR." The City requests that the County remove this limitation in the project description to allow for the future use of the Cactus Basins for groundwater recharge purposes (addressed in Sections 3 and 4.5).
- The City understands that use of the basins for groundwater recharge will require coordination with and approval by the U.S. EPA and the RWQCB given the current perchlorate contamination; in anticipation of those agencies future approval of the use of the basins for recharge, it is important for the County to allow the basins' use for recharge functions (addressed in Sections 3 and 4.5).

West Valley Water District

The West Valley Water District submitted a letter dated November 7, 2012 in response to the NOP. The District joined with comments previously provided by the SBVMWD and the City of Rialto, summarized as:

- The County's Supplemental EIR has described the Upper Cactus Basins Enhancement Project as being "…for detention basins for flood control purposes only; the basin improvements are not currently designed as retention basins as described in the 1988 EIR." The City requests that the County remove this limitation in the project description to allow for the future use of the Cactus Basins for groundwater recharge purposes (addressed in Sections 3 and 4.5).
- The West Valley Water District understands that use of the basins for groundwater recharge will require coordination with and approval by the U.S. EPA and the RWQCB given the current perchlorate contamination; in anticipation of those agencies future approval of the use of the basins for recharge, it is important for the County to allow the basins' use for recharge functions (addressed in Sections 3 and 4.5).

1.3.2 Draft Supplemental EIR

Circulation of the Draft Supplemental EIR begins when a Notice of Completion (NOC) is filed with the State Office of Planning and Research (State Clearinghouse). Filing the NOC starts the 45-day review period for the Draft Supplemental EIR. Concurrent with the filing of the NOC, the lead agency will also provide a Notice of Availability of the Draft Supplemental EIR to all organizations and individuals that have previously requested such notice or are located in proximity to the project site. This notice briefly describes the proposed project; identifies the date when comments must be received and where they are to be sent; and provides locations where copies of the Draft Supplemental EIR can be reviewed (CEQA Guidelines section 15085 through section 15087).

In conjunction with the preparation of the Final Supplemental EIR, a Mitigation Monitoring and Reporting Program (MMRP) will be prepared (CEQA section 21081.6). The MMRP will contain the mitigation measures along with the action that must be taken to implement them and the method that would be used to document or verify fulfillment of the measure. A procedure for determining and recording compliance will be outlined for each action that must be implemented by the project applicant to mitigate impacts as identified in the Supplemental EIR and adopted when the project is approved. This procedure identifies what action would be taken and when, designates who would be responsible for implementing the action, and to whom and when compliance would be reported.

1.3.3 Final Supplemental EIR

At the end of the public review period, written comments on the project will be compiled and responses generated in conjunction with the preparation of the Final Supplemental EIR. The Final Supplemental EIR will consist of a list of all persons, organizations, and public agencies commenting on the Draft Supplemental EIR; copies of the comments received on the Draft Supplemental EIR; responses to comments; any other pertinent information added by the lead agency, and the MMRP (CEQA Guidelines section 15132).

The Final Supplemental EIR will serve as the CEQA compliance document for the District and any other agencies that may be responsible for review of the proposed project and issuance of required permits.

1.4 ORGANIZATION OF THE SUPPLEMENTAL EIR

The Draft Supplemental EIR is organized into the following chapters:

Chapter 1.0 - Introduction: Provides an introduction and overview that describes the intended use of the document and the lead agency authority under CEQA. Also provides a list of acronyms and a glossary of terms used to describe and evaluate the project.

Chapter 2.0 - Summary: Summarizes the proposed project, areas of controversy, issues to be resolved, any new potential environmental effects that may result from the implementation of the proposed project, that were not addressed in the 1988 EIR, the mitigation measures identified to reduce or eliminate significant effects, and a summary of alternatives to the project.

Chapter 3.0 - Project Description: Provides a detailed description of conditions on the project site and vicinity and the various components of the proposed project. This chapter includes a statement of project objectives and provides background data on the project and project site. This chapter also includes a list of permits required to implement the project and responsible agencies or County departments that would issue those permits.

Chapter 4.0 - Environmental Impact Evaluation: Describes the existing environmental conditions on the site and in the vicinity of the project site, and the regulatory environment. Describes the project's characteristics related to each of the topical environmental issues addressed for the EIR Supplement, and states the significance criteria used to evaluate potentially significant effects of

the proposed project. Evaluates the potential environmental effects not addressed in the 1988 EIR, identifies mitigation measures to reduce or eliminate effects found to be significant, and determines the level of significance of the effect after measures have been implemented.

Chapter 5.0 – Organizations and Persons Consulted: Includes a list of lead agency staff members who participated in the preparation of the Supplemental EIR, consultants who prepared the technical reports to support the environmental analysis, and any other organization or agency staff consulted.

1.4.1 Type and Purpose of the EIR

This Supplemental EIR addresses the environmental effects associated with the proposed improvements to the Upper Cactus Basins 3 -5 by the District. The original EIR was written and finalized in September of 1988 and concluded that the proposed project would create a significant environmental impact. However, given the critical need for the proposed project, the City Council of Rialto adopted mitigation measures in order to reduce the potential impacts. Mitigation measures could not reduce all impacts of the proposed project to a less than significant level and therefore, the City Council adopted Findings and a Statement of Overriding Consideration.

It is anticipated that the previously identified impacts in the 1988 EIR would occur during the course of construction and operation of the proposed project. However, in February of 1998, the San Bernardino kangaroo rat (SBKR) was emergency-listed as a federally listed endangered species. In addition, the coastal California gnatcatcher was identified as a federally threatened species by USFWS in 1993 and a species of special concern by the State of California. Given these new potential impacts and the lapse in time between the adoption of the original EIR in 1988 and the present proposal, the District determined that a Supplemental EIR is warranted. In accordance with Section 15162 and 15163 of the CEQA Guidelines, the Supplemental EIR will only review areas of the original EIR where there has been a significant change to the project, the project's circumstances have substantially changed, or where new information that would not have been known at the time of the original EIR has become available. The Supplemental EIR will be utilized to augment the previous EIR to the extent necessary to address these new conditions and to examine mitigation as may be required.

1.5 INCORPORATION BY REFERENCE

As permitted by section 15150 of the CEQA Guidelines, this Draft Supplemental EIR has referenced several technical studies, analyses, and reports, which are included in the technical appendices included in the SEIR. Information from documents incorporated by reference has been summarized in the appropriate SEIR section(s) that follow.

1.6 ACRONYMS

AAQS Ambient air quality standards
AASHTO American Association of Safe Highway and Transportation Officials
ADT Average daily traffic

AQMD	Air Quality Management District
AQMP	Air Quality Management Plan
AVAQMD	Antelope Valley Air Quality Management District
BACT	Best available control technology
BLM	Bureau of Land Management
BMP	Best Management Practices
CAA	Clean Air Act
CAAA	Clean Air Act Amendments
CAAQS	California Ambient Air Quality Standards
CALTRANS	California Department Of Transportation
CARB	California Air Resources Board
CCR	California Code of Regulations
CDFG	California Department of Fish and Game
CESA	California Endangered Species Act
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CHL	California Historical Landmarks
CHP	California Highway Patrol
CNDDB	California Natural Diversity Database
CNEL	Community Noise Equivalent Level
CNPS	California Native Plant Society
CO	Carbon monoxide
CO_2	Carbon dioxide
CPHI	California Points of Historical Interest
CRHR	California Register of Historical Resources
dB	Decibel
dBA	A-weighted decibel scale
EBL	Eastbound Left
EBR	Eastbound Right
EBT	Eastbound Through
EIR	Environmental Impact Report
ESA	Endangered Species Act
EPA	Environmental Protection Agency (federal and state)
F	Fahrenheit
FESA	Federal Endangered Species Act
GPM	Gallons per minute
HCM	Highway Capacity Manual
HRI	Historic Resources Inventory
ITE	Institute of Transportation Engineers
L_{eq}	Equivalent noise levels
L_{max}	Maximum sound level
L_{min}	Minimum sound level
LOS	Level of service
MCE	Maximum Credible Earthquake
MG	million gallons
MGD	Million gallons per day

MMRP	Mitigation Monitoring and Reporting Program
MPE	Maximum probable [earthquake] event
mph	Miles per hour
MSL	Mean sea level
M_w	Moment Magnitude
NAAQS	National ambient air quality standards
NBL	Northbound Left
NBR	Northbound Right
NBT	Northbound Through
NO_2	Nitrogen dioxide
NOC	Notice of Completion
NOI	Notice of Intent
NOP	Notice of Preparation
NO_x	Nitrogen oxides
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Place
O_3	Ozone
Pb	Lead
PCE	Passenger car equivalent, generally 1 truck being equal to approximately 1.5-2 cars
$PM_{2.5}$	Fine particulate matter (2.5 microns or less)
PM_{10}	10-micron or less particulate matter
ppm	Parts per million
ppm_v	Parts per million by volume
ROWD	Report of Waste Discharge
ROG	Reactive organic gases
RPLI	Regional Paleontologic Location Inventory
RTIP	Regional Transportation Improvement Program
RWQCB	Regional Water Quality Control Board
SCAG	Southern California Association of Governments
SO_2	Sulfur dioxide
SBL	Southbound Left
SBR	Southbound Right
SBT	Southbound Through
SR	State Route
SWPPP	Stormwater Pollution Prevention Program
TAC	Toxic air contaminants
TIA	Traffic Impact Analysis
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
VOC	Volatile organic compound
VPHG	Vehicles per hour of green
WDR	Waste discharge requirements
WBL	Westbound Left
WBR	Westbound Right
WBT	Westbound Through

1.7 GLOSSARY OF TERMS

Acre-foot: Volume of liquid or solid required to cover an area of one acre to a depth of one foot. Equals approximately 325,850 gallons of water.

Active fault: Geologic fault with recent seismic activity that has displaced materials not more than 12,000 years old.

Alquist-Priolo Fault Zone: State-identified areas of potentially active and recently active faults.

Alquist-Priolo Special Studies Zones Act: Places specific responsibilities on local governments for identification and evaluation of seismic and geologic hazards, and formulation of programs and regulations to reduce risk in identified locations.

Aquifer: A geological formation that is sufficiently permeable to conduct groundwater and to yield significant quantities of water to wells and springs.

California Endangered Species Act: California state legislation, enacted in 1984, with the intent to protect floral and faunal species by listing them as "rare," "threatened" "endangered," or "candidate" and by providing a consultation process for the determination and resolution of potential adverse impact to the species.

California Environmental Quality Act (CEQA): Policies enacted in 1970, and subsequently amended (through September 2004), the intent of which is the maintenance of a quality environment for the people of California now and in the future.

CALINE4: Computer Model, air quality model developed by the California Department of Transportation.

CNEL: Community Noise Equivalent Level-a noise index that accounts for the greater annoyance of noise during evening and nighttime hours.

Discretionary actions: Conditions which can be imposed on a project action prior to approval for implementation. The approval would thus be "at the discretion" of an agency.

EMFAC2002: A computer program published by the California Air Resources Board (CARB) that calculates on road vehicle emissions.

Endangered species: A species whose prospects of survival and reproduction in the wild are in immediate jeopardy from one or more causes.

Environmental Impact Report (EIR): Document in which the impacts of any state or local, public or private project action which may have a significant environmental effect are evaluated prior to its approval and subsequent construction or implementation, as required by the California Environmental Quality Act.

Fault: A geologic fracture or fracture zone along which there has been displacement of the sides relative to one another.

Groundwater: Water found beneath the land surface in the zone of saturation below the water table.

Hazardous material: Substance which, because of its potential for corrosivity, toxicity, ignitability, chemical reactivity, or explosiveness, may cause injury to persons or damage to property.

Hydrogeology: The study of surface and subsurface water.

Lead Agency: The public agency which has the principal responsibility for carrying out or approving a project.

Level of Service (LOS): An indicator or traffic conditions at an intersection or on a stretch of roadway, and of the delay that can be expected in the general area; A is the best (no delay) and F is the worst.

Notice of Preparation (NOP): A brief notice sent by the public agency with principal responsibility for carrying out or approving a project to notify other agencies that an EIR is being prepared.

NO_x: A generic term for various oxides of nitrogen.

Ozone (O_3): An end product of complex reactions between reactive organic gases (or non-methane hydrocarbons) and nitrogen oxides (NO_x) in the presence of intense ultraviolet radiation.

Rare species: A species which, although not presently threatened with extinction, is in such small numbers throughout its range that it may become endangered if its present environmental worsens.

Regional Water Quality Control Board (RWQCB): Agency which administers the requirements of the California Administrative Code, Title 23, Division 3, Chapter 15 (Section 2595,g,7) to ensure the highest possible water quality consistent with all demands.

Responsible agency: A public agency which proposes to carry out or approve a project for which a lead agency has prepared an EIR. A responsible agency is any agency with discretionary approval over a project.

Right-of-way (ROW): The right to pass over property owned by another. The strip of land over which facilities, such as roadways, railroads, or power lines, are built.

Seismicity: The likelihood of an area being subject to earthquakes.

Sensitive species: Generic term for any plant or animal species which is recognized by the government or by any conservation group as being depleted, rare, threatened, or endangered.

Significant environmental impact: As defined by CEQA, Chapter 3, Article 1, Section 15002(g), "a substantial adverse change in the physical conditions which exist in the area affected by the proposed project."

Threatened Species: Species that, although not presently threatened with extinction, is likely to become endangered in the foreseeable future in the absence of special protection and management efforts.

Trustee Agency: A state agency having jurisdiction over natural resources that may be affected by the project, which are held in trust by the state. These include the California Department of Fish and Game, State Lands Commission, and State Department of Parks and Recreation.

Waste discharge requirements: Regulation described in Title 23, Division 3, Chapter 15, of the California Code of Regulations which governs discharge of wastes to land in order to preserve the quality of the state's surface and ground waters.

2.0 SUMMARY

2.1 PROJECT UNDER REVIEW

In 1988, the San Bernardino County Flood Control District (District) in association with the City of Rialto (City), prepared an EIR (SCH No. 1987110914) for the enhancement of three retention basins and a segment of a flood control channel, collectively termed the Upper Cactus Basins. The project is situated in the north-central portion of the City in the east half of Township 1 North, Range 5 West, Section 34. The Upper Cactus Basins are located adjacent to and south of Easton Street, adjacent to and north of Baseline Road, west of Cactus Avenue, and east of Ayala Drive.

The 1988 EIR was prepared for a project described as the construction of three unlined retention basins (Basins A, B and C), a rectangular concrete channel approximately 3,450 feet in length from the south side of Highland Avenue to Basin C (the most downstream of the three basins), and a system of basin inlets and outlets. After completion of the basins, it was envisioned that the San Bernardino Valley Municipal Water District (SBVMWD) would use the basins for groundwater recharge; the primary source of water would be State Water Project (SWP) water. The City Council of Rialto determined that the proposed project as designed would have a significant effect upon the environment, certified a Final EIR, and adopted mitigation measures and a Statement of Overriding Considerations.

As of 2006, none of the basin improvements had been constructed; however, sand and gravel excavation work (per the 1988 EIR) had been conducted on all three basins. The District is now moving forward to enhance the Upper Cactus Basins flood control system evaluated in the 1988 EIR. The proposed project is for the enhancement of the basins, now known as Basins 3/3A, 4 and 5. The basins are proposed for flood attenuation purposes and possible future ground water recharge. Recharge activities will be dependent upon the local water agency's obtaining permits from local, state and federal agencies including agreements with the District to perform such activities on District property.

The original stated objective for the proposed project was to eliminate any potential increase in flood hazard due to planned development in the northern portions of the City and to help alleviate stress on other storm water facilities located downstream of the proposed project in order to allow the regional flood control system to function more effectively. That objective remains today. Development in the region, as well as completion of Interstate 210 north of the project have substantially increased flows into the Cactus Basins making it necessary for the District to initiate immediate improvements to the system.

2.1.1 Project Location

The proposed project is located in the north-central portion of the City of Rialto, in the east half of Township 1 North, Range 5 West, Section 34. The subject project site is approximately 116 acres and is owned by the County of San Bernardino Flood Control District. The Cactus Basins Flood Control System ultimately includes six separate basins:

Basin 1	South of Base Line Road, constructed
Basin 2	South of Base Line Road, constructed
Basin 3/3A	North of Base Line Road, part of the proposed project (previously named Basin C)
Basin 4	North of Base Line Road and Basin 3, part of ultimate system (previously named Basin B)
Basin 5	North of Base Line Road and Basin 3, part of ultimate system (previously named Basin A)

Basins 1 and 2 are located south of the Upper Cactus Basins, below Baseline Road. Basins 1 and 2 have been completed and are operational. Basin enhancements proposed at this time include improvements to Basins 3/3A, 4, & 5, collectively termed the Upper Cactus Basins. The Upper Cactus Basins were previously mined for gravel as allowed by the 1988 EIR. The proposed design involves the widening and deepening of the three Upper Cactus Basins to an average depth of 43 feet (average elevation of 1,346 feet above sea level (asl)), the realignment of the Basins with Cactus Channel to the north and Rialto Channel to the south, the construction of three Division of Safety of Dams (DSOD) earthen dams, and various appurtenant structures. Additionally the proposed project would implement a Flood Control System Maintenance Plan for on-going management upon completion of construction, a revegetation plan to be implemented on the basin dam slopes and a bicycle/walking trail for recreational use on the perimeter of the basins.

2.1.2 Project Summary

The project as currently proposed will be to enhance Upper Cactus Basins 3/3A, 4, and 5. Basins 1 and 2 have been previously completed. The proposed project will entail grading of the existing basins (following previous sand and gravel removal activities) in order to increase the basins' depth and thus their holding capacity in order to retain increased runoff in the area. The slopes will measure between 20' and 46' in height from the bottom of the basin to the top of the slope. Flows from the Cactus Channel concrete box structure under Easton Street would be entirely diverted into Basin 5. Flows would continue through a series of appurtenant structures from basin 5 to 4, 3/3A, and ultimately into the Rialto Channel.

2.1.3 Project Alternatives

CEQA requires that a description of reasonable alternatives to the proposed project be provided. The alternatives are those, which when implemented could feasibly achieve the same result as the proposed project. CEQA also requires that a review of a "No Action" alternative be provided.

1. Flood Control Alternative -

This alternative was analyzed in the 1988 EIR. This alternative would meet the flood control objective of the proposed project by increasing the capacity of Rialto Channel between Baseline

Road and the Santa Ana River. It is assumed that this would significantly reduce the level of localized impacts for traffic, noise, air quality, and biological resources. This alternative would pass the flow of a 100-year flood safely to the Santa Ana River, but would not reduce peak flow or control runoff as the proposed project would. Cost analyses (as determined in the 1988 EIR) indicated that this alternative would cost approximately $3 million more than the proposed project. The enhancement of equivalent detention basins at downstream locations adjacent to Rialto Channel was determined to be unfeasible due to the lack of appropriate sites. Additionally, the construction of numerous small detention basins throughout Rialto was not considered to be capable of providing an equivalent level of flood protection.

2. Two Basin Alternative

The Two Basin Alternative would develop Basin 4 and 5 as a single basin and allow for the development of Basin 3/3A as proposed. Under this alternative one Division of Safety of Dams – approved (DOSD) dam would be eliminated and the surface area at the base of Basin 4 would be approximately double the presently proposed size. Elimination of the DOSD dam between Basin 4 and 5 would reduce the amount of slope surface area available for water detention. Additionally, it would increase the surface area subject to regular maintenance and clearing activities. Sediment and debris entering from Cactus Channel would spread over the larger surface of Basin 4 and some sediment may be expected to flow onto Basin 3/3A before settling occurs. This alternative would likely result in more rigorous maintenance activities over a larger area in comparison to the Proposed Project.

The Two Basin Alternative would meet the flood control objectives of the Proposed Project by increasing the capacity of the Upper Cactus Basins to provide 100-year flood protection to residences, businesses, and public infrastructure adjacent to Cactus and Rialto Channels. However, the impacts associated with this alternative would be increased with the projected maintenance and not significantly reduced from those resulting from the Proposed Project.

3. Basin and Channel Split Flow Alternative

The Basin and Channel Split Flow Alternative would modify the existing design for the improvement of the three Upper Cactus Basins to include improvements to Cactus Channel located within the subject project area. The design would reduce the size of the proposed basins but would preserve the existing portion of Cactus Channel adjacent to Basins 4 and 5. This alternative would allow for a split flow from Cactus Channel at the northeast corner of Basin 5 into the basin system at Basin 5 and through the existing channel into the basin system at Basin 3/3A. Upon project completion this alternative may also result in more rigorous maintenance activities over a larger area in comparison to the Proposed Project.

The Basin and Channel Split Flow Alternative would meet the District's flood control objectives. The alternative would not minimize significant impacts from the Proposed Project.

4. No Federal Action Alternative

The No Federal Action Alternative would allow for improvements to the existing basins outside of areas considered to be Waters of the United States. Waters of the United States are under the jurisdiction of the U.S. Army Corps of Engineers (ACOE); any project that may potentially

impact such areas would require consultation with the ACOE and a federal permit issued by the ACOE.

The existing Cactus Channel on the east boundary of the subject project site, and Basin 3/3A are considered Waters of the U.S. Under this alternative, improvements to Basins 4 and 5 may be made but would be restricted to occur inside the existing basins and west of Cactus Channel. This alternative would result in reduced basin acreage. Rather than channeling all flow into the basin system, this alternative would allow some flow to continue through Cactus Channel to Basin 3/3A. The remainder of the flow would enter Basin 5; continue on to Basins 4 and 3/3A before entering Rialto Channel.

This alternative would in part meet the District's flood control objectives by increasing the existing capacity of the Upper Cactus Basin system to include Basins 4 and 5. However, under this alternative no improvements to Basin 3/3A, or Cactus Channel would occur. The No Federal Action Alternative would reduce project impacts; however, it would not meet the overall project purpose as identified by the District.

5. No Action Alternative -

The No Action Alternative would mean that the site would be left in its current state. Assuming that the City of Rialto's and the District's policies on flood control do not change, then proposed development within the project's contributing drainage would have to be modified to eliminate new contributions to the currently constrained flood control system that includes Cactus Basins. New development is also subject to current water quality criteria of the Regional Water Quality Control Board that was not in existence at the time the 1988 EIR was certified. The project, as proposed, would allow the Cactus Basins to accept diverted flows from Interstate 210 and is a necessary component of the completed freeway construction project. Under the No Project Alternative scenario, the current system would be unable to accommodate the increased runoff and would subject adjacent areas to flooding. Rialto Channel is currently unable to adequately convey moderate (10-year) storm flows. Improvement of the Upper Cactus Basins would enable improved staggering of peak flows. Recent 2010/2011 (10 to 15-year) winter storms have confirmed the undersized nature of the basins and need for expansion. The No Action Alternative would not provide any of the flood control benefits; however, under this alternative, none of the impacts associated with the Proposed Project would occur.

2.2 EIR IMPACT EVALUATION FORMAT

Chapter 4.0 of this Supplemental EIR contains an evaluation of environmental impacts that were not evaluated in the 1988 EIR and that could occur with the implementation of the proposed project. Each section in Chapter 4.0 begins with an Introduction to the section, followed by a description of the environmental setting for each topic. Supplemental to the 1988 EIR, a discussion of identified impacts associated with the proposed project describe the thresholds used to determine the levels of significance before and after mitigation.

2.3 SUMMARY OF THE ENVIRONMENTAL EVALUATION

In 2005, an evaluation of the 1988 EIR for the Upper Cactus Basins was completed by the County of San Bernardino Land Use Services Department staff and District's Environmental Management Division staff to determine the need for supplemental analysis for compliance with CEQA. Staff determined that a Supplement to the 1988 EIR would be required to address changes in the regulatory environment related to air quality, biological resources, cultural resources, and hydrology. All other impacts and mitigation measures identified in the Final EIR as certified by the City were determined to be adequate.

The current Project proposed comprises a larger area than what was evaluated in the 2008 Supplemental EIR and the Project Description has been revised from what was evaluated in the 1988 EIR. Therefore, this 2012 Draft Supplemental EIR has been prepared to address changes in the Project Description, the environment, and applicable regulations.

2.4 SUMMARY OF ENVIRONMENTAL IMPACTS

2.4.1 Findings of No or Less Than Significant Impacts

The 1988 EIR determined that the proposed Upper Cactus Basins project would have no impact in the following areas:

- Energy
- Human Health
- Land Use
- Population
- Public Services
- Recreation

No environmental or regulatory changes have occurred in these areas and therefore no potentially significant impacts were identified during the preparation of this Supplemental EIR.

2.4.2 Findings of Less Than Significant Impacts After Mitigation Measures Have Been Implemented

Table 2-1, included at the end of this section, summarizes the potential environmental impacts associated with the project as presently proposed, the mitigation measures that would reduce or eliminate potentially significant impacts, and the level of significance of an impact that would occur after mitigation is implemented. The table summarizes any new impacts (not addressed in 1988) that could potentially occur with implementation of the project. The following impacts have been determined to be less than significant after further analysis or after mitigation measures are implemented:

- Air Quality
- Biological Resources

- Cultural Resources
- Hydrology

2.4.3 Findings of Significant Impacts After Mitigation Measures Have Been Implemented

The analysis conducted for this Supplemental EIR determined that no significant environmental impacts would remain after mitigation measures have been implemented.

TABLE 2-1
SUMMARY OF IMPACTS AND MITIGATION MEASURES/REGULATORY REQUIREMENTS FOR THE PROPOSED PROJECT

IDENTIFIED IMPACTS	LEVEL OF SIGNIFICANCE (Before Mitigation)	MITIGATION MEASURES/ REGULATORY REQUIREMENTS	LEVEL OF SIGNIFICANCE (After Mitigation)
AIR QUALITY			
Enhancement of the Upper Cactus Basins may violate pollutant level thresholds as established by the SCAQMD during the construction phase	Potentially Significant Impact	**AQ-1:** The project shall comply with the requirements of the SCAQMD Rules 402 Nuisance, and 403, Fugitive Dust, which require the implementation of Best Available Control Measures (BACM) for each fugitive dust source, and the AQMP), which identifies Best Available Control Technologies (BACT) for area sources and point sources, respectively. This would include, but not be limited to the following: A. The project proponent shall ensure that any portion of the site to be graded shall be pre-watered to a depth of three feet prior to the onset of grading activities. (a) The project proponent shall ensure that watering of the site or other soil stabilization method shall be employed on an on-going basis after the initiation of any grading activity on the site. Portions of the site that are actively being graded shall be watered regularly to ensure that a crust is formed on the ground surface, and shall be watered at the end of each workday. (b) The project proponent shall ensure that landscaped areas are installed as soon as possible to reduce the potential for wind erosion.	Less than Significant

TABLE 2-1
SUMMARY OF IMPACTS AND MITIGATION MEASURES/REGULATORY REQUIREMENTS FOR THE PROPOSED PROJECT

IDENTIFIED IMPACTS	LEVEL OF SIGNIFICANCE (Before Mitigation)	MITIGATION MEASURES/ REGULATORY REQUIREMENTS	LEVEL OF SIGNIFICANCE (After Mitigation)
		(c) The project proponent shall ensure that all grading activities are suspended during first and second stage ozone episodes or during any period when winds exceed 25 miles per hour. **AQ-2:** To reduce emissions, all equipment used in grading and construction must be tuned and maintained to the manufacturer's specification to maximize efficient burning of vehicle fuel. **AQ-3:** The project proponent shall, prepare an erosion control plan and PM_{10} plan. **AQ-4:** The project proponent shall ensure that construction personnel are informed of ride sharing and transit opportunities.	
BIOLOGICAL RESOURCES			
Project approval and subsequent enhancement would result in removing almost all natural vegetation and maintaining the site for flood control uses. Construction of the proposed enhancements would remove habitat for the endangered San Bernardino kangaroo rat and least Bell's vireo.	Potentially Significant Impact	**BIO-1:** Pursuant to the 1988 EIR, the loss of alluvial fan sage scrub shall be mitigated off-site by preserving approximately 45 acres of alluvial fan sage scrub reserve. The potential locations identified in the 1988 EIR were Lytle Creek, San Sevaine Creek and Cucamonga Creek. The San Bernardino County Flood Control District (SBCFCD) has agreed to preserve 45 acres of Riversidean Sage Scrub in Cajon Creek for off-site mitigation. **BIO-2:** A revegetation plan shall be prepared according to the 1988 EIR to revegetate approximately	Less than Significant

TABLE 2-1
SUMMARY OF IMPACTS AND MITIGATION MEASURES/REGULATORY REQUIREMENTS FOR THE PROPOSED PROJECT

IDENTIFIED IMPACTS	LEVEL OF SIGNIFICANCE (Before Mitigation)	MITIGATION MEASURES/ REGULATORY REQUIREMENTS	LEVEL OF SIGNIFICANCE (After Mitigation)
		41 acres. The revegetation plan would include placement of native duff (decaying vegetation) from stockpile and hydroseed with alluvial fan sage scrub seed mix in accordance with the Cactus Basin No. 3 Habitat Restoration/Revegetation Plan Specifications dated November of 2005. Most of all of the disturbed areas within the clearing and grubbing limits shall be hydroseeded. **BIO-3:** Impacts for the loss of 8.8 acres of riparian habitat shall be compensated at a two to one ratio via the restoration and enhancement of willow riparian habitat in an earthen channel portion of the Rialto Channel. **BIO-4:** U.S. Fish and Wildlife shall be contacted to discuss the need for a mitigation plan for the one SBKR trapped and one least Bell's vireo observed. If necessary, the U.S. ACOE shall formally consult with the Service under Section 7 of the Federal Endangered Species Act and prepare a Habitat Conservation Plan. **BIO-5:** To avoid incidental killing of birds protected under the Migratory Bird Treaty Act and the California Fish and Game Code, initial grading and brush removal of any previously undisturbed habitat shall be scheduled outside of the bird nesting and breeding season. **BIO-6:** Although not observed during field surveys of the project site, burrowing owls may occur in areas not covered by the field survey (particularly sand and	

TABLE 2-1
SUMMARY OF IMPACTS AND MITIGATION MEASURES/REGULATORY REQUIREMENTS FOR THE PROPOSED PROJECT

IDENTIFIED IMPACTS	LEVEL OF SIGNIFICANCE (Before Mitigation)	MITIGATION MEASURES/ REGULATORY REQUIREMENTS	LEVEL OF SIGNIFICANCE (After Mitigation)
		gravel areas). Pre-construction clearance surveys shall be conducted to determine whether or not burrowing owls occur on the site. If they occur, the District will engage in a passive relocation program that will be conducted outside of the breeding season, March-August. The District will create on-site artificial burrows above the flood level of the basin prior to engaging in passive relocation of burrowing owls. Artificial burrows will be: 1) located as close as possible to the location of occupied burrows; 2) constructed at a ratio of 2:1 for every occupied burrow found and; 3) be approved by the California Department of Fish and Game prior to their installation. Maintenance of said burrows will be conducted by District personnel utilizing hand tools or powered weed mowers at least once a year. Heavy earth moving equipment, i.e., graders, scrapers, etc., shall not be utilized in maintenance operations of said burrows.	
CULTURAL RESOURCES			
There is minimal to no potential for discovery of buried or subsurface archaeological and/or cultural materials as a result of the proposed project.	Potentially Significant Impact	**CR-1:** A Paleontological Resources Impact and Mitigation Plan shall be prepared to address monitoring needs at the site. In general it may be expected that an archaeological monitor shall be employed during initial grading and/or excavation of undisturbed soils only. This amounts to an estimated 1-3% of the total project area. The monitor shall have the authority to halt	Less than Significant

TABLE 2-1
SUMMARY OF IMPACTS AND MITIGATION MEASURES/REGULATORY REQUIREMENTS FOR THE PROPOSED PROJECT

IDENTIFIED IMPACTS	LEVEL OF SIGNIFICANCE (Before Mitigation)	MITIGATION MEASURES/ REGULATORY REQUIREMENTS	LEVEL OF SIGNIFICANCE (After Mitigation)
		construction activity in the immediate vicinity of the discovery of any potentially significant subsurface archaeological remains in order that a Phase II Archaeological Investigation may be conducted under the direction of a qualified consulting archaeologist in accordance with CEQA guidelines. **CR-2:** If human remains are unearthed during construction, State Health and Safety Code Section 7050.5 states that, "no further disturbance shall occur until the County Coroner has made the necessary findings as to origin and disposition pursuant to Public Resources Code Section 5097.98."	
HYDROLOGY AND DRAINAGE			
Flood control aspects of the proposed project will modify the surface water flow regime of the upper Rialto Channel drainage.	Potentially Significant Impact	**HW-1:** The contractor for the proposed project shall comply with the SWPPP for the Upper Cactus Basins Enhancement Project.	Less than Significant

3.0 PROJECT DESCRIPTION

3.1 BACKGROUND

Portions of this Project Description for the proposed Cactus Basins 3/3A, 4 & 5 (Upper Cactus Basins) Enhancement Project ("Proposed Project") are from sections of the EIR that was completed and certified for the Project as proposed in 1988 (*Final Environmental Impact Report, Upper Cactus Basin Flood Control Facility,* prepared by Harmsworth Associates, September 1988). The project is proposed to enhance portions of an existing flood control facility owned and operated by the San Bernardino County Flood Control District ("District"). The original 1988 EIR was prepared for a project described as the construction of three unlined retention basins (Basins A, B and C), a rectangular concrete channel approximately 3,450 feet in length from the south side of Highland Avenue to Basin C (the most downstream of the three basins), and a system of basin inlets and outlets. After completion of the flood control basins, it was envisioned that the San Bernardino Valley Municipal Water District (SBVMWD) would also use the basins for groundwater recharge; the primary source of water would be State Water Project (SWP) water.

In 2006, excavation work as described in the EIR had been conducted on all three basins; however, basin improvements were yet to be constructed. In 2008 the District prepared a *Draft Supplemental Environmental Impact Report (SCH No. 1987110914) for Cactus Basins 3 and 3A Flood Control Facility Enhancements* (SEIR) for a revised project proposal: to enhance a portion (Basin 3/3A) of the flood control system and eliminate the groundwater recharge component of the basins. The 2008 SEIR evaluated changes in the environment since certification of the 1988 Final EIR. Environmental changes evaluated in the 2008 SEIR included the February 1998 emergency-listing of the San Bernardino kangaroo rat (SBKR) as a federally listed endangered species, the 1993 designation of the California gnatcatcher as a federally threatened species and State species of special concern, and the current regulations governing air quality emissions.

Improvements to the basins as described in the 2008 SEIR which was certified on December 8, 2008 by the San Bernardino County Board of Supervisors have not been constructed. At present the District intends to construct flood control improvements at the three basins with minor design changes to provide for the more efficient capture of storm flows from major events and to conduct on-going maintenance activities at Basins 3/3A, 4, and 5. Due to the identification of a plume of contamination since the evaluation of the original project, the recharge of groundwater or use of the basins by the SBVMWD is not a part of the Proposed Project. Use of the basins for groundwater recharge may be considered at a future time if the existing groundwater plume is remediated and additional CEQA analysis is undertaken. A portion of the infrastructure necessary for future recharge will be installed in the westerly basins' embankments as part of infilling the existing Cactus Channel adjacent to Basins 4 and 5. The District will serve as the Lead Agency for CEQA review and has determined the need for a second Supplement to the 1988 EIR to address changes in the Project Description not addressed in the 2008 SEIR as well as changes to the regulatory environment that have occurred since 2008, and the finding of least Bell's vireo, a federal and State Endangered species at the Project Site.

Pursuant to CEQA Guidelines, §15162(a), a Supplemental EIR may be required if there are: 1) substantial changes to the project; 2) there are substantial changes in the project's circumstances; or 3) new information that would not have been known at the time the EIR was certified becomes available. The original parameters of the 1988 EIR for the proposed project have not changed and the same significant impacts previously addressed are expected. Since that time, the Project Site has been identified with the potential to support habitat for certain species of concern. In February of 1998, the San Bernardino kangaroo rat (SBKR) was emergency-listed as a federally listed endangered species and the California gnatcatcher was listed as a federally Threatened species by United States Fish and Wildlife Service (USFWS) in 1993 and as a species of special concern by the State of California. In 2010, a siting of a pair of least Bell's vireo occurred at the Project Site. Additionally, new rules and regulations governing air quality emissions have been adopted by the South Coast Air Quality Management District. Given these new potential impacts and the lapse in time between the adoption of the original EIR in 1988 and the present proposal to enhance three basins of the regional flood control system, the District acting as the Lead Agency pursuant to CEQA Guidelines, §15051, has determined that a Supplemental EIR is warranted.

The U.S. Army Corps of Engineers (ACOE) must issue a Clean Water Act Section 404 Permit for approval of the project and will therefore be responsible for National Environmental Policy Act (NEPA) compliance and consultation with the U.S. Fish and Wildlife Service (USFWS) regarding the potential taking of federal Endangered species.

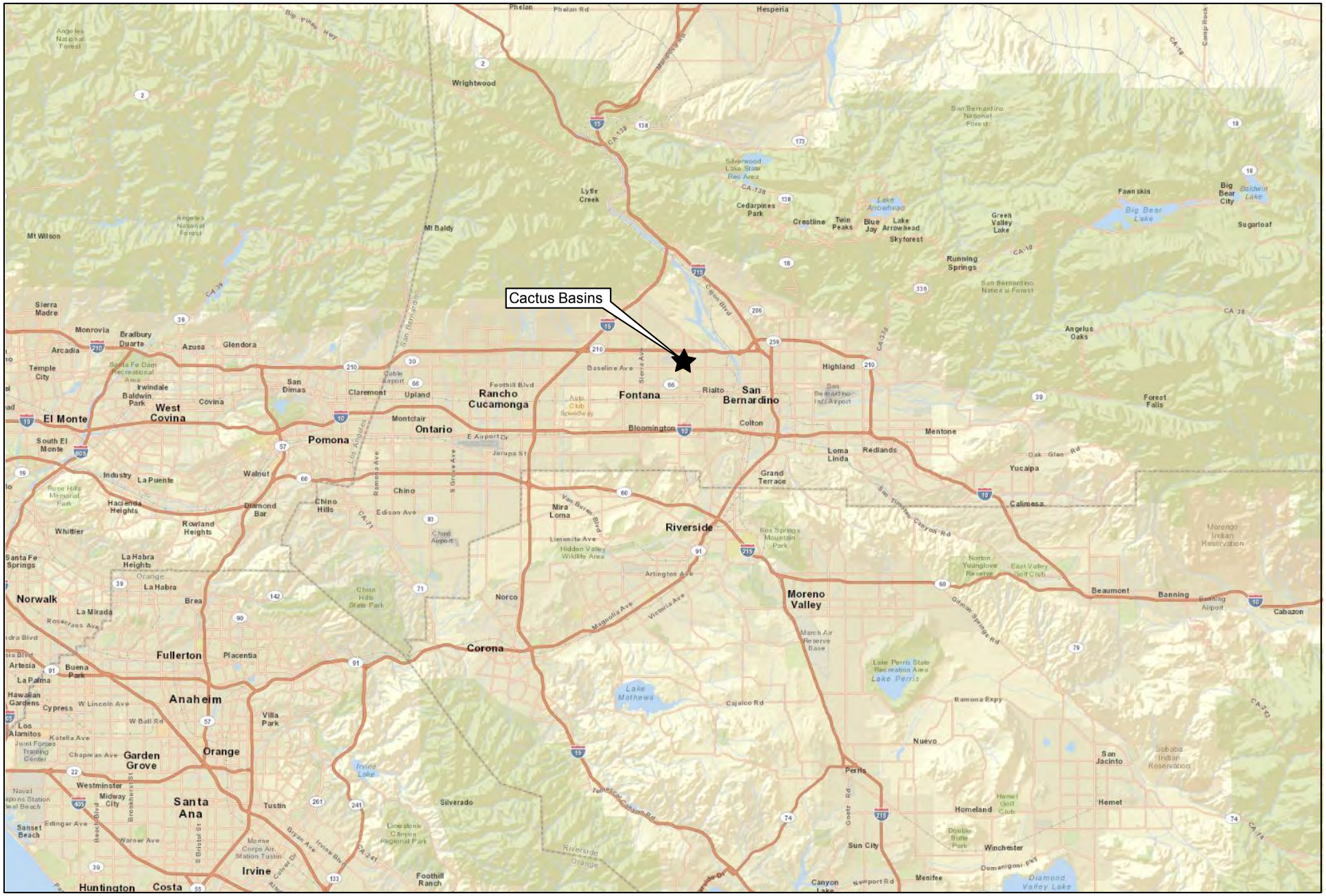
3.2 REGIONAL SETTING

The Cactus Basins Flood Control Facility is located entirely within the City of Rialto, in the west valley portion of San Bernardino County (see Figure 3-1). The City of Rialto has a population of 99,171 (2010 est.) and supports a diversified mix of manufacturing, distribution, service, and retail businesses.

The site is located just south of Interstate 210, approximately 3.6 miles north of Interstate 10, and 4.7 miles west of Interstate 215. Lytle Creek, an ephemeral wash that contains high quality aggregate resources occurs approximately one mile to the east. The Project Site occurs on an alluvial fan at the base of the San Gabriel Mountains.

3.3 LOCAL SETTING

The proposed project is situated in the northcentral portion of the City of Rialto in the east half of Township 1 North, Range 5 West, Section 34. The project site is owned by the District and includes approximately 116 acres. Cactus Basins 3/3A, 4, & 5 are located south of Easton Street, north of Baseline Road, west of Cactus Avenue, and east of Ayala Drive (see Figure 3-2). The Jerry Eaves Park lies west of the project site adjacent to Basin 3/3A and the Rialto Municipal Airport runway is adjacent to the west of Basins 4 and 5. Residential neighborhoods are located to the east, south, and north of I-210. The remainder of the Cactus Basins Flood Control System that is not a part of this project is the existing Basins 1 and 2 which are located south of Baseline Road.



Regional Vicinity

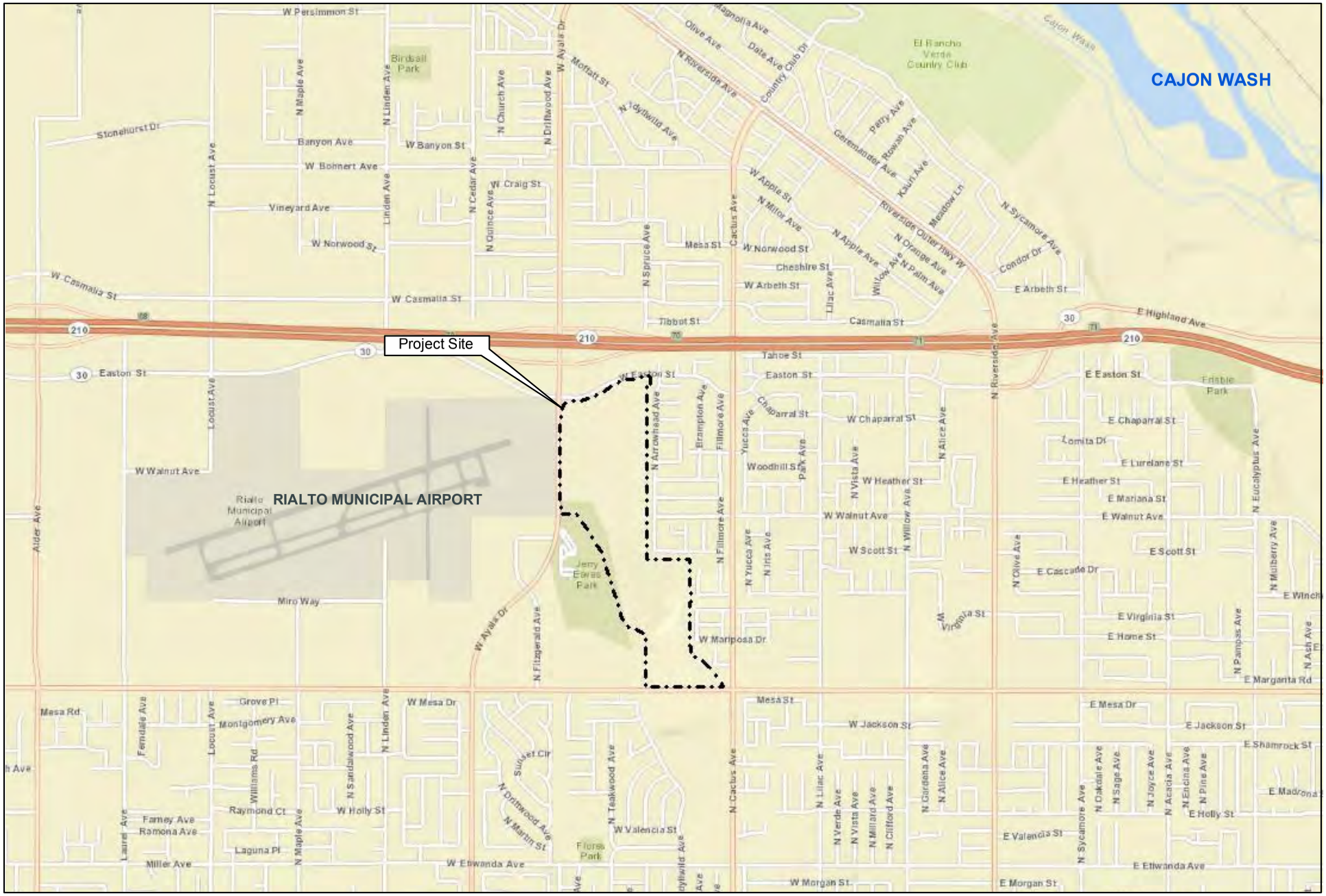
Upper Cactus Basins Enhancement Project
City of Rialto, San Bernardino County, California

Figure 3-1

N

0 7.75
Approximate Miles

LILBURN CORPORATION



Project Location

Upper Cactus Basins Enhancement Project
City of Rialto, San Bernardino County, California

Figure 3-2

0 0.40
Approximate Miles

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3.4 SITE CHARACTERISTICS

The site occurs on the bajada below the San Gabriel Mountains, on the historic floodplain of Lytle Creek. Soils are made up of alluvial and colluvial sand, gravel and rock. The site has been altered by sand and gravel mining operations as approved in the 1988 EIR.

A District designated Habitat Restoration Area is located immediately east of Cactus Basin 3/3A. The Habitat Restoration Area was established by the District as mitigation for the Baseline RCB Project and is not part of the subject project site, nor will it be disturbed or altered by the proposed project.

Under existing conditions, Basin 3/3A is in-line with Cactus Channel to the north and Rialto Channel to the south; Basins 4 and 5 are off-line and do not receive or transfer stormwater flows. All flows entering the existing system come from a concrete box structure under Easton Street and into Cactus Channel. Cactus Channel is a deeply incised conduit immediately east of Basins 5 & 4. Flows from the Channel outlet into Basin 3/3A, then they are transferred to the Rialto Channel.

Six habitat types occur at the Upper Cactus Basin project site. Riversidean sage scrub is the predominant habitat type at the subject site occupying approximately 49.3 acres. Riversidean sage scrub vegetation is dominant on the existing basin slopes. Characteristic shrubs at the site include California sagebrush (*Artemisisa californica*), deerweed (*Acmispon glaber*), California buckwheat (*Erigonum fasciuclatum*), black sage (*Salvia mellifera*), and prickly-pear cactus (*Opuntia littoralis*). A chaparral community of approximately 3.7 acres occurs on the eastern basin slopes. Observed species in the chaparral community include: hollyleaf cherry (*Prunus ilicifolia*), chamise (*Adenostoma fasciculatum*), spiny redberry (*Rhamnus crocea*), and wedge-leaf ceanothus (*Ceanothus cuneatus*).

The basin floor of Basin 3/3A supports a willow cottonwood woodland of approximately 7.6 acres and a mulefat scrub community of approximately 1.2 acres. Predominant riparian vegetation includes: Fremont cottonwood (*Populus fremontii*), red willow (*Salix laevigata*), arroyo willow (*Salix lasiolepis*) and mulefat (*Baccharis salicifolia*).

The remainder of the subject site is described as either streambed or disturbed habitat. Streambed habitat is defined as open flood channel sparsely vegetated with a mix of native and non-native species. Approximately 25.6 acres of streambed habitat occur at the site. Disturbed habitat occurs on the developed basin access road and portions of the subject property that show signs of regular maintenance. Approximately 28.5 acres of the property are classified as disturbed. Disturbed areas are generally devoid of vegetation. Where vegetation is observed, it is predominantly non-native plant species that include: common dandelion (*Taraxacum officinale*), common chickweed (*Stellaria media*), short podded mustard (*Hirschfeldia incana*), London rocket (*Sisymbium irio*), white mustard (*Sinapsis alba*), Russian thistle (*Salsola tragus*), tree tobacco (*Nicotiana glauca*), horehound (*Marrubium vulgare*), red brome (*Bromus madritensis* sssp. *rubens*), rigput (*Bromus diandrus*), and pigweed amaranth (*Amaranthus albus*).

3.5 PROJECT DESCRIPTION

3.5.1 Project Need and Objectives

The District proposes the enhancement of three detention basins referred to as the Upper Cactus Basins in an area generally bound by Easton Street, Ayala Drive, Baseline Road, and Cactus Avenue. The overall project objective is to provide 100-year flood protection to residences, businesses, and public infrastructure adjacent to Cactus Channel and Rialto Channel in the cities of Rialto and Colton, and unincorporated San Bernardino County, California. Increased runoff from the construction of Interstate 210, to the north of the basins (completed in 2007), and continued development of new residential, commercial, and industrial uses upstream, have and will continue to increase demands on the flood control system and the subject basins. Additionally, the enhancement of the basins is required to alleviate stress on the portion of the flood control system downstream of the Project Site (Cactus Basins 1 and 2).

The proposed project would expand the upper Cactus Basins and eliminate the portion of the Cactus Channel located east of the Basins within the subject property. The project would align the flood control basins with the Cactus Channel to the north of Basin 5 and with the Rialto Channel at the southwest corner of Basin 3/3A. Under existing conditions, Cactus Channel is a deeply incised conduit that bypasses Basin 5 & 4. Flows from Cactus Channel enter the existing unimproved Basin 3/3A and ultimately flow into Rialto Channel. Rialto Channel receives the majority of the storm runoff within the City of Rialto and under existing conditions is unable to handle the peak flow from a 100-year flood event. Completion of the Upper Cactus Basins Enhancement Project would effectively stagger peak flows to reduce potential downstream flood hazard impacts associated with projected development in northern Rialto.

3.5.2 Major Components of Proposed Project

The subject project site is comprised of approximately 116 acres owned by the District. The entire Cactus Basins Flood Control System ultimately includes five separate basins:

Basin 1	South of Base Line Road, constructed
Basin 2	South of Base Line Road, constructed
Basin 3/3A	North of Base Line Road, part of the proposed project (previously named Basin C)
Basin 4	North of Base Line Road and Basin 3, part of proposed project (previously named Basin B)
Basin 5	North of Base Line Road and Basin 4, part of proposed project (previously named Basin A)

Basins 1 and 2 are located south of the Upper Cactus Basins south of Baseline Road. Basins 1 and 2 have been completed and are operational. Basin enhancements proposed at this time include improvements to Basins 3/3A, 4, & 5, collectively termed the Upper Cactus Basins, and

the Cactus Channel. The Upper Cactus Basins were previously mined for gravel as allowed by the 1988 EIR. The proposed design involves the widening and deepening of the three Upper Cactus Basins to an average depth of 43 feet (average elevation 1,346 feet above sea level (asl), the alignment of the Basins with Cactus Channel to the north and Rialto Channel to the south, the construction of Division of Safety of Dams (DSOD) earthen dams in Basin 3/3A, between Basins 3/3A and 4, and between Basins 4 and 5, and construction of various appurtenant structures. Additionally the proposed project would implement a Flood Control System Maintenance Plan for on-going management upon completion of construction, and a bicycle/walking trail for recreational use on the perimeter of the basins. All earthmoving activities would be confined within the project area. Approximately, 1,829,000 CY of material would be exported; no import of material is expected to occur. Stockpiles as necessary will be placed in designated 1.5 to 3-acre stockpile areas at the bottom of each basin. The planned excavation and stockpile number are outlined in Table 3-1; components of the proposed project are discussed in detail below.

Table 3-1
Basin Excavation and Stockpile Numbers

Basin	Excavation (CY)	Embankment (CY)	Export (CY)
3	440,000 cy	111,000	329,000
3A	45,000	70,000	---
4	1,200,000	100,000	1,100,000
5	540,000	140,000	400,000

Basin Expansion and Deepening

The proposed project would widen and deepen Cactus Basins 3/3A, 4, and 5. The three basins would be excavated to a uniform depth of approximately 1,346 feet asl. In order to align the basins in the subject property the basins would be widened to the east to the location of the existing Cactus Channel. All flows from the concrete box structure under Easton Street would flow into Basin 5 (see Figure 3-3).

Each Basin would include access ramps to the floor of the basin. A typical access ramp would be 15 feet wide and would include access for required construction of basin improvements and maintenance as needed.

California of Department of Water Resources – Division of Safety of Dams (DSOD)

The proposed dams would be constructed in Basin 3/3A, between Basins 3/3A and 4, and between Basins 4 and 5. As designed by the District, the dams would be subject to the regulations of the State of California Department of Water Resources DSOD regulations. Construction of the dams would be supervised by the DSOD.

The State of California has supervised dams to prevent failure since August of 1929. Dams are defined in the California Water Code Sections 6002, 6003, and 6004; all dams under the definition of these sections are subject to State supervision unless they are owned and operated by the United States.

N

0 440

Approximate Feet

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Project Plans

Upper Cactus Basins Enhancement Project
City of Rialto, San Bernardino County, California
Figure 3-3

As defined by the DSOD regulations, "dam means any artificial barrier, together with appurtenant works, which does or may impound or divert water, and which either (a) is or will be 25 feet or more in height from the natural bed of the stream or watercourse at the downstream toe of the barrier, as determined by the department, or from the lowest elevation of the outside limit of the barrier, as determined by the department, if it is not across a stream channel of watercourse, to the maximum possible water storage elevation or (b) has or will have an impounding capacity of 50 acre-feet or more.

Basin Appurtenant Structures

A series of appurtenant structures would be constructed on the basin dams to allow the realignment of flow from Cactus Channel, through the detention basin system, to Rialto Channel. The proposed appurtenant structures are described as follows:

- Flows from Cactus Channel would enter Basin 5 from the northeast corner over an ungrouted rock rip-rap splash pad embedded into the facility's levee. The splash pad would be 3-feet in depth with a slope of 3H:1V, and span 240 feet along the levee slope and 135 feet of the channel, for a total splash pad length of 375 feet.
- A storm drain inlet from Ayala Drive and Jerry Eves Park to the west would be constructed beneath the western levee.

Flood Control System Maintenance Plan

Upon completion of the Proposed Project, the District would implement an on-going Maintenance Plan necessary for the continued upkeep and functionality of the flood control system. The proposed basin inlet and outlet system has been designed to minimize maintenance requirements and consequently minimize disturbance of revegetated habitat on the dam slopes. Flow would enter Basin 5 from the northeast; sediment from flows would predominately settle in Basin 5. Residual sediment is expected to flow through the spillways from Basin 5 to Basin 4 before settling there. Little to no sediment accumulation is expected to occur in Basin 3/3A. Maintenance activities proposed under the Maintenance Plan would include:

- Removal of sedimentation twice a year or as needed;
- Removal of vegetation twice a year or as needed;
- Weed abatement along the property fence lines and roadsides twice a year or as needed;
- Debris removal, erosion repairs, and center flow repairs as needed;
- Basin bottom disking, if and where possible; and,
- Levee grading as needed.

Maintenance activities would also include the continued management of the revegetated slopes. Per DSOD requirements for the maintenance of regulated dams, vegetation that may potentially inhibit the structural integrity of the dams may be removed as part of the normal maintenance activities.

Bicycle/Walking Trail

Upon completion of the proposed Basin improvements and dam construction, the 20 foot wide dam axis/maintenance access roads along the perimeter of the flood control system have the

potential for joint use as a bicycle/walking trail. The joint use of the access trails would enhance the recreational opportunities already available at the adjacent Jerry Eves Park, located just west of Basins 3/3A and 4.

Chapter 3 of the Santa Ana Regional Water Quality Control Board (RWQCB) Basin Plan outlines beneficial uses of water resources to benefit people and/or wildlife. Joint use of Cactus Basins to provide access to a bicycle/walking trail would be consistent with the REC 2 beneficial use as defined by Santa Ana RWQCB Basin Plan. The REC 2 beneficial use is defined as "non-contact water recreation waters used for recreational activities involving proximity to water, but not normally involving body contact with water where ingestion of water would be reasonably possible."

Recreational beneficial use designations may be assigned by the RWQCB to recognize that the use exists or that the water quality of the waterbody could support recreational uses. However, the RWQCB does not construe the designation as encouraging recreational activities. In some cases, access to waterbodies with a recreation designation is prohibited due to potentially hazardous conditions and/or due to the need to protect other uses such as municipal supply or sensitive wildlife habitat.

4.0 ENVIRONMENTAL CONSEQUENCES

The original EIR in 1988 identified the following areas of environmental impacts:

- Topography
- Hydrology
- Biology
- Traffic and Circulation
- Air Quality
- Noise
- Visual Quality

4.0.1 1988 EIR: UNAVOIDABLE ADVERSE IMPACTS

The unavoidable adverse impacts, which could result from the project, will occur on both a short- and a long-term basis. Short-term impacts are those that will occur during the construction phases of the project and will not permanently alter the local environment. Long-term impacts are those that will begin with the project's construction and remain through the project's useful life or beyond. Those impacts that were originally identified in the 1988 EIR which are results of project activities and which cannot be fully eliminated through mitigation measures are discussed briefly below. While the original EIR incorporated numerous mitigation measures in order to reduce and limit the adverse impacts, the following impacts were unavoidable consequences for which the City Council of Rialto adopted a Statement of Overriding Considerations due to the critical necessity of the project.

Topography

The development of the basins will result in a permanent alteration in local topography. This impact will begin with the initial construction phase and exist beyond the useful life of the project. No measures are available to totally mitigate this impact. The project will also create the potential for increased wind erosion of site soils. This latter effect should be relatively short-term and confined primarily to the construction phase of the project. Future revegetation subsequent to enhancement will significantly reduce this impact.

Hydrology

Although the probability is low of an accidental release of hazardous material into the basins drainage area, it would cause a significant impact if these materials could not be intercepted prior to reaching the basins. While current regulations exist to limit this type of event, it is still possible. If such materials entered the basins, an unavoidable adverse impact to local groundwater could result prior to the implementation of any clean up measures.

Biology

The disturbance of the surface at the project site will result in permanent impacts to both vegetation and wildlife habitats. Additionally the removal of habitat may affect one federally listed endangered species (San Bernardino kangaroo rat) and one state and federally-listed

endangered species (least Bell's vireo) known to be present at the site. The loss of site vegetation is locally significant and is only partly offset on-site by a revegetation program.

Traffic and Circulation

Implementation of the project will increase the volume of truck traffic on local roadways, which is of moderate significance. The project will also lead to a likely decrease in traffic safety. These conditions are of short duration and will occur only during the construction phase of the project.

Air Quality

The project will cause an increase in the emission of air contaminants of which particulate matter is of the greatest concern and is considered to result in an adverse condition. While partial mitigation can be provided, the impact will remain to some degree. However, this impact is confined primarily to the enhancement period when site disturbance is at a maximum. Post enhancement revegetation of the project site should effectively mitigate any potential long-term impact.

Noise

The enhancement of the flood control channel and basins will cause short-term significant noise impacts to the surrounding residential area east of the site. The degree of impact can be controlled to a large extent but the adverse condition will remain during the construction phase of the project.

Visual Quality

The development of the basins will permanently alter the local visual quality of the site. The adverse condition created during construction is anticipated to diminish to a level of insignificance with time.

4.0.2 SUPPLEMENTAL EIR: ENVIRONMENTAL IMPACTS

As previously identified, the District determined the need to evaluate potential environmental impacts in areas where new legislation and/or species listing would require an updated review. A new Jurisdictional Delineation, Biological Resources Report, focused botanical surveys, trapping study for SBKR presence, and focused surveys for the California gnatcatcher and least Bell's vireo have been performed for the preparation of this Supplemental EIR in order to update the 1988 EIR pursuant to CEQA requirements. A Storm Water Pollution Prevention Plan has been prepared to address new regulations imposed by the Regional Water Quality Control Board. An updated Cultural Resources Investigation has ben completed to meet both the requirements of NEPA and CEQA. Impacts associated with topography, visual quality, noise, and traffic and circulation will remain the same as previously evaluated and therefore were not evaluated in this Supplemental EIR. The environmental impacts are therefore evaluated herein for the following topics:

- Air Quality
- Biological Resources
- Cultural Resources

- Greenhouse Gases/Climate Change
- Hydrology and Drainage

Format of Environmental Topic Sections

Each topic identified above is addressed in a sub-section of this EIR chapter. Sections are outlined following the consistent format as follows:

- Introductory paragraph describing the focus of the analysis and summary of background material used to prepare the analysis;
- Description of the environmental setting as it relates to the specific environmental topic;
- Identification of the thresholds of significance;
- Evaluation of project-specific impacts for the proposed project; and a determination of significance based on documented threshold levels;
- Identification of mitigation measures; and
- Determination of the level of significance, after mitigation measures are implemented.

The **Introduction** describes the purpose of the section, identifies background reports used to prepare the section, and summarizes the main focus of the analysis.

The **Environmental Setting** describes existing conditions at the local level as well as the regulatory environment where applicable policies, plans and regulations apply to the proposed project.

Thresholds of Significance are used to determine the level of significance of identified impacts as required by CEQA Guidelines. Thresholds of significance are identifiable quantitative, qualitative, or performance levels of a particular environmental effect.

The **Impact Analysis** focuses on changes in the existing physical environment that would be caused by the proposed project identifying direct and indirect adverse effects of development of the proposed project.

The **Mitigation Measures** identify actions to minimize impacts that exceed the thresholds of significance.

Finally, a determination of the **Level of Significance** following implementation of the recommended mitigation measures is provided.

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4.1 AIR QUALITY

4.1.1 Introduction

This section of the Supplemental EIR provides background air quality information including current regulatory overview, a description of the climate, and existing or ambient air quality in the project vicinity of the South Coast Air Basin (SCAB). This background information is used to assess the potential air quality impacts from the proposed project and recommend mitigation measures for impacts determined to be potentially significant. Background material is referenced from the County of San Bernardino Land Use Services Department and the South Coast Air Quality Management District (SCAQMD) CEQA Guidelines. Emissions were generated using SCAQMD "Off-Road Mobile Source Emission Factors" for 2012 and EMFAC2007 (v2.3) Emission Factors for On-Road Heavy-Heavy-Heavy-Duty Diesel Trucks for 2012. Refer to Appendix B for Air Quality calculations.

4.1.2 Environmental Setting

Regional Setting

The project site is located in the City of Rialto and in the Valley portion of the SCAB. The SCAB includes Orange County and portions of Los Angeles, Riverside and San Bernardino counties. The air basin encompasses an area of approximately 6,600 square miles bounded by the Pacific Ocean to the west and the San Gabriel, San Bernardino and San Jacinto Mountains to the north and east. The mountains, which reach heights of up to 11,000 feet above mean sea level act to prevent airflow and thus block the transport of air pollutants out of the basin.

The climate in and around the project area, as with all of southern California, is controlled largely by the strength and position of the subtropical high-pressure cell over the Pacific Ocean which maintains moderate temperatures and comfortable humidities, and limits precipitation to a few storms during the winter "wet" season. Temperatures are normally mild, excepting the summer months, which commonly bring substantially higher temperatures. During summer months in all portions of the basin, temperatures well above 100 degrees Fahrenheit (°F) have been regularly recorded. The annual average temperature in the basin is approximately 62°F.

Winds in the project area are almost always driven by the dominant land/sea breeze circulation system. Regional wind patterns are dominated by daytime on-shore sea breezes. At night the wind generally slows and reverses direction traveling towards the sea. Wind direction can be altered by local canyons, with wind tending to flow parallel to the canyons. The frequency of calm winds (less than two miles per hour) occurs less than ten percent of the time. Therefore, there is little stagnation in the project vicinity, especially during busy daytime traffic hours.

The vertical dispersion of air pollutants in the air basin is limited by the presence of a persistent temperature inversion. Generally, the greater the distance from the ground, the colder the air usually becomes. During a temperature inversion, there is a temperature increase with altitude. Therefore, the inversion layer is a layer of warm air over cooler air. The result is that the inversion layer blocks the cooler air from rising and prevents pollutants from being dispersed.

Southern California frequently has temperature inversions that inhibit the dispersion of pollutants. Inversions may be either ground-based or elevated. Ground-based inversions sometimes referred to as radiation inversions, are most severe during clear, cold, early winter mornings. Under conditions of a ground-based inversion, very little mixing or turbulence occurs, and high concentrations of primary pollutants may occur, particularly near major roadways or industrial areas. Elevated inversions can be generated by a variety of meteorological phenomena. Elevated inversions (inversions that occur at higher altitudes) act as a lid or upper boundary and restrict vertical mixing. Below the elevated inversion, dispersion is not restricted. Mixing heights for elevated inversions are lower in the summer and more persistent. This low summer inversion puts a lid over the air basin and is responsible for the high levels of ozone observed during summer months in the air basin.

Air Quality Management

Applicable Polices, Plans and Regulations

A combination of climatic factors and urbanization cause the Los Angeles Basin and the interior valleys to have some of the highest air pollution levels in the country. This region, defined as the SCAB, falls under the jurisdiction of the SCAQMD for statutory air quality issues. Specifically, the SCAQMD monitors and enforces the federal and state air quality standards in association with federal, state, local, and regional government agencies. These agencies work jointly as well as individually to reduce air pollution through legislation, regulation, policy making, education, and a variety of programs. These agencies include:

Environmental Protection Agency (EPA) - Responsible for setting and enforcing the national standards for atmospheric pollutants, including the Federal Clean Air Act (FCAA), as amended

California Air Resources Board (CARB) - Part of the California Environmental Protection Agency (Cal-EPA) and responsible for assuring implementation of the California Clean Air Act (CCAA), responding to federal regulations, and regulating emission standards.

SCAQMD - Primarily responsible for comprehensive air pollution control in the SCAB and Riverside and Los Angeles County portions of the South East Desert Air Basin (SEDAB). SCAQMD implements the CCAA and works directly with federal, state, and local agencies.

Local Governments - Have the authority and responsibility to reduce air pollution through their local land use decision-making authority.

Air emissions from the proposed project are subject to federal, state, and local rules and regulations as implemented through provisions of the FCAA, CCAA, and the AQMP adopted and updated regularly by SCAQMD. The following is an overview of these rules and regulations.

Federal Clean Air Act (FCAA). The FCAA was established in an effort to assure that acceptable levels of air quality are maintained in all areas of the United States. These levels are based upon health-related exposure limits and are referred to as National Ambient Air Quality Standards (NAAQS). The NAAQS establish maximum allowable concentrations of specific pollutants in the

atmosphere and characterize the amount of exposure deemed safe for the public. The NAAQS set standards for the following pollutants:

Nitrogen dioxide (NO_2)
Sulfur dioxide (SO_2)
Particulate matter less than 10 microns, aerodynamic diameter (PM_{10})
Particulate matter less than 2.5 microns, aerodynamic diameter ($PM_{2.5}$)
Ozone (O_3)
Lead (Pb)

Primary and secondary NAAQS have been established and are shown in Table 4.1-1. Primary standards reflect levels of air quality deemed necessary by the EPA to provide an adequate margin of safety to protect public health. Areas found to be in violation of primary standards are termed "non-attainment areas". Secondary standards reflect levels of air quality necessary to protect public welfare from the known or anticipated adverse effects of a pollutant.

California Clean Air Act. Under the CCAA, state and local authorities have primary responsibility for assuring that their respective regions are in attainment of, or have a verifiable plan to attain, the NAAQS. The federal CAA provides state and local agencies authority to promulgate more stringent ambient air quality standards. The California Ambient Air Quality Standards (CAAQS) for the following pollutants are also included in Table 4.1-1.

Hydrogen sulfide (H_2S)
Vinyl chloride
Sulfates (SO_4)
Visibility-reducing particles

South Coast Air Basin Air Quality Attainment Designations

Based on monitored air pollutant concentrations, the U.S. EPA and CARB designate areas relative to their status in attaining the NAAQS and CAAQS respectively. Table 4.1-2 lists the current attainment designations for the SCAB. For the Federal standards, the required attainment date is also shown. The Unclassified designation indicates that the air quality data for the area does not support a designation of attainment or nonattainment.

As shown in Table 4.1-2, the federal government has designated SCAB as Severe-17 non-attainment for ozone, serious non-attainment for PM_{10}, non-attainment for $PM_{2.5}$, and attainment/maintenance for CO and NO_2. The basin has been designated by the State as non-attainment for ozone, PM_{10}, and $PM_{2.5}$.

Table 4.1-1
State and Federal
Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards[1]		Federal Standards[2]		
		Concentration[3]	Method[4]	Primary[3,5]	Secondary[3,6]	Method[7]
Ozone (O_3)	1-Hour	0.09 ppm (180 µg/m^3)	Ultraviolet Photometry	---	Same as Primary Standard	Ultraviolet Photometry
	8-Hour	0.07 ppm (137 µg/m^3)		0.075 ppm (147 µg/m^3)		
Respirable Particulate Matter (PM_{10})	24-Hour	50 µg/m^3	Gravimetric or Beta Attenuation*	150 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetic Analysis
	Annual Arithmetic Mean	20 µg/m^3		---		
Fine Particulate Matter ($PM_{2.5}$)	24-Hour	---		35 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetic Analysis
	Annual Arithmetic Mean	12 µg/m^3	Gravimetric or Beta Attenuation*	15 µg/m^3		
Carbon Monoxide (CO)	8-Hour	9.0 ppm (10 mg/m^3)	Nondispersive Infrared Photometry (NDIR)	9 ppm (10 mg/m^3)	---	Nondispersive Infrared Photometry (NDIR)
	1-Hour	20 ppm (23 mg/m^3)		35 ppm (40 mg/m^3)		
	8-Hour (Lake Tahoe)	6 ppm (7 mg/m^3)		–		
Nitrogen Dioxide (NO_2)[8]	Annual Arithmetic Mean	0.030 ppm (57 µg/m^3)	Gas Phase Chemiluminescence	53 ppb (100 µg/m^3)[8]	Same as Primary Standard	Gas Phase Chemiluminescence
	1-Hour	0.18 ppm (339 µg/m^3)		100 ppb (188 µg/m^3)[8]		
Lead[10,11]	30-day average	1.5 µg/m^3	Atomic Absorption	–	–	High Volume Sampler and Atomic Absorption
	Rolling 3-Month Average[11]	--		0.15 µg/m^3	Same as Primary Standard	
	Calendar Quarter	–		1.5 µg/m^3 (for certain areas)[11]		
Sulfur Dioxide (SO_2)[9]	24-Hour	0.04 ppm (105 µg/m^3)	Ultraviolet Fluorescence	0.14 ppm (for certain areas)[9]	–	Spectrophotometry (Pararosaniline Method)
	Annual Arithmetic Mean	---		0.030 ppm (for certain areas)[9]	---	
	3-Hour	–		--	0.5 ppm (1300 µg/m^3)	
	1-Hour	0.25 ppm (655 µg/m^3)		75 ppd (196 µg/m^3)[9]	–	
Visibility-Reducing Particles[12]	8-Hour	Beta Attenuation and Transmittance through Filter Tape[12]		**No Federal Standards**		
Sulfates	24-Hour	25 µg/m^3	Ion Chromatography			
Hydrogen Sulfide	1-Hour	0.03 ppm (42 µg/m^3)	Ultraviolet Fluorescence			
Vinyl Chloride[10]	24-Hour	0.01 ppm (26 µg/m^3)	Gas Chromatography			

Source: ARB, February 2, 2012.

1. California standards for ozone, carbon monoxide (except Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, suspended particulate matter—PM10, PM2.5, and visibility reducing particles, are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.
2. National standards (other than ozone, particulate matter, and those based on annual averages or annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest eight hour concentration in a year, averaged over three years, is equal to or less than the standard. For PM10, the 24 hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m3 is equal to or less than one. For PM2.5, the 24 hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact U.S. EPA for further clarification and current federal policies.
3. Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.
4. Any equivalent procedure which can be shown to the satisfaction of the ARB to give equivalent results at or near the level of the air quality standard may be used.
5. National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.

6. National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.
7. Reference method as described by the EPA. An “equivalent method” of measurement may be used but must have a “consistent relationship to the reference method” and must be approved by the EPA.
8. To attain this standard, the 3-year average of the 98th percentile of the daily maximum 1-hour average at each monitor within an area must not exceed 0.100 ppm (effective January 22, 2010). Note that the (ppm). To directly compare the national standards to the California standards the units can be converted from ppb to ppm. In this case, the national standards of 53 ppb and 100 ppb are identical to 0.053 ppm and 0.100 ppm, respectively.
9. On June 2, 2010, the U.S. EPA established a new 1-hour SO2 standard, effective August 23, 2010, The secondary SO2 standard was not revised at that time; however, the secondary standard is undergoing a separate review by EPA. Note that the new standard is in units of parts per billion (ppb). California permeated State monitoring networks. The EPA also revoked both the existing 24-hour SO2 standard concentrations. EPA also proposed a new automated Federal Reference Method (FRM) using ultraviolet technology, but will retain the older pararosaniline methods until the new FRM have adequately EPA standards are in units of parts per billion (ppb). California standards are in units of parts per million which is based on the 3-year average of the annual 99th percentile of 1-hour daily maximum of 0.14 ppm and the annual primary SO2 standard of 0.030 ppm, effective August 23, 2010. standards are in units of parts per million (ppm). To directly compare the new primary national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.
10. The ARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.
11. The national standard for lead was revised on October 15, 2008 to a rolling 3-month average. The 1978 lead standard (1.5 µg/m3 as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.
12. In 1989, the ARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.

Table 4.1-2
Designations of Criteria Pollutants for the SCAB

Pollutant	Federal	State
Ozone (O3)	Severe-17 Nonattainment (2021)	Nonattainment
Respirable Particulate Matter (PM_{10})	Serious Nonattainment (2006)	Nonattainment
Fine Particulate Matter ($PM_{2.5}$)	Nonattainment (2015)	Nonattainment
Carbon Monoxide (CO)	Attainment/Maintenance (2000)	Attainment
Nitrogen Dioxide (NO2)	Attainment/Maintenance (1995)	Attainment
Sulfur Dioxide (SO2)	Attainment	Attainment
Lead	Attainment	Attainment
Visibility Reducing Particles	N/A	Unclassified
Sulfates	N/A	Unclassified
Hydrogen Sulfide	N/A	Attainment
Vinyl Chloride	N/A	Attainment

Source: SCAQMD

The SCAB is designated as in attainment of the Federal SO_2 and lead NAAQS as well as the state CO, NO_2, SO_2, lead, hydrogen sulfide, and vinyl chloride. In July 1997, U.S. EPA issued a new ozone NAAQS of 0.08 ppm using an 8-hour averaging time. Implementation of this standard was delayed by several lawsuits. Attainment/nonattainment designations for the new 8-hour ozone standard were issued on April 15, 2004 and became effective on June 15, 2005. The SCAB was designated severe-17 non-attainment, which requires attainment of the Federal Standard by June 15, 2021. As a part of the designation, the EPA announced that the 1-hour ozone standard would be revoked in June of 2005. Thus, the 8- hour ozone standard attainment deadline of 2021 supersedes and replaces the previous 1-hour ozone standard attainment deadline of 2010.

On April 28, 2005, CARB adopted an 8-hour ozone standard of 0.070 ppm. The California Office of Administrative Law approved the rulemaking and filed it with the Secretary of State on

April 17, 2006. The standard became effective on May 17, 2006. California has retained the 1-hour concentration standard of 0.09 ppm. To be redesignated as attainment by the state the SCAB will need to achieve both the 1-hour and 8-hour ozone standards.

The SCAB was designated as moderate non-attainment of the PM_{10} standards when the designations were initially made in 1990 with a required attainment date of 1994. In 1993, the basin was redesignated as serious non-attainment with a required attainment date of 2006 because it was apparent that the basin could not meet the PM_{10} standard by the 1994 deadline. At this time, the Basin has met the PM_{10} standards at all monitoring stations except at the western Riverside station (Magnolia Station) where the annual PM_{10} standard has not been met. However, on September 21, 2006, the U.S. EPA announced that it was revoking the annual PM_{10} standard as research had indicated that there was no considerable health effects associated with long-term exposure to PM_{10}. With this change, the basin is technically in attainment of the federal PM_{10} standards although the redesignation process has not yet begun.

On September 21, 2006, the U.S. EPA announced that the 24-hour $PM_{2.5}$ standard was lowered to 35 µg/m3. Attainment/non-attainment designations for the revised $PM_{2.5}$ standard will be made by December of 2009 with an attainment date of April 2015 although an extension of up to five years could be granted by the U.S. EPA.

The Federal attainment deadline for CO was to be December 31, 2000, however the basin was granted an extension due to exceedances of the CO NAAQS. The SCAB has not had any violations of the federal CO standards since 2002. In March 2005, the South Coast AQMD adopted a CO Redesignation Request and Maintenance Plan. On May 11, 2007, the U.S. EPA announced approval of the Redesignation Request and Maintenance Plan. Effective June 11, 2007, the SCAB will be re-designated as attainment/maintenance for the federal CO NAAQS. The plan provides for maintenance of the federal CO air quality standard until at least 2015 and commits to revising the Plan in 2013 to ensure maintenance through 2025.

The federal annual NO_2 standard was met for the first time in 1992 and has not been exceeded since. The SCAB was redesignated as attainment for NO_2 in 1998. The basin will remain a maintenance/attainment area until 2018, assuming the NO_2 standard is not exceeded. Table 4.1-2 shows that SCAB is designated as in attainment of the SO_2 and lead NAAQS as well as the state CO, NO_2, SO_2, lead, hydrogen sulfide, and vinyl chloride CAAQS. Generally, these pollutants are not considered a concern in the SCAB.

Air Quality Management Plan (AQMP)

The project area is under the jurisdiction of the SCAQMD, which implements and enforces the applicable AQMP. The l997 AQMP with the 1999 amendments is the current Federally-approved applicable air plan for ozone. The successor 2003 AQMP was adopted locally on August 1, 2003, by the governing board of the SCAQMD. CARB adopted the plan as part of the California State Implementation Plan on October 23, 2003. The PM_{10} attainment plan from the 2003 AQMP received final approval from the U.S. EPA on November 14, 2005 with an effective date of December 14, 2005. As of February 14, 2007 the U.S. EPA had not acted on the ozone attainment plan of the 2003 AQMP. On the same date, CARB announced that it was rescinding

the ozone attainment plan from the 2003 AQMP with the intention to expedite approval of the 2007 AQMP. The 2007 AQMP was adopted by the SCAQMD on June 1, 2007. CARB adopted the plan as a part of the California State Implementation Plan on September 27, 2007. The State Implementation Plan was submitted to the U.S. EPA on November 16, 2007 and the U.S. EPA has not taken action on the 2007 AQMP at this time. The approved plan is designed to bring the region into compliance with federal and State air quality standards.

Currently, the draft 2012 AQMP is under review. In addition, the SCAQMD prepared the "Coachella Valley PM_{10} Attainment Redesignation Request and Maintenance Plan" in 1996 which has been supplemented by the "2002 Coachella Valley PM_{10} State Implementation Plan" (SCAQMD 2002). The purpose of this plan was to revise the previous PM_{10} State Implementation Plans to request a redesignation of the Coachella Valley to attainment for PM_{10}, and to submit the attendant maintenance plan and other required actions to qualify for such redesignation by the U.S. EPA. On January 8, 2010, the District adopted the PM_{10} Redesignation Request and Maintenance Plan for the Coachella Valley (Coachella Valley PM_{10} Maintenance Plan). The plan officially requests this area be redesignated to attainment for the PM_{10} standard and charts the course for continued maintenance of the standard. These Plans list a number of dust control measures being implemented by the SCAQMD, the counties, and cities. Supplemental fugitive dust control requirements in Rule 403.1 were amended in April 2004 by the SCAQMD.

The primary guidance for implementing the air quality standards in relation to CEQA is the 1993 SCAQMD CEQA Air Quality Handbook. This handbook is being revised and updated, but until the new edition is published, the 1993 version, as updated, is still a valid reference and directive. SCAQMD regulates emissions from stationary sources through the permitting process and requires permits to Construct/Operate for all stationary equipment with the potential to release air contaminants. The SCAQMD cannot issue an air quality "permit to operate" to projects that may create a significant air quality impact or interfere with the AQMP and progress toward attainment of the federal air quality standards. Fugitive dust emission sources are required to implement best available fugitive dust control measures as recommended in Rule 403.1. This project may produce construction related combustion and dust emissions and after build out, the main impact will be from vehicle emissions.

Monitored Air Quality

Air quality at any site is dependent on the regional air quality and local pollutant sources. Regional air quality is determined by the release of pollutants throughout the air basin. Estimates for the SCAB have been made for existing emissions ("2007 AQMP"). The data indicate that mobile sources are the major source of regional emissions. Motor vehicles (i.e., on-road mobile sources) account for approximately 46-percent of VOC, 58-percent of NOx emissions, 77-percent of CO emissions, 18-percent of $PM_{2.5}$ emissions, and 8-percent of SOx emissions.

Air quality data for the project area is collected at the Fontana-Arrow Highway monitoring station. The data collected at this station is considered representative of the air quality experienced in the vicinity of the project. The air pollutants measured at the Fontana-Arrow Highway station include ozone, CO, $PM_{2.5}$, PM_{10}, and NO_2. The data presented in Table 4.1-3

was obtained from the CARB website. Federal and State air quality standards are also presented in Table 4.1-3.

The Fontana-Arrow Highway monitoring data presented in Table 4.1-3 show that ozone is the air pollutant of primary concern in the project area. The state 8-hour standard was exceeded between 52 and 81 days from year 2007 to 2011.

Table 4.1-3
Summary of Annual Air Quality Data
Fontana-Arrow Highway Air Quality Monitoring Station

Pollutant	Year of Data				
	2007	2008	2009	2010	2011
Ozone*					
Maximum Concentration (8-Hour)(ppm)	0.123	0.125	0.129	0.101	0.124
State Standard:					
Number of days exceeded 0.07 ppm (8-Hour)	58	81	65	52	53
Nitrogen Dioxide					
Federal Standard:					
Annual Arithmetic *(0.053 ppm)*	0.093	0.101	0.106	0.072	0.076
Mean State Standard:					
Number of days exceeded *0.25 ppm* (1-Hour)	0	0	0	0	0
Particulate Matter <10 microns*					
Maximum Concentration, California (24-Hour) ($\mu g/m^3$)	276	75	75	62	84
Federal Standard:	13	0	0	0	0
Number of days exceeded *150 $\mu g/m^3$* (24-Hour)					
State Standard:	208	73	67	*	24
Number of Days exceeded *50 $\mu g/m^3$*					
Particulate Matter <2.5 microns					
Maximum Concentration (24-Hour) ($\mu g/m^3$)	77.5	49.0	46	42.6	60
Federal Standard:					
Number of days exceeded 35 $\mu g/m^3$	*	19	6	7	7
Sulfur Dioxide (SO_2)					
Federal Standard:					
Number of days exceeded 0.14 ppm (24-Hour)	0	0	0	0	0
State Standard:					
Number of Days exceeded 0.04 *ppm (24-Hour)*	0	0	0	*	0

Source: California Air Resources Board, Air Quality Data, 2007-2011.
Notes: PM_{10} measurements taken once every six days. Number of days exceeded are estimated by multiplying actual number observed out of 60 observations by 6.
Notes: $PM_{2.5}$ measurements are collected every day, every three days, or every six days, depending on the time of year and the site's monitor schedule.
Other criteria pollutants not measured.
* No Data
PPM: Parts Per Million
Source: CARB Air Quality Data Statistics web site www.arb.ca.gov/adam/ accessed 9/21/2012

Ozone is a secondary pollutant; it is not directly emitted. Pollutants emitted from upwind cities react during transport downwind to produce the oxidant concentrations experienced in the area. Many areas of the SCAQMD contribute to the ozone levels experienced at the monitoring station, with the more significant areas being those directly upwind.

PM_{10} and $PM_{2.5}$ is another air pollutant of primary concern in the area. The state standards for PM_{10} have been exceeded at the Fontana-Arrow Highway monitoring station between 24 and

208 days from year 2007 to 2011. The federal standard for PM_{10} was not exceeded for years 2008-2011, and was exceeded 208 days in 2007.

The federal 24-hour standard for $PM_{2.5}$ was exceeded between 6 and 19 days from year 2007 to 2011. Particulate levels in the area are due to natural sources, grading operations and motor vehicles.

According to the EPA, some people are much more sensitive than others to breathing fine particles (PM_{10} and $PM_{2.5}$). People with influenza, chronic respiratory and cardiovascular diseases, and the elderly may suffer worsening illness and premature death due to breathing these fine particles. People with bronchitis can expect aggravated symptoms from breathing in fine particles. Children may experience decline in lung function due to breathing in PM_{10} and $PM_{2.5}$. Other groups considered sensitive are smokers and people who cannot breathe well through their noses. Exercising athletes are also considered sensitive, because many breathe through their mouths.

As shown in Table 4.1-3, the monitored data of ozone, PM_{10} and $PM_{2.5}$ exceeded the standard. No state or federal standards were exceeded for the remaining criteria pollutants.

4.1.3 Impacts and Mitigation Measures

Thresholds of Significance

Significant impacts to air quality may result if the proposed project would:

- Conflict with or obstruct implementation of the applicable air quality plan;
- Violate any air quality standard or contribute substantially to an existing or projected air quality violation;
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors);
- Expose sensitive receptors to substantial pollutant concentrations; and
- Potential result in the creation of objectionable odors.

Project Understanding

The County of San Bernardino Flood Control District (District) proposes the enhancement of three existing flood control detention basins referred to as Upper Cactus Basins 3/3A, 4, and 5 in an area generally bounded by Easton Street, Ayala Drive, Baseline Road, and Cactus Avenue (refer to Figure 3-2 of the Project Description, Section 3 of the EIR). The overall project objective is to provide 100-year flood protection to residences, businesses, and public infrastructure adjacent to Cactus Channel and Rialto Channel in the cities of Rialto and Colton, San Bernardino County, California.

Construction and Operational Phases of the project will consist of the following:

Construction Phase

Phase 1: Earthwork: development of the ultimate configuration of the basins.

- 1 Loader operating for 8 hours per day
- 1 Dozer operating for 8 hours per day
- 1 Scraper operating for 8 hours per day
- 1 Dump Truck operating for 8 hours per day
- 1 Water Truck operating for 6 hours per day

Phase 2: Export of Material: the removal of excess material at the end basin configuration.

- 12 On-Road Heavy Heavy Duty Diesel Trucks operating per hour.
- 1 Loader operating for 8 hours per day

Operational Phase

Phase 3: Ongoing Maintenance of the Basins: the removal of material that has collected after a storm event.

- 1 Loader operating for 8 hours per day
- 1 Dozer operating for 8 hours per day
- 1 Scraper operating for 8 hours per day
- 1 Dump Truck operating for 8 hours per day
- 1 Water Truck operating for 6 hours per day

Air quality impacts are usually divided into short-term and long-term. Short-term impacts are usually the result of construction or grading operations. Long-term impacts are associated with the build-out condition of the proposed project (operational emissions).

SCAQMD has established significance thresholds to assess the regional impact of project-related air pollutant emissions. Table 4.1-4 presents these significance thresholds. A project with daily emission rates below these thresholds is considered to have a less than significant effect on regional air quality throughout the air basin.

Table 4.1-4
SCAQMD Regional Pollutant Emission Thresholds of Significance

	Pollutant Emissions (lbs/day)					
	CO	**ROG**	**NOx**	**PM_{10}**	**$PM_{2.5}$**	**SOx**
Construction	550	75	100	150	55	150
Operation	550	55	55	150	55	150

Source: SCAQMD

The proposed project consists of improvements to a County flood control system located in the north-central portion of the City of Rialto. The subject property is owned and operated by the District. The proposed project is the enhancement of three existing detention basins to increase flood control capacity. Enhancement and maintenance of basins (short-term heavy equipment use) typically don't generate objectionable odors. The flood control use does not conflict with the air quality management plan as the basins have been in operation since 1988 and the AQMP was first adopted in 1993. No impacts are anticipated.

There are no sensitive receptors such as schools or hospitals adjacent to the site. However, Eisenhower High School is located approximately one-quarter mile east of the project site. Existing single-family residential development adjacent to the east and west may be affected by the short-term construction impacts. However, implementation of SCAQMD standard mitigation measures listed herein would decrease potential short-term construction-related impacts to sensitive receptors. Because any impact would be temporary they are considered to be less than significant.

Project Impacts

The proposed project will be constructed in phases that are distinct and separate. It would include the disturbance of approximately 115.9 acres and require approximately 2,225,000 cubic yards (CY) of cut and approximately 421,000 CY of fill volume. The project is anticipated to be developed within a 2-year period. Approximately, 1,829,000 CY will be exported.

Construction Emissions

Construction emissions were screened using SCAQMD Off-Road Mobile Source Emissions Factors (2012) and SCAQMD On-Road Heavy Heavy Duty Diesel Trucks Emission Factors (2012). Project construction emissions are estimated in Tables 4.1-5 and 4.1-6. As the project includes the handling of approximately 2,225,000 CY and as the District does not have a definite equipment schedule, the following construction assumptions were used:

Phase 1: Handling of Earthwork: development of the ultimate configuration of the basins.

- 1 Loader operating for 8 hours per day
- 1 Dozer operating for 8 hours per day
- 1 Scraper operating for 8 hours per day
- 1 Dump Truck operating for 8 hours per day
- 1 Water Truck operating for 6 hours per day

Phase 2: Export of Material: the removal of excess material per the end use of the basins.

- 12 On-Road Heavy Heavy Duty Diesel Trucks operating per hour.
- 1 Loader operating for 8 hours per day

4.1-5
Basin Construction Enhancement Emissions Summary
(Pounds Per Day)

Source/Phase	ROG	NO_X	CO	PM_{10}	$PM_{2.5}$
Loader	1.0	8.0	3.9	0.48	0.47
Dozer	2.5	21.6	10	0.88	0.86
Scraper	2.5	20.8	8.8	0.88	0.86
Dump Truck	1.3	11.2	4.1	0.48	0.47
Water Truck	0.9	10.0	3.2	0.30	0.29
Highest Value (lbs/day)	**8.2**	**71.6**	**30**	**3.0**	**2.9**
SCAQMD Threshold	75	100	550	150	75
Significant	**No**	**No**	**No**	**No**	**No**

Source: SCAQMD Off-Road Mobile Source Emissions Factors (2012)

Table 4.1-6
Material Export Emissions
(Pounds per Day)

Source	ROG	NO_x	CO	PM_{10}	$PM_{2.5}$
Loader/Backhoe[1]	1.0	8.0	3.9	0.48	0.47
On-Road Diesel Haul Trucks[2]	4.8	59.5	19.2	5.6	4.8
Totals (lbs/day)	**5.8**	**67.5**	**23.1**	**6.1**	**5.3**
MDAQMD Threshold	75	100	550	150	75
Significant	**No**	**No**	**No**	**No**	**No**

[1] SCAQMD Off-Road Mobile Source Emissions Factors (2012)
[2] SCAQMD On-Road Heavy Heavy Duty Diesel Trucks Emission Factors (2012)

As show in Tables 4.1-5 and 4.1-6, project construction emissions would not exceed SCAQMD thresholds. Refer to Appendix B for detailed calculations.

The project will also generate fugitive dust during grading operations. The project site can be subject to significant winds, which can transport dust and particulate matter of 10 microns or less (PM_{10}). PM_{10} is a criteria pollutant with known health impacts. The proposed project is the disturbance of approximately 115.9 acres. PM_{10} emissions are not anticipated to be significant as they are short-term. However, a number of mitigation methods are available. In order to ensure that these potential impacts remain at less than significant levels, mitigation is provided below, which assumes at least a 50 percent reduction in PM_{10} from implementation of SCAQMD dust control measures. The development of the site will implement the "best available fugitive dust control requirements" listed below and comply with SCAQMD rules and regulations, particularly Rules 402 and 403 that require controls for fugitive dust. These standard conditions are included to reduce emissions to the lowest amounts feasible.

Operational Emissions

The proposed project is the enhancement of three existing detention basins. Operational emissions are anticipated to be minimal and based on the need to clear debris due to storm events. Most basin work is done in the spring. However, some cleanup work is conducted in late summer or

early fall. Focus is placed on clearing the basin floor of vegetation. The following typical operational/on-going maintenance assumptions were assumed:

- 1 Loader operating for 8 hours per day
- 1 Dozer operating for 8 hours per day
- 1 Scraper operating for 8 hours per day
- 1 Dump Truck operating for 8 hours per day
- 1 Water Truck operating for 6 hours per day

A Typical operational/on-going maintenance may occur between two to four weeks. As shown in Table 4.1-7, a typical daily operation is not anticipated to exceed SCAQMD thresholds.

Table 4.1-7
Typically Operational Emissions
(Pounds Per Day)

Source/Phase	ROG	NO_X	CO	PM_{10}	$PM_{2.5}$
Loader	1.0	8.0	3.9	0.48	0.47
Dozer	2.5	21.6	10	0.88	0.86
Scraper	2.5	20.8	8.8	0.88	0.86
Dump Truck	1.3	11.2	4.1	0.48	0.47
Water Truck	0.9	10.0	3.2	0.30	0.29
Highest Value (lbs/day)	**8.2**	**71.6**	**30**	**3.0**	**2.9**
SCAQMD Threshold	75	100	550	150	75
Significant	**No**	**No**	**No**	**No**	**No**

Source: SCAQMD Off-Road Mobile Source Emissions Factors (2012)

Mitigation Measures

Mitigation Measure AQ-1

The project shall comply with the requirements of the SCAQMD Rules 402 Nuisance, and 403, Fugitive Dust, which require the implementation of Best Available Control Measures (BACM) for each fugitive dust source, and the AQMP), which identifies Best Available Control Technologies (BACT) for area sources and point sources, respectively. This would include, but not be limited to the following:

A. The project proponent shall ensure that any portion of the site to be graded shall be pre-watered to a depth of three feet prior to the onset of grading activities.

(a) The project proponent shall ensure that watering of the site or other soil stabilization method shall be employed on an on-going basis after the initiation of any grading activity on the site. Portions of the site that are actively being graded shall be watered regularly to ensure that a crust is formed on the ground surface, and shall be watered at the end of each workday.

(b) The project proponent shall ensure that landscaped areas are installed as soon as possible to reduce the potential for wind erosion.

(c) The project proponent shall ensure that all grading activities are suspended during first and second stage ozone episodes or during any period when winds exceed 25 miles per hour.

Mitigation Measure AQ-2

To reduce emissions, all equipment used in grading and construction must be tuned and maintained to the manufacturer's specification to maximize efficient burning of vehicle fuel.

Mitigation Measure AQ-3

The project proponent shall, prepare an erosion control plan and PM_{10} plan.

Mitigation Measure AQ-4

The project proponent shall ensure that construction personnel are informed of ride sharing and transit opportunities.

Level of Significance after Mitigation

Implementation of the listed mitigation measures will further minimize the project contribution to local and regional emissions of criteria pollutants and minimize impacts to developments within the vicinity. Construction related impacts to air quality are considered less than significant with mitigation.

4.2 BIOLOGICAL RESOURCES

4.2.1 Introduction

This section of the Supplemental EIR describes the type of habitat occurring on the Project Site and evaluates the potential impacts that could occur to biological resources occupying the site. This analysis updates the biological resources findings of the 1988 EIR; new information not included in the original EIR is presented. Information used to prepare this section was summarized from the following:

- *Draft Supplemental Environmental Impact Report (SCH No. 1987110914)*, prepared by Lilburn Corporation, dated January 2008.
- *Biological Resource Assessment for the Upper Cactus Basins Project*, prepared by Lilburn Corporation, dated September 2012 (Appendix C).
- *Jurisdictional Delineation for the Upper Cactus Basin Project*, prepared by Lilburn Corporation, dated September 2012 (Appendix D).
- *Botanical Survey Report Cactus Basin Project Rialto, CA*, prepared by San Bernardino County Department of Public Works Environmental Management Division, dated May 2012 (Appendix E).
- *San Bernardino Kangaroo Rat (Dipodomys merriami parvus) Presence/Absence Trapping Studies Cactus Basin Improvement Project Rialto, CA*, prepared by Natural Resources Assessment, Inc., dated June 10, 2012.
- *Results of California Gnatcatchers Surveys at Cactus Basins 3, 4, and 5, Rialto, San Bernardino County, California*, prepared by IFC International, dated July 27, 2012.
- *Cactus Basin Least Bell's Vireo Survey Report* prepared by San Bernardino County Department of Public Works Environmental Management Division, dated September 2012.

The 1988 assessment of biological resources was based on a field reconnaissance of the project site. The 1988 survey identified one plant community of concern, Riversidian alluvial fan sage scrub, and the following species of special concern: juvenile San Diego horned lizard, northern harrier, Bewick's Wren, and loggerhead shrike that could occur in the vicinity. Two endangered plant species, the slender-horned spine flower and Santa Ana woolly-star were not observed during the field survey and determined not to occur at the site. The 1988 EIR concluded that the most significant project impact would be the removal of 45 acres of holly-leaved cherry phase of alluvial fan sage scrub; additionally, the project would have also resulted in the removal of 17 acres of California buckwheat phase alluvial fan sage scrub, 45 acres of adventive grassland, and 28 acres of ruderal habitat.

This section of the Supplemental EIR discusses the project's potential impacts on habitats and species of concern including Riversidean sage scrub, Santa Ana River woolystar (*Eriastrum densifolium sanctorum*), slender horned spineflower (*Dodecahema leptoceras*), California gnatcatcher *Polioptila californica californica*), least Bell's vireo (*Vireo bellii pusillus*), and San

Bernardino kangaroo rat (*Dipodomys merriami parvus*). Focused surveys have been conducted at the Project Site for these particular species of concern since 2001; surveys from 2006 were used in the preparation of the 2008 Supplemental EIR cited above. Additional surveys were conducted in 2012 to determine the current habitat status and the presence or absence of the species. The results of these focused reports are summarized herein.

A jurisdictional delineation was conducted to determine the presence of wetlands. Site conditions were evaluated by Lilburn Corporation biologists on March 30, 2012, by walking over the three basins (*collectively known as the Upper Cactus Basins)*, noting vegetation, soils and hydrology characteristics to determine if jurisdiction criteria were met.

4.2.2 Environmental Setting

The Project Site is bounded by residential development on the east, and Cactus Basins 1 and 2 to the south. The Jerry Eaves Park lies west of the project site and adjacent to Basin 3/3A. Easton Street denotes the northern project boundary.

The project site is located on the widespread alluvial fan area of Lytle Creek. Prior to historic land use changes, the entire area would have been covered by native shrublands such as chaparral, coastal sage scrub, or alluvial fan sage scrub. However, the site has been altered by changing land uses, including the former sand and gravel mining operations at the flood control basins proposed for enhancement. The slopes associated with the Upper Cactus Basins are vegetated by Riversidean sage scrub. This habitat appears to be healthy and is the predominant habitat type at the subject site.

Available literature was reviewed to identify special status plants and animals with recorded occurrences at the project site and vicinity. Literature sources included the California Natural Diversity Data Base (CNDDB 2012, for the USGS Devore, Fontana, Guasti, San Bernardino North, and San Bernardino South 7½’ topo quads), California Native Plant Society's *Inventory of Rare and Endangered Vascular Plants of California* (Tibor 2001), the CNPS *Electronic Inventory* (for the same quads), and compendia of special status species published by the US Fish and Wildlife Service (2011) and California Department of Fish and Game (CDFG; January 2011 and May 2012).

<u>Vegetation and Habitat</u>

The approximate 115.9-acre site is on the bajada below the San Gabriel Mountains, on the historic floodplain of Lytle Creek. Soils are made up of alluvial and colluvial sand, gravel and rock. Prior to historic land use changes, the entire area would have been covered by native shrublands such as chaparral, coastal sage scrub, or alluvial fan sage scrub. The entire site has been altered by the sand and gravel mining operations that were approved for the initial excavation of the basins in 1988 *(EIR certified October 11, 1988)*.

Riversidean sage scrub is the predominant habitat type at the subject site occupying approximately 49.3 acres. Riversidean sage scrub vegetation is dominant on the existing basin slopes. Characteristic shrubs at the site include California sagebrush (*Artemisisa californica*),

deerweed (*Acmispon glaber*), California buckwheat (*Erigonum fasciuclatum*), black sage (*Salvia mellifera*), and prickly-pear cactus (*Opuntia littoralis*). A chaparral community of approximately 3.7 acres occurs on the eastern basin slopes. Observed species in the chaparral community include: hollyleaf cherry (*Prunus ilicifolia*), chamise (*Adenostoma fasciculatum*), spiny redberry (*Rhamnus crocea*), and wedge-leaf ceanothus (*Ceanothus cuneatus*).

The basin floor of Basin 3/3A supports a willow cottonwood woodland of approximately 7.6 acres and a mulefat scrub community of approximately 1.2 acres. Predominant riparian vegetation includes: Fremont cottonwood (*Populus fremontii*), red willow (*Salix laevigata*), arroyo willow (*Salix lasiolepis*) and mulefat (*Baccharis salicifolia*).

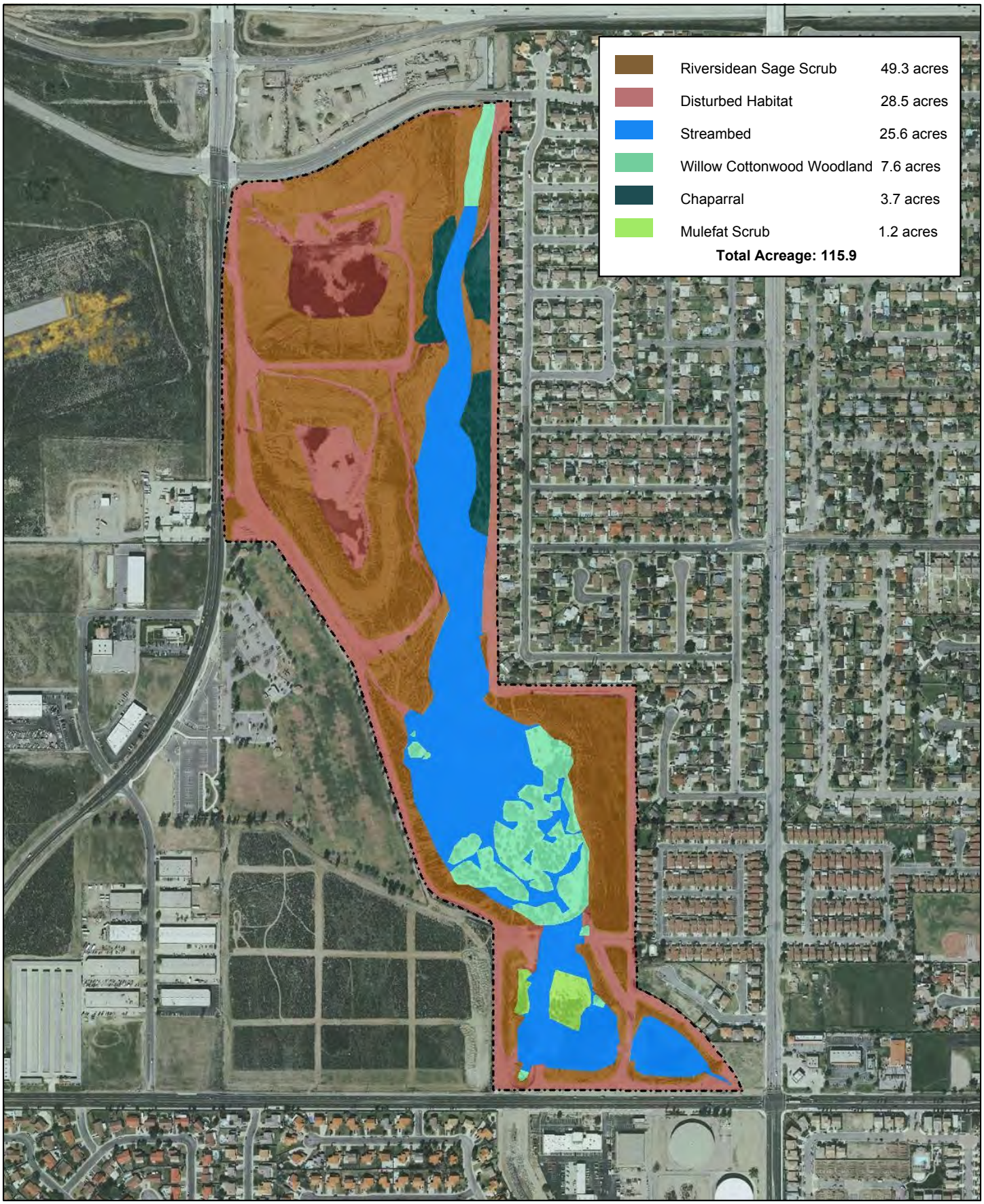
The remainder of the subject site is described as either streambed or disturbed habitat. Streambed habitat is defined as open flood channel sparsely vegetated with a mix of native and non-native species. Approximately 25.6 acres of streambed habitat occur at the site. Disturbed habitat occurs on the developed basin access road and portions of the subject property that show signs of regular maintenance. Approximately 28.5 acres of the property are classified as disturbed. Disturbed areas are generally devoid of vegetation. Where vegetation is observed, it is predominantly non-native plant species that include: common dandelion (*Taraxacum officinale*), common chickweed (*Stellaria media*), short podded mustard (*Hirschfeldia incana*), London rocket (*Sisymbium irio*), white mustard (*Sinapsis alba*), Russian thistle (*Salsola tragus*), tree tobacco (*Nicotiana glauca*), horehound (*Marrubium vulgare*), red brome (*Bromus madritensis* sssp. *rubens*), rigput (*Bromus diandrus*), and pigweed amaranth (*Amaranthus albus*).

The habitat and vegetation types identified in the 2012 surveys is described from field notes, and mapped onto an aerial photograph (see Figure 4.2-1). The estimated acreage of each vegetation type is as follows:

- Riversidean Sage Scrub: 49.3 acres
- Chaparral: 3.7 acres
- Willow Cottonwood Woodland: 7.6 acres
- Mulefat Scrub: 1.2 acres
- Streambed: 25.6 acres
- Disturbed Habitat: 28.5 acres

Riparian vegetation and Riversidean sage scrub shrublands on the site support local wildlife species occurring in similar shrubland habitats throughout the region. Examples include reptiles (side-blotched lizard, western fence lizard), birds (mourning dove, California quail, California towhee, northern mockingbird, red-tailed hawk), and mammals (California ground squirrel, black-tailed jackrabbit, and coyote).

The Upper Cactus Basins are partially isolated from other open space. The basins are bounded by Baseline Road and adjacent development on the south and east, and Intestate 210 to the north; surrounding land to the west is open space and the Rialto Municipal Airport). Major roads and other surrounding land uses isolate and fragment natural habitat and wildlife populations within them. As a result, many species cannot access the site or are less able to access it because of complete or partial barriers to their movement. Localized populations left within isolated habitat



Habitat / Vegetation Map

Upper Cactus Basins Enhancement Project - Environmental Assessment
City of Rialto, San Bernardino County, California

Figure 4.2-1

patches tend to decline in numbers. Due to the site's isolation from larger areas of natural open space, the project site will support only remnant populations of many native wildlife species whose movement is limited by surrounding land uses and roadways.

Special Status Species

Plants or animals may be considered "sensitive" due to declining populations, vulnerability to habitat change, or restricted distributions. Certain species have been listed as threatened or endangered under state or federal Endangered Species Act. Other species have not been listed, but declining populations or habitat availability cause concern for their long-term viability. These species generally appear on lists compiled by resource management agencies or private conservation organizations. For purposes of the analysis herein, the term "special-status" includes those species that are:

- Federally listed or proposed (candidate) under the Federal Endangered Species Act (FESA, 50 Code of Federal Regulations [CFR] 17.11-17.12);
- State listed or proposed (candidate) under the California Endangered Species Act (CESA, 14 CCR670.5);
- Species and plant communities listed by the California Department of Fish and Game (CDFG) as rare or of special concern;
- Species or plant communities that meet the definition of threatened, endangered, or rare under the California Environmental Quality Act (CEQA) (CEQA Guidelines Section 15380); and
- Plants listed as rare or endangered under the California Native Plant Protection Act (California Fish and Game Code Section 1900 et seq.).

4.2.3 Impacts and Mitigation Measures

Thresholds of Significance

The project would have a significant effect on biological resources if it would:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?
- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

Project Impacts

Project approval and subsequent improvement construction activities would result in impacts to nearly all natural vegetation. Maintenance for flood control uses would result in a long-term impact to the site's vegetation. Vegetation would be replaced in part through the proposed on-site revegetation and by off-site preservation of 45 acres of similar upland habitat.

Impacts to Vegetation and Habitat

The proposed project would result in both temporary and permanent impacts to approximately 116 acres spanning six habitat types. Impacts by habitat type are summarized in Table 4.2-1.

Table 4.2-1
Impacts to Habitat/Vegetation

Habitat/Vegetation	Acres	Impacts	
Riversidean Sage Scrub	49.3	48.8 0.5	permanent temporary
Disturbed habitat	28.5	27.5 1	permanent temporary
Streambed	25.6	15.0 10.6	permanent temporary
Willow Cottonwood Woodland	7.6	7.6 0	permanent temporary
Chaparral	3.7	3.7 0	Permanent temporary
Mulefat Scrub	1.2	1.2 0	permanent temporary
Total:	**115.9**	**103.8** **12.1**	permanent temporary

Impacts to streambed, willow cottonwood woodland, and mulefat scrub are regulated by state and federal regulatory agencies. The proposed project would require permits from the California Department of Fish and Game, Army Corps of Engineers, and Santa Ana Regional Water Quality Control Board for impacts to these three habitat types.

According to the 1988 EIR, the loss of alluvial fan sage scrub could not be mitigated by any on-site alternatives of the proposed project. Therefore, the loss of this community will be an unavoidable impact.

Focused Studies Findings

Focused surveys for Santa Ana River woolystar (*Eriastrum densifolium sanctorum*), slender horned spineflower (*Dodecahema leptoceras*), California gnatcatcher *Polioptila californica californica*), least Bell's vireo (*Vireo bellii pusillus*), and San Bernardino kangaroo rat (*Dipodomys merriami parvus)* were conducted in 2012 to determine the current habitat status and the presence or absence of the species. The potential impacts of the proposed project on the specific species as identified in the focused reports are summarized in the below.

Special Status Plants

Brandy Wood and Theresa Sims of the San Bernardino County Department of Public Works Environmental Management Division conducted botanical surveys of the Upper Cactus Basins project site in May of 2012 for the purpose of identifying any potentially occurring special status plant species (Appendix E). Special status species were defined as species receiving specific protection as defined by federal or state endangered species legislation, or species designated as "sensitive" on the basis of adopted policies and expertise of resource agencies or organizations with acknowledged expertise, or policies adopted by local governmental agencies, such as counties, cities, and special districts, to meet local conservation objectives. Two listed species and 20 other sensitive species were the focus of the surveys. The listed species included Santa Ana woollystar (*Eriastrum densifolium sanctorum*) and Slender-horned spineflower (*Dodecahema leptoceras*).

Botanical surveys were conducted in conformance with the California Department of Fish and Game *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities* (2009). Surveys were conducted during the flowering season for the special status plants known from the area, were floristic in nature, consistent with conservation ethics, and systematically covered all habitat types within the project site.

Approximately four specimens of Plummer's mariposa-lily were observed to be flowering on the eastern bench of the site in remnant chaparral stands during the Spring of 2012. The species was also reported in surveys conducted in 2006. Plummer's mariposa lily is on the California Native Plant Society's (CNPS) List 1B. It is a perennial herb that grows from a bulb, typically blooms in May or June, and dies back to the ground after flowering. It occurs in mountains and foothills of Los Angeles, Orange, Riverside, and San Bernardino Counties (the San Gabriel, San Bernardino, San Jacinto, Santa Ana, and Santa Monica Mountains) at elevations up to about 5,600 feet. Its habitats include chaparral, coastal sage scrub, grassland, woodlands, and pine forests. The species is not listed, proposed for listing, or a candidate for listing as threatened or endangered.

No other special status or sensitive status plants were observed to occur at the project site. The site was surveyed for the federally- and state-listed endangered Santa Ana River woollystar and slender-horned spineflower with negative results. To ensure the status of germination and

blooming, reference sites were visited for both Santa Ana River woollystar and slender-horned spineflower. The probability of occurrence for Santa Ana River woollystar was determined to be low as historical and recent occurrences are isolated in Cajon and Lytle Creeks and the species has never been observed to occur within the project site. The probability of occurrence for slender-horned spineflower was determined to be unlikely as historical and recent occurrences are isolated in Cajon and Lytle Creeks. No species covered under the federal or state endangered species act were identified at the site.

Special Status Wildlife

San Bernardino Kangaroo Rat

Two SBKR trapping sessions were conducted from April 16 through April 21, 2012 and April 22 through 28, 2012 (Appendix F). Previous SBKR trapping studies at the site include a 2001 study that captured no specimens, and a 2006 study that captured one male SBKR in Basin 3/3A.

The 2012 trapping included thirteen trap-lines. Trapping lines were of varying length and numbers of traps. Traps were placed in suitable habitat areas on the project site and adjacent suitable habitat, concentrating on locating traps in areas containing sandy soils. Areas with kangaroo rat and other small mammal sign (scat, burrows, tail drags) were also targeted. Each trap was baited with birdseed placed at the back of the traps. The traps were picked up and replaced each day. Each trap was set at dusk and inspected during the night and at dawn each morning. All animals were identified and released as the point of capture.

One adult male San Bernardino Kangaroo rat was captured on the eastern bank of Basin 5 during the 2012 trapping surveys. Habitat suitability for the species was evaluated and a determination of habitat quality was made. The project site was determined to contain 16 acres of low quality SBKR habitat (see Figure 4.4-2). The remainder of the approximately 116 acre site is classified as either extremely low quality habitat for SBKR or not suitable. SBKR habitat quality at the site is influenced by past and present uses of the property. The majority of the site is considered extremely low quality habitat due to the absence of suitable vegetation and hard packed soils. Low quality habitat was identified to occur where either sage scrub vegetation or loose sandy soils are present.

Based on the results of the 2012 trapping the proposed improvements to the Upper Cactus Basins were determined to have one or more of the following impacts to SBKR and other sensitive small mammal species:

- Loss of wildlife either through direct take or as the result of impacts to wildlife habitat.
- Temporary alteration of potential foraging and corridor habitat.
- Temporary loss of wildlife habitat.

N

0 625

Approximate Feet

LILBURN CORPORATION

SBKR Habitat 16.0 acres

Property Boundary 115.9 acres

SBKR Habitat

Upper Cactus Basins Enhancement Project - Environmental Assessment
City of Rialto, San Bernardino County, California

Figure 4.2-2

California Coastal Gnatcatcher

California gnatcatchers have historically occurred in southwestern San Bernardino County, and there is some suitable habitat on the site and off-site to the west. Presence/absence surveys following the U.S. Fish and Wildlife Service protocol were conducted in 2006, 2010, and again in 2012. Survey results in all instances returned negative with no California gnatcatchers observed or detected.

The 2012 U.S. Fish and Wildlife Service protocol presence/absence surveys for the coastal California gnatcatcher included six visits to the site (Appendix G). The survey area included the project area and a 500-foot buffer where accessible and suitable habitat was present. The survey included slow walking with frequent stops to listen and play taped coastal California gnatcatcher vocalizations.

No coastal California gnatcatchers were detected or observed. Approximately 56.4 acres of potentially suitable sage scrub habitat and riparian habitat for the species was identified and surveyed. Two special-status species were detected in the riparian habitat present at the site. Special status species observed included: 1) least Bell's vireo (*Vireo bellii pusillus*), a state and federally endangered species, and 2) yellow warbler (*Setophaga petechial*), a California species of special concern.

Least Bell's Vireo

In April 2011, County biologists observed least Bell's vireo in the riparian vegetation in Basin 3. U.S. Fish and Wildlife Service protocol surveys for the species were conducted in 2012 (Appendix H). Surveys followed the 2001 United States Fish and Wildlife Service protocol for least Bell's vireo. A total of eight site visits were made between April 10 and July 31. All surveys were conducted between 6:00 a.m. and 11:00 a.m. Temperatures fluctuated between 60° F and 77° F. Surveys were conducted on foot and included six acres of riparian and suitable habitat for the species. Loose transects were walked slowly and surveyed methodically. One male least Bell's vireo specimen was observed incidental to California Coastal Gnatcatcher surveys conducted in 2012.

U.S. Fish and Wildlife Service protocol presence/absence surveys for least Bell's vireo were conducted by the County in 2012. No least Bell's vireo was detected during any of the protocol surveys conducted by County Biologists'. However, one male least Bell's vireo was heard and observed in June by IFC International biologists' conducting California Gnatcatcher protocol surveys. No subsequent observations of the specimen were made and no nesting pairs of the species were observed.

Wetlands

A jurisdictional delineation survey of the approximately 115.9- acre project area was conducted in March 2012 to identify any potentially occurring wetlands and to delineate all waters of the United States occurring at the site. Section 404 of the Federal Clean Water Act requires permitting of activities that would result in discharge of dredge or fill material into jurisdictional waters of the United States or adjacent wetlands. Federal policy directs no net loss of wetland

habitats. Section 1602 of the California Fish and Game code requires a Lake and Streambed Alteration Agreement for projects which would alter a stream channel. The proposed project would alter the existing Cactus Basin facility by contouring the slopes, embankment, and basin, and would remove the existing portion of the Cactus Channel within the subject property and the existing riparian vegetation at the bottom of Basin 3/3A. Basins 4 and 5 are not connected to Basin 3/ 3A or the Cactus Channel but are adjacent to Waters of the United States. The delineation identified 24.7 acres of Waters of the United States under the jurisdiction of the Army Corps of Engineers and a total of 41.1 acres under the jurisdiction of the California Department of Fish and Game. No wetlands were identified to occur at the site.

In 2006, Scott White Biological Consulting prepared a report titled *Jurisdictional Wetlands, Streambeds, and Waters of the United States: Cactus Basin No. 3 and 3A* to inform a Supplemental EIR for enhancement to the basin system. The report concludes that due to evidence of periodic inundation and topography, Basin 3A would support hydrophytic vegetation. Based on this evidence it was concluded that the eastern portion of Basin 3A and part of the western portion, met state and federal criteria as wetlands. The report also concluded that the southern portion of Basin 3, met the state and federal criteria for wetlands. The northern portions of Basins 3 and 3A were identified to meet the criteria for streambed but not wetlands (Scott D. White, 2006).

Field surveys and data collection for this updated jurisdictional delineation of Basins 3/3A, 4, 5 and the Cactus Channel resulted in the conclusion that no wetlands occur at the project site. The "no wetland" determination is different than what was concluded in 2006.

In order to resolve the conflicting conclusions, soil pits in all basins were sampled to determine if hydric soils were present. Hydric soils are "soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part" (USDA Soil Conservation Service 1994). In all basins, pits were dug in the areas that seemed to be the most concave, and that during flooding would hold water for the longest period of time. In Basin 3A, the pit was dug to approximately 18-20 inches. The soil was all loose sand, and had no organic upper layers, no sulfur order, no stratified layers, no muck layers, no depletion, no gleyed matrices, no redox features and no stripped matrices. The sandy soil was just sand with cobbles. This same soil profile was found in Basin 3. Based on this evidence it was concluded that the soils are not hydric. It was also concluded that these soils experience rapid flooding and rapid water absorption and drying. The soils do not stay inundated long enough to develop conditions necessary to develop hydric soils.

Basins 4 and 5 are not connected to Basin 3/3A or the Cactus Channel. They were examined due to their position adjacent to Waters of the United States. These Basins exhibit the same characteristics as Basins 3/3A, with the notable difference that the soils in Basins 4 and 5 were more compact. This was probably due to the basins being used as a sand and gravel quarry in the past.

After examining the basins' soils, it was determined that Basins 4 and 5 are not wetlands adjacent to or a part of Waters of the United States. Basins 3/3A is jurisdictional under the

federal Clean Water Act and the State of California Department of Fish and Game Streambed Alteration Program and do not support wetland habitat.

No wetlands were observed to occur in the subject property. The property supports 24.7 acres of non-wetland waters of the United States. The ordinary high water mark was determined by identifying the line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on a bank, shelving, changes in the character of the soil, destruction of terrestrial vegetation, or the presence of litter and debris. The California Department of Fish and Game has jurisdiction, under the Lake and Streambed Alteration Program, over portions of the site identified as stream or lake as defined by the presence of a bed, bank or channel and where riparian vegetation was present on the bank to the outside drip-line of the vegetation. The California Department of Fish and Game would assert jurisdiction over 41.1 acres of the Cactus Basins site.

Summary of Impacts

Impacts to Special Status Plants

Plummer's mariposa lily, a CNPS list 1B plant, was observed during field surveys. Plummer's mariposa lily does not have a state or federal status of Endangered, Threatened, or Candidate. Efforts will be made to salvage the bulbs prior to construction; salvaged bulbs will be replanted in a suitable on-site location after construction. The proposed improvements to the Upper Cactus Basins would have no effect on state or federally listed Endangered, Threatened, or Candidate plant species.

Impacts to Special Status Wildlife

A total of six special status fauna species were recorded to be present at the project site. These included one species federally listed as endangered and one species state and federally listed as endangered. Additionally, the project would impact four species listed in the California Department of Fish and Game Special Plants and Special Animals lists. Focused surveys recorded the following species:

- San Bernardino Kangaroo Rat;
- Least Bell's Vireo;
- Plummer's Mariposa Lily;
- Yellow Warbler;
- San Diego Black-Tailed Jackrabbit; and,
- San Diego Dessert Woodrat.

Special Plants and Animals as identified in the CDFG lists do not have a formal status under the state or federal Endangered Species acts and adverse impacts generally would not meet the CEQA criteria for mandatory findings of significance.

The proposed project will require the removal of a vast majority of the existing vegetation located on-site. Implementation of the mitigation measures recommended below will mitigate the impacts from this project to less than significant.

Impacts on Wetlands

No wetlands occur at the project site; therefore, there would be no impacts to wetlands.

Cumulative Impacts

The 1988 EIR did not identify any cumulatively significant impacts to biological resources. The species and habitats found potentially impacted by the Proposed Project in 2012 were compared to the analysis conducted for the 1988 EIR and for the 2010 Rialto Renaissance Specific Plan EIR. The Renaissance Specific Plan was adopted to guide eventual development of 1,600 acres of land adjacent to the west of the Cactus Basins that is currently developed with the closed Rialto Municipal Airport. The Final EIR Response to Comments received from the Department of Fish and Game (letter dated June 16, 2010) regarding cumulative impacts from the large-scale Specific Plan project indicate that there would be no cumulative impact regarding Coastal Sage Scrub and the loss of Chamise Chaparral. No other biological resources were found to be significantly impacted within a 3 – 5-mile radius of the Specific Plan Area.

Mitigation Measures

Mitigation Measure BIO-1

Pursuant to the 1988 EIR, the loss of alluvial fan sage scrub shall be mitigated off-site by preserving approximately 45 acres of alluvial fan sage scrub reserve. The potential locations identified in the 1988 EIR were Lytle Creek, San Sevaine Creek and Cucamonga Creek. The San Bernardino County Flood Control District (SBCFCD) has agreed to preserve 45 acres of Riversidean Sage Scrub in Cajon Creek for off-site mitigation.

Mitigation Measure BIO-2

A revegetation plan shall be prepared according to the 1988 EIR to revegetate approximately 41 acres. The revegetation plan would include placement of native duff (decaying vegetation) from stockpile and hydroseed with alluvial fan sage scrub seed mix in accordance with the Cactus Basin No. 3 Habitat Restoration/Revegetation Plan Specifications dated November of 2005. Most of all of the disturbed areas within the clearing and grubbing limits shall be hydroseeded.

Mitigation Measure BIO-3

Impacts for the loss of 8.8 acres of riparian habitat shall be compensated at a two to one ratio via the restoration and enhancement of willow riparian habitat in an earthen channel portion of the Rialto Channel.

Mitigation Measure BIO-4

U.S. Fish and Wildlife shall be contacted to discuss the need for a mitigation plan for the one SBKR trapped and one least Bell's vireo observed. If necessary, the U.S. ACOE shall formally consult with the Service under Section 7 of the Federal Endangered Species Act and prepare a Habitat Conservation Plan.

Mitigation Measure BIO-5

To avoid incidental killing of birds protected under the Migratory Bird Treaty Act and the California Fish and Game Code, initial grading and brush removal of any previously undisturbed habitat shall be scheduled outside of the bird nesting and breeding season.

Mitigation Measure BIO-6

Although not observed during field surveys of the project site, burrowing owls may occur in areas not covered by the field survey (particularly sand and gravel areas). Pre-construction clearance surveys shall be conducted to determine whether or not burrowing owls occur on the site. If they occur, the District will engage in a passive relocation program that will be conducted outside of the breeding season, March-August. The District will create on-site artificial burrows above the flood level of the basin prior to engaging in passive relocation of burrowing owls. Artificial burrows will be: 1) located as close as possible to the location of occupied burrows; 2) constructed at a ratio of 2:1 for every occupied burrow found and; 3) be approved by the California Department of Fish and Game prior to their installation. Maintenance of said burrows will be conducted by District personnel utilizing hand tools or powered weed mowers at least once a year. Heavy earth moving equipment, i.e., graders, scrapers, etc., shall not be utilized in maintenance operations of said burrows.

Level of Significance after Mitigation

Application of the above Mitigation Measures will reduce the potential impacts to less than significant.

4.3 CULTURAL RESOURCES

4.3.1 Introduction

This section of the Supplemental EIR addresses cultural resources. Information in this section has been summarized from the following reports:

- *A Phase I (CEQA) and Class III (Section 106) Cultural Resources Investigation of the Proposed Cactus Basins Improvements in the City of Rialto, San Bernardino County, California*, prepared by McKenna et al., dated September 13, 2012.
- *Final CRM Report for Upper Cactus Basins 3 & 3A*, prepared by Roger Hatheway, County of San Bernardino, Department of Public Works, Dated June 2006,
- *Final Environmental Impact Report Upper Cactus Basin Flood Control Facility*, prepared by Harmsworth Associates, Dated September 1988.

Cultural resources generally consist of sites of archeological significance that are prehistoric or historic, and a few historic structures. Prehistoric archaeological resources may date from prior to 8,000 years ago to around 1770, the time of historic contact between indigenous people and Europeans. Historic archaeological resources include refuse deposits such as can and bottle dumps, filled-in privy pits and cisterns, melted adobe walls and foundations, collapsed structures and associated features, and roads and trails. They may date back from the earliest Spanish mission to the beginning of the last century, roughly the period between 1770 and 1900.

The 1988 EIR identified no significant impacts to cultural or paleontological resources and a remote possibility for the discovery of significant subsurface deposits at the site. Impacts as addressed in the 1988 EIR have remained the same and this Supplemental EIR has been focused to address any additional impacts that the project as proposed may create. The recently updated records search is included as Appendix I.

4.3.2 Environmental Setting

The City of Rialto is located within San Bernardino County, south of the San Bernardino Mountains and southeast of the Cajon Pass. This area is often referred to as part of the "Inland Empire," but also closely related to the Southern California Coastal Plain (south of the San Gabriel and San Bernardino Mountains). Mountain ranges separate the Mojave Desert from the coastal areas to the southwest and from the Basin and Range province to the north. Nonetheless, the area is within the western extent of the Mojave Desert/Colorado Desert region (Norris and Webb 1990:220-221).

The Mojave Desert region is geologically a great wedge-shaped fault block bounded by the San Andreas and Garlock fault zones on the southwest and north, respectively, but has no definite natural eastern limits. The San Andreas Fault runs to the north of the City of Rialto. Duke and Shattuck (2003:4-5) note the general area is associated with deposits of "…well sorted metamorphic and granitic gravels and cobbles that are eroding from the San Bernardino

Mountains…". McLeod (2012) notes the presence of older alluvium and younger alluvium originating from the San Gabriel Mountains via flows from Lytle Creek.

The climate of the area is described as sub-arid (McCorkle-Apple and Lilburn 1992:2; Axelrod 1979) with seasonal temperatures ranging from below 60° Fahrenheit to over 100° Fahrenheit. Sparse precipitation and high temperatures create a situation where evaporation often exceeds precipitation, particularly in those areas lying below 5,000 feet above mean sea level (Warren and Crabtree 1986: 183).

A review of historic aerial photographs showed the current basins were not present in 1995, but partially developed by 2002. The basins are not illustrated on the 1996 USGS quadrangles and the gravel pit is still noted. Therefore, the basins are considered a modern addition to the area. Residential developments were present to the east of the basin property by 1996, but the I-210 freeway alignment was not (completed in 2007), nor was Easton Street. The Rialto Municipal Airport is present by 1996 (established after 1946 as Miro Field and currently closed). As an area peripheral to the core of historic Rialto, this area was considered rural until recent developments.

4.3.3 Impacts and Mitigation Measures

Thresholds of Significance

Significant impacts related to cultural resources would result from development of the proposed project if the project would:

- Cause a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines Section 15064.5;
- Cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5;
- Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature; or
- Disturb any human remains, including those interred outside of formal cemeteries.

<u>Project Impacts</u>

The 1988 EIR cultural and paleontological resources investigation was updated in 2006 by a records search and field survey for the preparation of the 2008 SEIR and again in 2012 for the preparation of this second SEIR. No major site changes have occurred at the Upper Cactus Basins' site since 2006. An updated records search and cultural investigation was prepared for this Supplemental EIR and field surveys were conducted on August 15, 2012 by McKenna et al.

Archival investigations were conducted to determine a history of the property and/or a background history of lands in the vicinity of the project area. These included but were not limited to the following:

- San Bernardino County Archaeological Information Center
- Natural History Museum of Los Angeles County
- County Flood Control Files and Archives
- Historic Maps
- Interviews/Respondents

The following San Bernardino County public records were consulted:

- County Assessor Maps and Records
- Flood Control Files and Archives

Summary of Archival Investigation Findings

The project area is associated with the San Bernardino Valley and areas below the foothills of the San Bernardino Mountains. As such, this area is strongly associated with the Serrano. The Serrano are a relatively small ethnic group of Native Americans occupying the area known as the San Gabriel/San Bernardino Mountains and foothills (Bean and Smith 1978:570). Citing Kroeber (1976:611), the term "Serrano" is derived from the Spanish word for "mountaineer" or "those of the Sierras"; an appellation assigned by the early Spanish explorers (McKenna 1991:3). The Serrano are culturally associated with their surrounding neighbors (the Gabriellino, Luiseno, Cahuilla, and Cupeno), but distinguished by their linguistic associations with Takic speakers of the eastern desert regions – of Shoshonean stock (e.g. the Kitanemuk and Vanyume; see Bright 1975; Krober 1907 and 1925). Known as hunters and gatherers, there are no definitive boundaries for Serrano territory.

The initial ownerships of the lands comprising the site of the Upper Cactus Basins were recorded they the Bureau of Land Management General Land Office. The records for the site involve three homesteads: all of the Nelson Sanderson homestead of 1886; part of the J. Ousterhout Timber Cultural claim of 1882, and approximately half of the Perry homestead of 1882.

A review of historic aerial photographs showed the current basins were not present in 1995, but partially developed by 2002. The basins are not illustrated on the 1996 USGS quadrangles and the gravel pit is still noted. Therefore, the basins are considered a modern addition to the area. Residential developments were present to the east of the basin property by 1996, but the I-210 freeway alignment was not (completed in 2007), nor was Easton Street. The Rialto Municipal Airport is present by 1996 (established after 1946 as Miro Field and currently closed). As an area peripheral to the core of historic Rialto, this area was considered rural until recent developments.

Field Survey Research Design

Based on the information compiled over the course of the archival investigation, the research design was prepared in a manner to address the potential for three different types of resources: 1) prehistoric archaeological resources; 2) historic archaeological resources; and/or 3) paleontological resources.

In accordance with standard practices and both NEPA/NHPA and CEQA guidelines, resources over 50 years of age (pre-1962) should be identified and assessed for significance through the

listed criteria. To provide time for review and project development, resources over 45 years of age (pre-1967) should be included in the assessments and should be taken into consideration when addressing potential impacts. Given the potential for the three types of resources presented above, McKenna et al. developed the following research questions/statements (hypotheses) and data requirements for determining impacts.

Hypothesis: The types of prehistoric archaeological resources expected for the area include habitation sites with identifiable features and/or smaller limited use areas.

Data: To determine whether or not these resources are present, the survey must be completed at an intensive level, where relatively undisturbed surfaces are identified, and a reconnaissance level in all other areas. The surveyor must:

- Be aware of the presence of lithic materials commonly used by Native Americans (granites, chert, jasper, chalcedony, quartz, etc.);
- Be aware of the types of bedrock conducive to use as ground stone surfaces and/or for the preparation of rock art;
- Be aware of surface vegetation changes or alterations thay may indicate the location of buried resources and/or features;
- Be aware of evidence of disturbances indicating vandalism to identified cultural resources sites; and,
- Be aware that isolated artifacts may be located anywhere and are often moved as a result of natural forces.

Hypothesis: The general area has been associated with homesteads, land purchases, and timber culture claims. Evidence of these activities may be expected in specific areas.

Data: Physical evidence of these types of properties should be easier to identify. Such features associated with these properties and activities may include, but not be limited to: roads, landscaping, structures, foundations, surface features (e.g. reservoirs, ditches, irrigation features, hearths, fence lines, utilities, etc.), property markers, and/or refuse deposit.

- Be aware of dirt access roads within or near the Area of Potential Effects (APE) that correspond to historic road locations;
- Be aware that roads were developed to access areas off the main roadways and resources may be identified along roads or at the terminus of a road;
- Be aware that rural (unpaved) roads are often damaged by natural forces and may have been moved, shifted, maintained, or abandoned;
- Be aware of secondary features that may be indicative of the activities associated with a site;
- Be aware of the potential for buried resources (e.g. reservoirs, refuse deposits, privies, basements, etc.);
- Be aware of the types of materials that may be present and take care not to be exposed to dangerous conditions (e.g. cavities, contaminated soils, etc.);

- Record enough data to adequately assess the resource for significance and/or research potential of any identified resource.

2012 Field Survey Findings

Field work at the Upper Cactus Basins was completed on August 15, 2012. As a result of the recent survey and research, no evidence of prehistoric archaeological resources, no historic archaeological resources, no standing structures, no isolated artifact, nor paleontological resources were identified. The project area is considered clear of these resources and, as currently defined, the project will have no adverse environmental impacts with respect to cultural resources. The area should, however, be considered moderately sensitive for paleontological resources and a monitoring program should be devised once the project-related tasks are better identified.

Assessment of the Resources and Impacts

No cultural resources were identified within the project area. The existing flood control features area all modern (post 1996) and are of no historic significance. No evidence of the earlier land uses was identified – no homesteading components, no quarrying features, etc. Based on the negative findings, there is no evaluation of resources and no need to assess impacts.

Conclusion

The Cactus Basin project area is clear of cultural resources, prehistoric and/or historic. No additional research is needed with respect to these resource types. The area is moderately sensitive for paleontological resources, especially in areas of exposed or buried older Quaternary alluvium. Based on the proposed excavations, relatively depths of the excavations, and the identified locations of older alluvium, there is minimal to no potential for discovery of buried or subsurface archaeological and/or cultural materials as a result of the proposed project. However, the following mitigation measures are recommended in areas that have previously been undisturbed (primarily in the "corners" of the project area near intersections of fencing).

Mitigation Measures

Mitigation Measure CR-1

A Paleontological Resources Impact and Mitigation Plan shall be prepared to address monitoring needs at the site. In general it may be expected that an archaeological monitor shall be employed during initial grading and/or excavation of undisturbed soils only. This amounts to an estimated 1-3% of the total project area. The monitor shall have the authority to halt construction activity in the immediate vicinity of the discovery of any potentially significant subsurface archaeological remains in order that a Phase II Archaeological Investigation may be conducted under the direction of a qualified consulting archaeologist in accordance with CEQA guidelines.

Mitigation Measure CR-2

If human remains are unearthed during construction, State Health and Safety Code Section 7050.5 states that, "no further disturbance shall occur until the County Coroner has made

the necessary findings as to origin and disposition pursuant to Public Resources Code Section 5097.98."

Level of Significance after Mitigation

Application of the above mitigation will reduce the potential impacts to less than significant.

4.4 GREENHOUSE GASES/CLIMATE CHANGE

4.4.1 Introduction

This section describes the existing environmental setting for greenhouse gas (GHG) emissions and global climate change. Potential impacts from implementation of the Proposed Project on both the region and the global climate are analyzed and discussed. GHG calculations that specifically address potential impacts related to the projects construction and operational emissions are included in Appendix J.

4.4.2 Environmental Setting

Climate change refers to global changes in the average weather of the earth measured by changes in wind patterns, storms, precipitation, and temperature. While climate change is global in scale, California-specific impacts to the climate may result in a loss of snow-pack, increased risk of large wildfires, and a potential reduction in the quality and quantity of certain agricultural products.

Gases that trap heat in the atmosphere are GHGs, analogous to the way a greenhouse retains heat. Consequently, these GHG emissions are believed to directly affect the global climate.

The accumulation of GHGs in the atmosphere contribute to the regulation of the earth's temperature. Some GHGs can remain in the atmosphere for long periods of time. The following six GHGs are recognized under the Kyoto Protocol and have been found by the International Panel on Climate Change (IPCC) to have an effect on global climate change.

Carbon Dioxide (CO_2) is an odorless, colorless natural GHG. CO_2 is emitted from natural and anthropogenic sources. Natural sources include the following: decomposition of dead organic matter; respiration of bacteria, plants, animals, and fungus; evaporation from oceans; and volcanic outgassing. Anthropogenic sources include burning coal, oil, natural gas, and wood.

Methane (CH_4) is a flammable GHG. A natural source of CH_4 is from the anaerobic decay of organic matter. Geological deposits, known as natural gas fields, also contain CH_4, which is extracted for fuel. Other sources include landfills, fermentation of manure, and ruminants such as cattle.

Nitrous Oxide (N_2O) is a colorless GHG. N_2O is produced by microbial processes in soil and water, including those reactions that occur in fertilizer containing nitrogen. In addition to agricultural sources, some industrial processes (fossil fuel-fired power plants, nylon production, nitric acid production, and vehicle emissions) also contribute to its atmospheric load.

Hydrofluorocarbons (HFCs) are synthetic chemicals that are used as a substitute for chlorofluorocarbons (CFCs). Of all the GHGs, they are one of three groups with the highest global warming potential. HFCs are human-made for applications such as air conditioners and refrigerants.

Perfluorocarbons (PFCs) have stable molecular structures and do not break down through the chemical processes in the lower atmosphere; therefore, PFCs have long atmospheric lifetimes, between 10,000 and 50,000 years. The two main sources of PFCs are primary aluminum production and semiconductor manufacturing.

Sulfur Hexafluoride (SF_6) is an inorganic, odorless, colorless, nontoxic, nonflammable gas. It also has the highest global warming potential of any gas evaluated, 23,900 times that of CO_2. SF_6 is used for insulation in electric power transmission and distribution equipment, in the magnesium industry, in semiconductor manufacturing, and as a tracer gas for leak detection.

Sources of Greenhouse Gases in California

The California Energy Commission (CEC) categorizes GHG generation by source into five broad categories. The categories are:

- **Transportation** includes the combustion of gasoline and diesel in automobiles and trucks. Transportation also includes jet fuel consumption and bunker fuel for ships.

- **Agriculture and forestry** GHG emissions are composed mostly of nitrous oxide from agricultural soil management, CO_2 from forestry practice changes, methane from enteric fermentation, and methane and nitrous oxide from manure management.

- **Commercial and residential** uses generate GHG emissions primarily from the combustion of natural gas for space and water heating.

- **Industrial** GHG emissions are produced from many industrial activities. Major contributors include oil and natural gas extraction; crude oil refining; food processing; stone, clay, glass, and cement manufacturing; chemical manufacturing; and cement production. Wastewater treatment plants are also significant contributors to this category.

- **Electric generation** includes both emissions from power plants in California as well as power plants located outside of the State that supply electricity to the State.

Most of California's GHGs are emitted by transportation sources (Passenger Vehicles, Heavy Duty Trucks, and Other Transportation uses). Combustion of fossil fuels in the transportation sector contributed approximately 38 percent of the California GHG. Followed by the electric power sector, approximately 24 percent (including both in-state and out-of-state sources) and the industrial sector, contributing approximately 23 percent. Residential and commercial activity accounted for approximately 9 percent of the emissions. The waste and recycling sector and the agricultural and forestry sector accounted for approximately 1 percent and 6 percent, respectively.

4.4.3 Applicable Policies, Plans and Regulations

Federal Plans, Policies, Regulations, and Laws

The federal government began studying global warming as early as 1978 with the National Climate Protection Act, 92 Stat. 601. More recently, in *Massachusetts v. EPA* (April 2, 2007), the United State Supreme Court held that GHGs fall within the Clean Air Act's definition of an "air pollutant," and directed the EPA to consider whether GHGs are causing climate change. If so, the EPA must regulate GHG emissions from automobiles under the Clean Air Act. The EPA has not finalized a regulation. However, it did issue a proposed rule on April 17, 2009. The rule declared that GHGs endanger human health and is the first step to regulation through the federal Clean Air Act. If it becomes final, the EPA would define air pollution to include the six key GHGs – CO2, CH4, N2O, HFCs, PFCs, and SF6.

Congress has increased the corporate average fuel economy (CAFE) of the U.S. automotive fleet. In December 2007, President Bush signed a bill raising the minimum average miles per gallon for cars, sport utility vehicles, and light trucks to 35 miles per gallon by 2020. This increase in the CAFE standard will create a substantial reduction in GHG emissions from automobiles, which is the largest single emitting GHG sector in California. However, there are no adopted federal plans, policies, regulations or laws setting a mandatory limit on GHG emissions. The EPA has not finalized its evaluation in the wake of *Massachusetts v. EPA*.

California State Plans, Policies, Regulations, and Laws

In November 2008, the Governor issued Executive Order S-13-08 directing state agencies to plan for sea level rise and other climate change impacts. There are four key actions in the Executive Order: (1) initiation of a climate change adaptation strategy that will assess the state's expected climate change impacts where the state is most vulnerable, with recommendations by early 2009; (2) an expert panel on sea level rise will inform state planning and development efforts; (3) interim guidance to state agencies on planning for sea level rise in coastal and floodplain areas for new projects; and (4) initiation of a report on critical existing and planned infrastructure projects vulnerable to sea level rise.

Pursuant to AB 32, the California Air Resources Board (CARB) has adopted a number of relevant policies and directives. In December 2008, the Scoping Plan was adopted. The Plan is a central requirement of the statute. In addition, it has adopted a number of protocols for industry and government sectors, including one for local government.

In response to SB 97, the Office of Planning and Research (OPR) issued a Technical Advisory on CEQA and Climate Change in June 2008. The Advisory provides an outline of what should be included in a GHG analysis under CEQA (http://www.opr.ca.gov/ceqa/pdfs/june08-ceqa.pdf). In January 2009, OPR issued draft amendments to the CEQA Guidelines that address GHGs. Among the amendments are the following:

- Determining the Significance of Impacts from Greenhouse Gas Emissions (Guidelines § 15064.4);
- Thresholds of Significance (Guidelines ¤ 15064.7(c));

- Discussion of Cumulative Impacts (Guidelines ¤ 15130(a)(1)(B) and Guidelines § 15130(f));
- Tiering and Streamlining the Analysis of Greenhouse Gas Emissions (Guidelines § 15183.5);

Assembly Bill 32

In September 2006, Governor Arnold Schwarzenegger signed AB 32, the California Global Warming Solutions Act of 2006. In general, AB 32 directs the California Air Resources Board ("CARB") to do the following:

- On or before June 30, 2007, CARB shall publish a list of discrete early action measures for reducing GHG emissions that can be implemented by January 1, 2010;
- By January 1, 2008, establish the statewide GHG emissions cap for 2020, based on CARB's calculation of statewide GHG emissions in 1990 (an approximately 25 percent reduction in existing statewide GHG emissions);
- Also by January 1, 2008, adopt mandatory reporting rules for GHG emissions sources that "contribute the most to statewide emissions" (Health & Safety Code § 38530);
- By January 1, 2009, adopt a scoping plan that indicates how GHG emission reductions will be achieved from significant GHG sources through regulations, market mechanisms, and other strategies;
- On or before January 1, 2010, adopt regulations to implement the early action GHG emission reduction measures;
- On or before January 1, 2011, adopt quantifiable, verifiable, and enforceable emission reduction measures by regulation that will achieve the statewide GHG emissions limit by 2020; and
- On January 1, 2012, CARB's GHG emissions regulations become operative.
- On January 1, 2020, achieve 1990 levels of GHG emissions.

In a December 2006 report, CARB estimated that California emitted between 425 and 468 million metric tons of CO_2 in 1990. In December 2007, CARB finalized 1990 emissions at 427 million metric tons of CO_2. In the August 2007 draft report, CARB estimated California emitted approximately 480 million metric tons of CO_2 in 2004. Based on the U.S. Census Bureau California 2007 population of 36,553,215, this would result in about 13 metric tons of CO_2 per capita.

AB 32 takes into account the relative contribution of each source or source category to protect adverse impacts on small businesses and others by requiring CARB to recommend a *de minimis* (minimal importance) threshold of GHG emissions below which emissions reduction requirements would not apply. AB 32 also allows the Governor to adjust the deadlines mentioned above for individual regulations or the entire state to the earliest feasible date in the event of extraordinary circumstances, catastrophic events, or threat of significant economic harm.

CARB "Early Action Measures" (June 30, 2007). On June 21, 2007, CARB approved its early action measures to address climate change, as required by AB 32. The three measures include: (1) a low carbon fuel standard, which will reduce the carbon-intensity in California fuels, thereby reducing total CO_2 emissions; (2) reduction of refrigerant losses from motor vehicle air conditioning system maintenance through the restriction of "do-it-yourself" automotive refrigerants; and (3) increased CH_4 (methane) capture from landfills through the required implementation of state-of-the-art capture technologies.

CARB Mandatory Reporting Regulations (December 2008). Under AB 32, CARB propounded regulations to govern mandatory greenhouse gas emissions reporting for certain sectors of the economy, most dealing with approximately 94 percent of the industrial and commercial stationary sources of emissions. Regulated entities include electricity generating facilities, electricity retail providers, oil refineries, hydrogen plants, cement plants, cogeneration facilities, and industrial sources that emit over 25,000 metric tons of CO2 from stationary source combustion.

Senate Bill 97 (2007)

By July 1, 2009, the Governor's Office of Planning and Research (OPR) is directed to prepare, develop, and transmit to the Resources Agency guidelines for the feasible mitigation of greenhouse gas emissions or the effects of greenhouse gas emissions, as required by the California Environmental Quality Act. The Resources Agency is required to certify and adopt these guidelines by January 1, 2010. OPR is required to periodically update these guidelines as CARB implements AB 32. In addition, SB 97 states that the failure to include a discussion of greenhouse gas emissions in any CEQA document for a project funded under the Highway Safety, Traffic Reduction, Air Quality and Port Security Bond Act of 2006, or projects funded under the Disaster Preparedness and Flood Prevention Bond Act of 2006 shall not be a cause of action under CEQA. This last provision will be repealed on January 1, 2010.

Executive Order S-01-07 (2007)

Executive Order S-01-07 calls for a reduction in the carbon intensity of California's transportation fuels by at least 10 percent by 2020. As noted above, the low-carbon fuel standard ("LCFS") was adopted by CARB as one of its three "early action measures" on June 21, 2007.

Senate Bill 1368 (2006) (Public Utilities Code §§ 8340-41)

SB 1368 required the California Public Utilities Commission ("PUC") to establish a "GHG emission performance standard" by February 1, 2007, for all electricity providers under its jurisdiction, including the state's three largest privately owned utilities (Pub. Res. Code § 8341(d)(1)). These utilities provide approximately 30 percent of the state's electric power. After the PUC acted, the CEC adopted a performance standard "consistent with" the PUC performance standard and applied it to local publicly-owned utilities on May 23, 2007 (over one month ahead of its June 30, 2007 deadline). Cal. Pub. Res. Code § 8341(e)(1). However, the California Office of Administrative Law ("OAL") found four alleged flaws in the CEC's rulemaking. The CEC overcame these alleged flaws and adopted reformulating regulations in August 2007.

Senate Bill 107 (2006)

Senate Bill 107 ("SB 107") requires investor-owned utilities such as Pacific Gas and Electric, Southern California Edison and San Diego Gas and Electric, to generate 20 percent of their electricity from renewable sources by 2010. Previously, state law required that this target be achieved by 2017.

Senate Bill 375 (September 2008)

In September 2008, SB 375 was signed by Governor Schwarzenegger. SB 375 is a comprehensive global warming bill that helps to achieve the goals of AB32. To help establish these targets, the CARB assigned a Regional Targets Advisory Committee to recommend factors to be considered and methodologies for setting greenhouse gas emission reduction targets. SR 375 also provides incentive – relief from certain CEQA requirements for development projects that are consistent with regional plans that achieve the targets. SB 375 requires CARB to develop, in collaboration with the Metropolitan Planning Organization (MPO), passenger vehicle greenhouse gas emissions reduction targets for 2020 and 2035 by September 30, 2010. The MPO is required to include and adopt, in their regional transportation plan, a sustainable community strategy that will meet the region's target provided by CARB.

Energy Conservation Standards (2009)

Energy Conservation Standards for new residential and non-residential buildings were adopted by the California Energy Resources Conservation and Development Commission in June 1977 and most recently revised in 2008 (Title 24, Part 6 of the California Code of Regulations [CCF]) with the standards going into effect in 2009. Title 24 requires the design of building shells and building components to conserve energy. The standards are updated periodically to allow for consideration and possible incorporation of new energy efficiency technologies and methods. The 2006 Appliance Efficiency Regulations (Title 20, CCR Sections 1601 through 1608), dated December 2006, were adopted by the California Energy Commission on October 11, 2006, and approved by the California Office of Administrative Law on December 14, 2006. The regulations include standards for both federally regulated appliances and non-federally regulated appliances. While these regulations are now often seen as "business as usual," they do exceed the standards imposed by any other state and reduce GHG emissions by reducing energy demand. On July 17, 2008, the California Building Standards Commission adopted the nation's first green building standards. The California Green Building Standards Code (proposed Part 11, Title 24) was adopted as part of the California Building Standards Code (Title 24, California Code of Regulations). Part 11 established voluntary standards, some of which became mandatory in the 2010 edition of the Code, on planning and design for sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and internal air contaminants.

<u>California Environmental Quality Act (CEQA) Guidelines</u>

SB 97 required that the California Natural Resource Agency (CNRA) coordinate on the preparation of amendments to the CEQA Guidelines regarding feasible mitigation of greenhouse gas emissions or the effects of greenhouse gas emissions. Pursuant to SB 97, CNRA adopted CEQA Guidelines amendments on December 30, 2009. The amendments were approved by the Office of Administrative Law on February 16, 2010, and became effective on March 18, 2010.

With respect to the significance assessment, newly added CEQA Guidelines section 15064.4, subdivision (b), requires that the lead agency should consider the following factors, among others, when assessing the significance of impacts from greenhouse gas emissions on the environment:

(1) The extent to which the project may increase or reduce greenhouse gas emissions as compared to the existing environmental setting;

(2) Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project;

(3) The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions. Such requirements must be adopted by the relevant public agency through a public review process and must reduce or mitigate the project's incremental contribution of greenhouse gas emissions. If there is substantial evidence that the possible effects of a particular project are still cumulatively considerable notwithstanding compliance with the adopted regulations or requirements, an EIR must be prepared for the project.

The new CEQA Guidelines do not include or recommend any particular threshold of significance; instead, they leave that decision to the discretion of the lead agency. The new CEQA Guidelines also do not suggest or recommend the use of any specific GHG emission mitigation measures. The Guidelines provide that lead agencies shall consider feasible means, supported by substantial evidence and subject to monitoring or reporting, of mitigating the significant effects of greenhouse gas emissions. Mitigation measures may include the following, among others:

(1) Measures in an existing plan or mitigation program for the reduction of emissions that are required as part of the lead agency's decision;

(2) Reductions in emissions resulting from a project through implementation of project features, project design, or other measures, such as those described in CEQA Guidelines Appendix F – Energy Conservation;

(3) Off-site measures, including offsets that are not otherwise required, to mitigate a project's emissions;

(4) Measures that sequester greenhouse gases;

(5) In the case of the adoption of a plan, such as a general plan, long range development plan, or plans for the reduction of greenhouse gas emissions, mitigation may include the identification of specific measures that may be implemented on a project-by-project basis. Mitigation may also include the incorporation of specific measures or policies found in an adopted ordinance or regulation that reduces the cumulative effect of emissions.

Among other things, CNRA noted in its Public Notice for these changes that the impacts of GHG emissions should be considered in the context of a cumulative impact, rather than a project impact. The Public Notice states: "While the Proposed Amendments do not foreclose the

possibility that a single project may result in greenhouse gas emissions with a direct impact on the environment, the evidence before [CNRA] indicates that in most cases, the impact will be cumulative. Therefore, the Proposed Amendments emphasize that the analysis of greenhouse gas emissions should center on whether a project's incremental contribution of greenhouse gas emissions is cumulatively considerable."

South Coast Air Quality Management (SCAQMD) District Guidance

On December 5, 2008, the SCAQMD Governing Board adopted its staff proposal for an interim CEQA GHG significance threshold for projects where the SCAQMD is the lead agency. As to all other projects, where the SCAQMD is not the lead agency, the Board has, to date, adopted thresholds only for industrial (stationary source) projects. The SCAQMD has not yet adopted any significance thresholds for new residential/commercial development projects. However, has over the last few years proposed several draft thresholds. To assist in assessing the significance of GHG emissions from new residential/commercial development projects under CEQA, SCAQMD staff has been working on developing thresholds together with the SCAQMD's GHG CEQA Significance Thresholds Working Group. To achieve its policy objective of capturing 90% of GHG emissions from new residential/commercial development projects and implementing a "fair share" approach to reducing emission increases from each new residential/commercial development sector, SCAQMD staff has proposed combining performance standards and screening thresholds. According to the presentation given at the September 28th, 2010 GHG CEQA Significance Working Group meeting, the last Working Group meeting prior to the date of this report, SCAQMD staff proposed a draft threshold for 2020 of 4.8 MT/SP/YR (metric tons of CO2EQ per service population per year) for mixed use developments. As the goal of AB 32 is to return to 1990 GHG emission levels by 2020, the basis for this threshold is the statewide emission inventory for 1990 based on "land use" related sectors divided by the statewide service population. The SCAQMD has also developed draft thresholds for commercial and residential projects, where it is not the lead. The draft recommends a 3,000 MTCO2EQ per year screening threshold. The SCAQMD's working group has not set a date for finalizing the recommendations.

San Bernardino County General Plan

The County of San Bernardino adopted the Greenhouse Gas Emissions Reduction Plan in September 2011. According to the Plan, measurable reductions of GHG emissions will be achieved through the County's GHG Development Review Process (DRP) by applying appropriate reduction requirements as part of the discretionary approval of new development projects. Through its development review process, the County will implement CEQA requiring new development projects to quantify project GHG emissions and adopt feasible mitigation to reduce project emissions below a level of significance. Mitigation of GHG emissions impacts through the DRP provides one of the most substantial reduction strategies for reducing external emissions. The DRP procedures for evaluating GHG impacts and determining significance for CEQA purposes will be streamlined by (1) applying a uniform set of performance standards to all development projects, and (2) utilizing Screening Tables to mitigate project GHG emissions. Projects will have the option of preparing a project-specific technical analysis to quantify and mitigate GHG emissions. A review standard of 3,000 metric tons per years (MTY) will be used. The complete Development Review Process, including the use of performance standards, for assessing and mitigating GHG emissions is outlined below.

"All development projects, including those otherwise determined to be exempt from CEQA will be subject to applicable Development Code provisions, including the GHG performance standards, and state requirements, such as the California Building Code requirements for energy efficiency. With the application of the GHG performance standards, projects that are exempt from CEQA and small projects that do not exceed 3,000 MTCO2e per year will be considered to be consistent with the Plan and determined to have a less than significant individual and cumulative impact for GHG emissions".

4.4.4 Impacts and Mitigation Measures

Thresholds of Significance

Significant impacts to air quality from GHG emissions may result if the Proposed Project would:

- Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment; or

- Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHGs.

Project Understanding

The County of San Bernardino Flood Control District (District) proposes the enhancement of three existing detention basins referred to as Upper Cactus Basins 3/3A, 4, and 5 in an area generally bounded by Easton Street, Ayala Drive, Baseline Road, and Cactus Avenue (refer to Figure 3-2 of the Project Description, Section 3 of the EIR). The overall project objective is to provide 100-year flood protection to residences, businesses, and public infrastructure adjacent to Cactus Channel and Rialto Channel in the cities of Rialto and Colton, San Bernardino County, California.

Construction and Operational Phases of the "Enhancement of the Basins" will consist of the following:

Construction Phase

Phase 1: Earthwork: development of the ultimate configuration of the basins.

- 1 Loader operating for 8 hours per day
- 1 Dozer operating for 8 hours per day
- 1 Scraper operating for 8 hours per day
- 1 Dump Truck operating for 8 hours per day
- 1 Water Truck operating for 6 hours per day

Phase 2: Export of Material: the removal of excess material at the end of basin configuration.

- 12 On-Road Heavy Heavy Duty Diesel Trucks operating per hour.

- 1 Loader operating for 8 hours per day

Operational Phase

Phase 3: Ongoing Maintenance of the Basins: the removal of material that has collected after a storm event.

- 1 Loader operating for 8 hours per day
- 1 Dozer operating for 8 hours per day
- 1 Scraper operating for 8 hours per day
- 1 Dump Truck operating for 8 hours per day
- 1 Water Truck operating for 6 hours per day

A threshold of 3,000 MTCO2e per year has been adopted by the County as potentially significant to global warming.

Project Impacts.

Short Term Construction Emissions

Temporary impacts would result from construction activities. The primary source of GHG emissions generated by construction activities is from use of diesel-powered construction equipment and other combustion sources (i.e., generators, worker vehicles, materials delivery, etc.). The GHG air pollutants emitted by construction equipment would primarily be carbon dioxide.

Construction emissions were screened using SCAQMD Off-Road Mobile Source Emissions Factors (2012), SCAQMD On-Road Heavy Heavy Duty Diesel Trucks Emission Factors (2012) and California Climate Action Registry General Reporting Protocol. Project construction emissions are shown in Tables 4.4-1 and 4.4-2.

Table 4.4-1
Phase 1: Earthwork

Source/Phase	CO_2	CH_4	N_20
Dozer (lbs/year)	573,600	72	1.7
Loader (lbs/year)	261,600	24	0.3
Scraper (lbs/year)	628,800	72	0.3
Dump Truck (lbs/year)	338,400	24	1.7
Water Truck (lbs/year)	457,200	18	0.8
Total Per lbs Year	2,259,600	210	4.8
Total $MTCO_2e$	**1,025.1**		
Threshold in $MTCO_2e$	3,000		
Significant	**No**		

Source: Refer to Appendix J

Table 4.4-2
Phase 2: Material Export

Source/Phase	CO_2	CH_4	N_20
Loader (lbs/year)	261,600	24	0.3
On-Road Diesel Trucks (lbs/year)	2,430,720	57.6	6.3
Total Per lbs Year	2,692,320	81.6	6.6
Total $MTCO_2e$	**1,221.3**		
Threshold in $MTCO_2e$	3,000		
Significant	**No**		

Source: Refer to Appendix J

As show in Tables 4.4-1 and 4.4-2, project construction emissions would not exceed the threshold. Refer to Appendix J for detailed calculations.

Operational Greenhouse Gas Emissions

The proposed project is the enhancement of three existing detention basins. Operational emissions are anticipated to be minimal and based on the need to clear debris due to storm events. Most basin work is done in the spring. However, some cleanup work is conducted in late summer or early fall. Focus is placed on clearing the basin floor of vegetation. The following typical operational/on-going maintenance assumptions were assumed:

- 1 Loader operating for 8 hours per day
- 1 Dozer operating for 8 hours per day
- 1 Scraper operating for 8 hours per day
- 1 Dump Truck operating for 8 hours per day
- 1 Water Truck operating for 6 hours per day

A Typical operational/on-going maintenance may occur between two to four weeks. As shown in Table 4.4-3, a typical daily maintenance operation is not anticipated to exceed the threshold.

Table 4.4-3
Typically Operational Emissions

Source/Phase	CO_2	CH_4	N_20
Dozer (lbs/year)	573,600	72	1.7
Loader (lbs/year)	261,600	24	0.3
Scraper (lbs/year)	628,800	72	0.3
Dump Truck (lbs/year)	338,400	24	1.7
Water Truck (lbs/year)	457,200	18	0.8
Total Per lbs Year	2,259,600	210	4.8
Total $MTCO_2e$	**1,025.1**		
Threshold in $MTCO_2e$	3,000		
Significant	**No**		

Source: Refer to Appendix J

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4.5 HYDROLOGY AND DRAINAGE

4.5.1 Introduction

This section of the Supplemental EIR provides a description of the existing environment, potential impacts of the proposed project, and recommended mitigation measures for the Upper Cactus Basins enhancement project. A construction Stormwater Pollution Prevention Plan (SWPPP) was prepared by Golder Associates Inc., dated April 2006, in accordance with the requirements of State Water Resources Control Board (SWRCB) Water Quality Order No. 99-08-DWQ National Pollutant Discharge Elimination System (NPDES) General Permit No. CAS000002, which regulates the discharge of storm water from construction activities. This SWPPP was for Basin 3/3A.

All of the previous impacts identified in the 1988 EIR have remained the same and this Supplemental EIR has been focused to address any additional impacts that the project as proposed may create.

4.5.2 Environmental Setting

The subject project site is owned by the San Bernardino County Flood Control District ("District") and includes approximately 115.9 acres. The Upper Cactus Basins are located south of Easton Street, north of Baseline Road, west of Cactus Avenue, and east of Ayala Drive.

The Upper Cactus Basins is identified by the National Hydrography Dataset as located in Hydrologic Unit Code-12 No. 180702030804 of the Santa-Ana sub-basin. Currently, approximately 3,584 acres of watershed area is tributary to an existing channel that runs just north of Interstate 210. That channels eventually transitions to a concrete box channel/culvert that runs southerly beneath the freeway and Easton Avenue and discharges into the Cactus Channel. Cactus Channel then flows southerly into Basin 3/3A. Within the Basin 3/3A limits an additional watershed area of 123 acres is tributary; with runoff originating from an existing residential area immediately to the east of the Project Site. Only a portion of the current project area is tributary to the Cactus system as part of the remaining portion of on-site area is tributary to the existing borrow pits (Basins 4 and 5) and is retained on-site. A portion of the Q100 runoff then flows from Cactus Basin 3/3A into Basins 1 and 2 south of Baseline Road. A larger portion of runoff overflows the basin near the intersection of Cactus Avenue and Baseline Avenue and from there runoff flows onto the local street network. From Basins 1 and 2, a smaller percentage of the Q100 flows as mentioned is contained within the Rialto Channel; an earthen flood control channel, with rip rap slopes that is ultimately tributary to the Santa Ana River. The Santa Ana River is tributary to the Pacific Ocean, a Traditional Navigable Water as defined in 33 Code of Federal Regulations Part 329.

The area upstream and downstream of the basins is heavily developed and includes the cities of Rialto and Fontana. An additional 1,304 acres immediately to the west of the basins are anticipated to be developed in the future with runoff routed to the basins. In all, the basins in the future will likely have a total tributary area of 5,164 acres. Currently the total tributary area is 3,860 acres including the tributary 115.9 acre site.

The proposed project would enhance the Upper Cactus Basins to increase flood control capacity and eliminate the portion of the Cactus Channel located east of the Basins within the subject property. Flows from Cactus Channel currently entering the basin system at Basin 3/3A would be directed into Basin 5. Under existing conditions the Cactus Channel is a deeply incised conduit that bypasses Basin 5 & 4; flows from the Cactus Channel enter the existing unimproved Basin 3/3A and ultimately flow into the Rialto Channel. The Rialto Channel receives the majority of the storm runoff from within the City of Rialto. Under existing conditions the Rialto Channel is unable to handle the peak flow from a 100-year flood event. Completion of the Upper Cactus Basins would effectively stagger peak flows to off-set flood hazard impacts associated with existing and projected urban storm water flows in northern Rialto.

Features of the proposed improvements include:

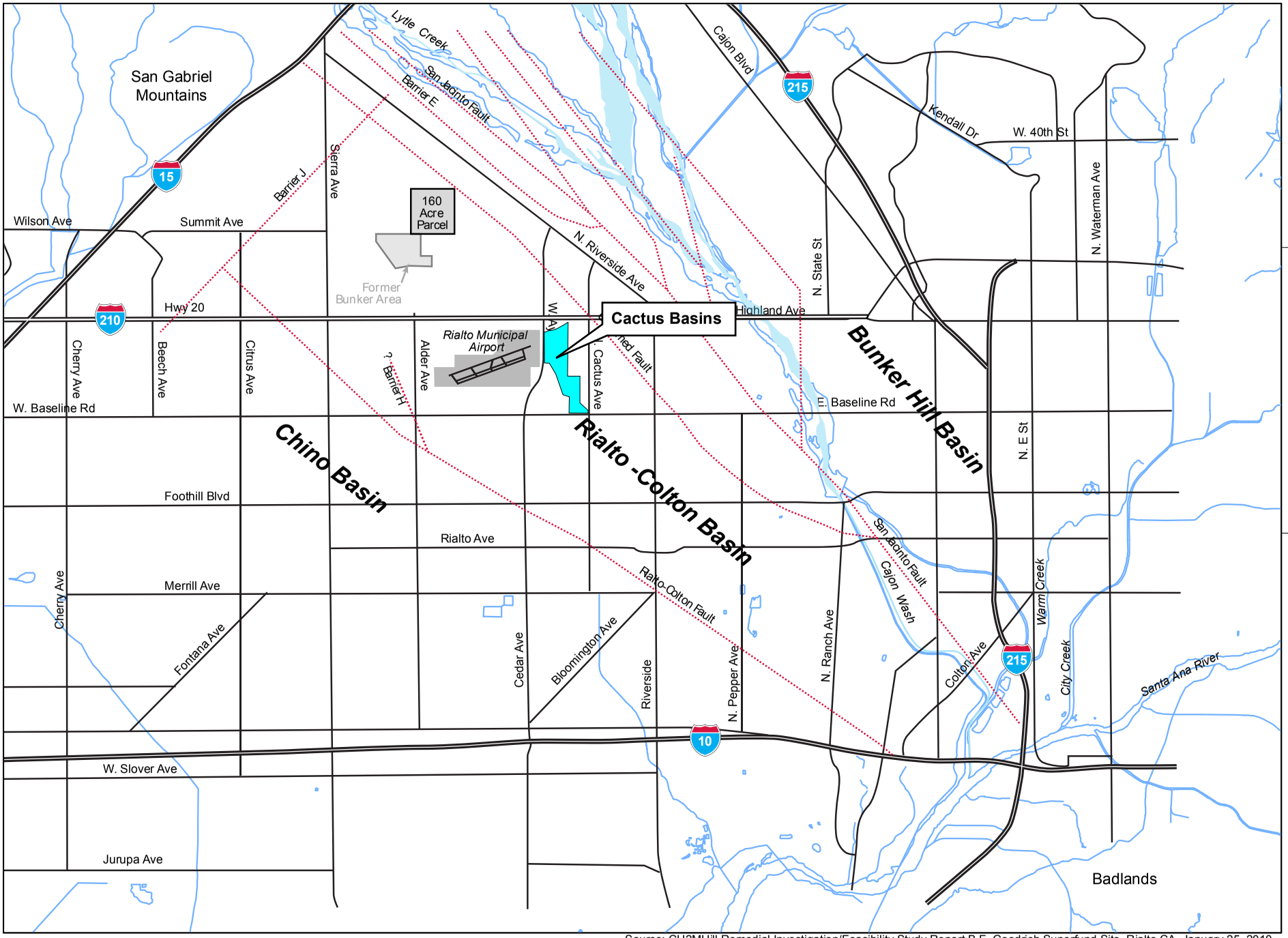
- Inside embankment slopes of 3H:1V and outside embankment slopes of 2H:1V;
- Storm water inlet pipes;
- A gravel pad inlet allowing water from the Cactus Channel to enter Basin 5 from the northeast corner;
- Spillway with a gravel pad entrance in Basin 3/3A; and
- Basin maintenance roads and access ramps to basins' floor.

A portion of the infrastructure necessary for future artificial groundwater recharge operations by other agencies would be installed in the westerly basins' embankments as part of infilling the existing Cactus Channel adjacent to Basins 4 and 5.

Local Surface and Groundwater Resources

The project site is located within the Rialto Channel drainage in the Santa Ana River Watershed. Improvements to the Rialto Channel, including the implementation of the proposed project, are the subject of the District's Comprehensive Storm Drain Plan for the Rialto Channel drainage. The existing constraint with the Rialto Channel is that it is undersized relative to 100-year flood peak flows. With the completion of construction of I-210 in the vicinity (north) of the Cactus Basins, additional storm water flows into the Cactus Basins have made it necessary for the District to initiate improvements to the system in order to mitigate the increased flows associated with the highway.

The groundwater system underlying the project site is the Colton-Rialto basin (see Figure 4.5-1). The basin is divided into two sub-basins, the Rialto sub-basin and the Colton sub-basin, based primarily on the boundary as defined in the 1961 adjudication of the "Rialto Basin". The basin is elongated and is oriented from northwest to southeast. The San Gabriel Mountains and Barrier J form the northwestern boundary of the Rialto-Colton Basin and the badlands area to the south forms the southeastern boundary. Groundwater movement in the Rialto sub-basin is from the northwest to the southeast. The Basin is an important source of drinking water to residents and businesses in the cities of Rialto, Colton, and Fontana.



Source: CH2MHill Remedial Investigation/Feasibility Study Report B.F. Goodrich Superfund Site, Rialto CA. January 25, 2010.

Groundwater Basins

Upper Cactus Basins Enhancement Project
City of Rialto, San Bernardino County, California

Figure 4.5-1

Approximate Location Fault/Geologic Contact

Figure NTS

LILBURN CORPORATION

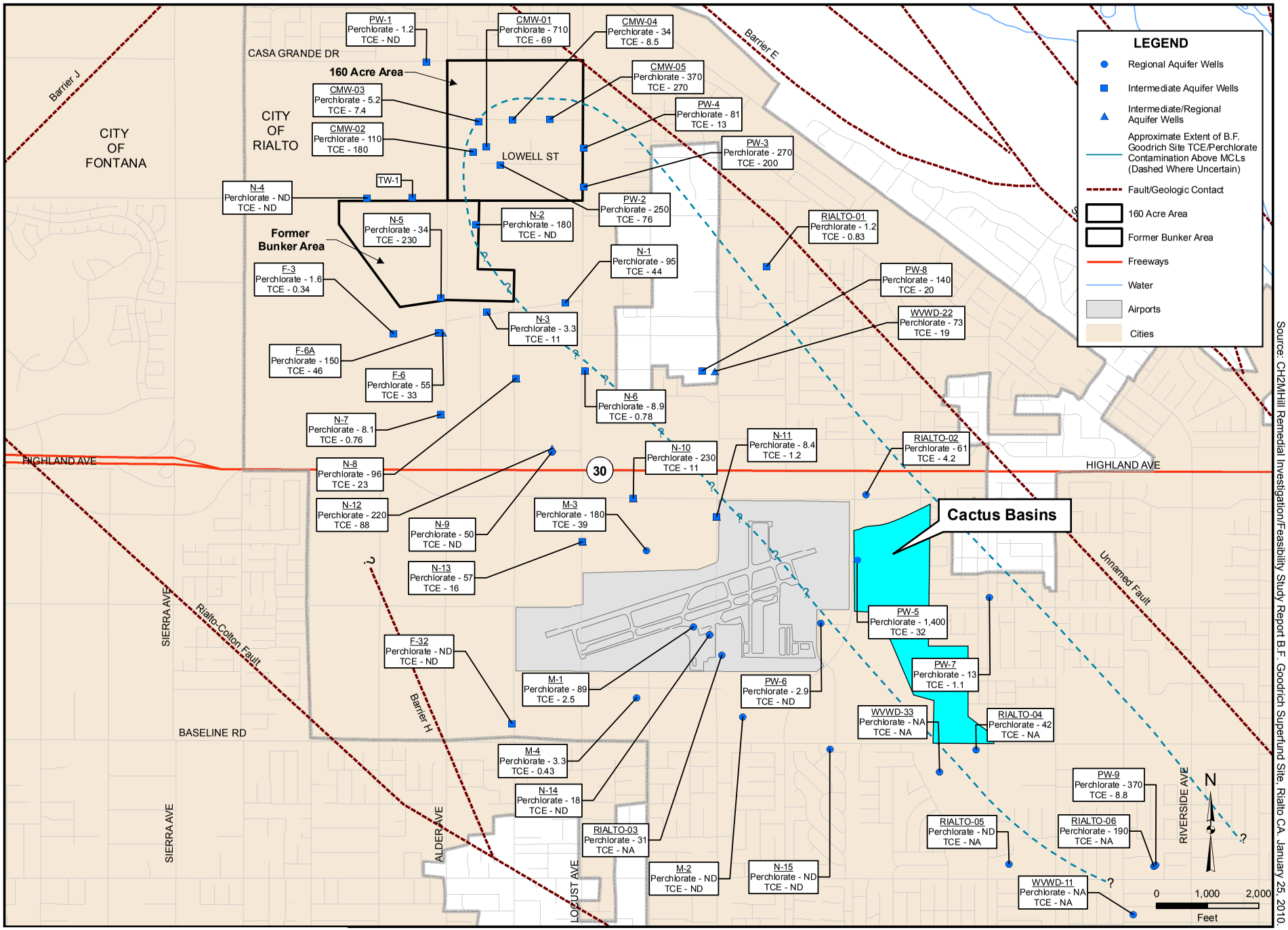
Groundwater in the Rialto sub-basin has been contaminated and is currently undergoing remediation by the U.S. Environmental Protection Agency. Known as the B.F. Goodrich Site, the area of contamination includes a 160-acre area where volatile organic compounds (VOCs) and perchlorate have contaminated soil and groundwater. The Site also includes areas of groundwater contamination downgradient of the 160-acre area (see Figure 4.5-2). The 160-acre area is bounded by West Casa Grande Drive on the north, Locust Avenue on the east, Alder Avenue on the west, and an extension of Summit Avenue on the south.

In 2002, the Santa Ana Regional Water Quality Control Board (RWQCB) began actively working with Potentially Responsible Parties (PRPs) and property owners to investigate soil and groundwater contamination at the site of the contamination and in surrounding areas. EPA began assisting the RWQCB in 2002, providing technical, enforcement, and financial assistance including searches of historical records; interviews of former employees of suspected perchlorate users; issuing an administrative order to two PRPs to complete soil and groundwater testing in 2003, completing soil and groundwater testing that the PRPs refused to complete; computer modeling to evaluate the fate of a perchlorate spill; and the award of approximately $1.3M in grants to the water purveyors (http://yosemite.epa.gov).

In 2008, after the Water Board's efforts were stalled by legal challenges, EPA increased its efforts at the B.F. Goodrich Site. In September 2009, EPA added the Site to the Superfund National Priorities List. The 160-acre area was part of a larger area acquired by the United States Army in 1942 to develop an inspection, consolidation, and storage facility for rail cars transporting ordnance to the Port of Los Angeles. Since the United States sold the Rialto property in 1946, a portion of the property has been used by defense contractors, fireworks manufacturers, and other businesses that used perchlorate salts and/or solvents in their manufacturing processes or products. In 1956 and 1957, West Coast Loading Corporation manufactured and tested two products, photoflash flares and "ground-burst simulators," containing potassium perchlorate. From about 1957 to 1962, B.F. Goodrich Corporation conducted research, development, testing, and production of solid-fuel rocket propellant containing ammonium perchlorate, and used solvents in the manufacturing process. Since the 1960s, the 160-Acre Area has been used by a number of companies that manufactured or sold pyrotechnics, including Pyrotronics, Pyro Spectaculars, and American Promotional Events (http://yosemite.epa.gov).

Between 2003 and 2012, numerous investigations have been conducted to determine the extent of soil and groundwater contamination at the Site. The studies have included the collection and analysis of soil samples, the collection and analysis of soil gas samples, the installation of groundwater monitoring wells, and/or the collection and analysis of groundwater samples. The studies were overseen by the RWQCB, EPA, and the California Department of Toxic Substances (http://yosemite.epa.gov).

Recent investigations, carried out by EPA between 2008 and 2012, include the installation of a network of six 900-foot deep groundwater monitoring wells, annual testing of existing groundwater wells, and soil and soil gas testing at a disposal pit used by the B.F. Goodrich Corporation in the late 1950s and early 1960s. Data from these investigation efforts have been used to develop an initial groundwater cleanup plan and will be used to help develop a comprehensive remedy for the Site (http://yosemite.epa.gov).



Source: CH2MHill Remedial Investigation/Feasibility Study Report B.F. Goodrich Superfund Site, Rialto CA. January 25, 2010.

Approximate Extent of TCE and Perchlorate Contamination

Upper Cactus Basins Enhancement Project
City of Rialto, San Bernardino County, California

Figure 4.5-2

Figure NTS

LILBURN CORPORATION

EPA has completed a remedial investigation and feasibility study (RI/FS) in which it evaluated options for an initial groundwater cleanup project at the Site. The project is known as "the Source Area Operable Unit." On February 3, 2010, EPA released a proposed groundwater cleanup plan, RI/FS Report, and Administrative Record. The proposed cleanup plan is dated January 2010; the RI/FS report is dated January 25, 2010; and the Administrative Record Index is dated February 2, 2010. EPA adopted a cleanup plan (a "Record of Decision") on September 30, 2010. The Record of Decision describes the selected remedy, explains the basis for EPA's decision to select the remedy, and responds to comments on EPA's proposed cleanup plan. EPA has also prepared a supplement to the Administrative Record to support its decision (http://yosemite.epa.gov).

EPA's selected remedy is a groundwater pump and treat system intended to intercept and remove contaminated groundwater spreading from the 160-acre source area. The 160-acre source area is where most or all of the contaminants entered the groundwater and testing has identified the highest levels of groundwater contamination. The remedy is expected to include the construction and operation of two groundwater extraction wells pumping approximately 1,500 to 3,200 gallons per minute (gpm) of contaminated water through liquid-phase granular activated carbon (LGAC) or other water treatment systems to remove trichloroethene (TCE) and other volatile organic compounds (VOCs) from the extracted groundwater. Additionally, remediation includes ion exchange or other water treatment systems to remove perchlorate from the extracted groundwater; pipelines and pumps to convey the treated water from the treatment plant to one or more local water utilities for distribution to the utility's customers as drinking water supply; and a groundwater monitoring program (http://yosemite.epa.gov).

As of June 2012, EPA has reached a tentative agreement with one of the PRPs to implement EPA's September 2010 remedy. Design work is expected to begin in mid-2012.

A June 2012 report describing the development and calibration of the model is available in the Documents and Reports section of the following website: http://yosemite.epa.gov/r9/sfund/r9sfdocw.nsf/3dec8ba3252368428825742600743733/7919062634654eee8825757400661412!OpenDocument

4.5.3 Impacts and Mitigation Measures

Thresholds of Significance

Significant impacts related to hydrological resources would result from development of the proposed project if the project would:

- Violate any water quality standards or waste discharge requirements;
- Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted);

- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;
- Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff;
- Otherwise substantially degrade water quality;
- Place housing within a 100-year flood hazard areas as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate map or other flood hazard delineation map;
- Place within a 100-year flood hazard area structures which would impede or redirect flood flows;
- Expose people or structures to a significant risk of loss, injury or death involving flood, including flooding as a result of the failure of a levee or dam; or
- Inundation by seiche, tsunami, or mudflow.

Project Impacts

Local Groundwater Resources

The primary purpose of the County of San Bernardino Flood Control District is to operate the Cactus Basins for flood control purposes. As is discussed in the EIR the Flood Control District does not intend to use the basins for long-term runoff storage and percolation. Runoff retained in the basins following a major storm would be slowly released from the basins to avoid downstream flooding and only a small portion of the storm runoff would be retained. Flows from Cactus Channel currently entering the basin system at Basin 3/3A would be directed into Basin 5. Under existing conditions the Rialto Channel which carries flows from Basin 3/3A to Basins 1 and 2 is unable to handle the peak flow from a 100-year flood event. Completion of the Upper Cactus Basins would effectively stagger peak flows to decrease potential downstream flood hazard impacts associated with existing and projected urban storm water flows in northern Rialto. It is not anticipated that storm flows would increase groundwater recharge as a result of the enhancements project.

The Upper Cactus Basin project EIR was certified by the City of Rialto in 1988. The project evaluated in the 1988 EIR was improvements to all basins located north of Base Line Road (identified as Basins A, B, and C) for enhancing flood control protection, and to provide for the use of the basins for recharging the underground aquifer. The County prepared an EIR Supplement to the 1988 EIR in order to address changes that had occurred in the project description and/or environment, which included the following:

- Remove water retention/recharge activity from Project Description
- Project improvements to include only Basins 3 and 3A (formerly Basin A)
- Endangered species listed since time of 1988 EIR
- Air quality and greenhouse gas emissions analysis required to address new thresholds

The project evaluated in this current EIR Supplement is based on the Project Description for the basins use for flood control purposes only. As described, the basins directly overlie a plume of groundwater contamination identified subsequent to the 1988 EIR, that is listed by the EPA as a superfund site (*B.F. Goodrich Superfund Site, CERCLIS ID CAN 000905945*). EPA will continue to monitor the site and the Interim Action Record of Decision anticipates monitoring the temporary remedial action through 2015. Design of the remediation alternative selected began in late 2012.

The project is also limited to flood water detention only based on the State Water Resources Control Board issued Decision 1649 regarding Applications filed by SBVWMD and Western MWD to appropriate Santa Ana River water by direct diversion and storage. The Decision document discusses the Rialto-Colton Plume that underlies the Cactus Basins and indicates that the potential impacts from project recharge water on the Rialto-Colton groundwater contaminant plume have not been adequately evaluated. The Order therefore specifically states (#21, p. 45) that Permittees shall not use the Cactus Spreading and Flood Control Basins under permits issued pursuant to Decision 1649. Therefore, any use of the basins for recharge would be subject to subsequent evaluation and impact mitigation.

The Proposed Project would not provide for immediate use of the basins for artificial groundwater recharge operations; such operations would be subject to additional hydrological evaluation and possible permitting. The Proposed Project would not increase the amount of storm flows currently tributary to the existing Cactus Basins Flood Control System and therefore would not result in any significant groundwater supply or water quality impacts to the Rialto-Colton Basin.

Pollutant Source Identification

Flood control aspects of the proposed project will modify the surface water flow regime of the upper Rialto Channel drainage. The flood control effects of the proposed project are considered to be a significant beneficial impact because they are consistent with the aspects of the City's General Plan that relate to future development and infrastructure requirements. The Upper Cactus Basins will act as sediment and debris traps, which will cause a minimal reduction in the amount of such material reaching the Santa Ana River. The following describes potential sources which are likely to add pollutants to storm water discharges or which may result in non-storm water discharges from the construction site:

- The most likely source of pollution to storm water discharges is sediment eroding from the construction-disturbed areas, especially the embankment slopes.
- The detention basins are designed to convey off-site storm water such that the runoff from areas north of the basin system may be expected to contact areas disturbed by construction. However, the configuration of the embankment sideslopes will limit the amount of off-site runoff entering the construction-disturbed areas. The embankment crests are raised above the surrounding off-site ground and there are earthen swales on the east and west sides of the basins. These features will minimize the amount of off-site surface water entering the basins except through the designed inlets.

- Construction storage and service areas; construction material loading, unloading, and access areas; and equipment storage, cleaning, and maintenance areas will follow spill prevention and cleanup procedures. Potential pollutants include:

  - Oil, grease, and other vehicle-related fluids,
  - Cement-related materials,
  - Paint,
  - Soil stabilizers, and
  - Other pollutants identified by the contractor.

Pollutant source identification monitoring typically consists of both visual BMP inspection and sampling storm water discharges from the detention basins during construction. BMP inspection will be conducted before, during, and after storm events. Sampling of storm water discharges from the detention basins in this project is not required since the receiving water body, the Rialto Channel, is not listed in Attachment 3 of the General Permit (Clean Water Act Section 303(d) [303(d)] Water Bodies listed for Sedimentation).

SWPPP Provisions and BMP Identification

During construction of enhancements to the detention basins, BMPs for construction activities will be employed to prevent stormwater pollution in conformance with those listed in the SWPPP. They will consist of, but not be limited to, diversion channels and berms (BMP NS-5), staked straw bales (BMP SE-9), rock check dams (BMP SE-4), silt fencing (BMP SE-1), and other surface treatments as required to prevent run-on and runoff from the construction area. Erosion control measures will be maintained throughout the construction period. Water or a suitable dust suppressant (BMP WE-1) will be used to control fugitive dust during and after construction. A stabilized construction entrance (BMP TC-1) should be maintained throughout construction.

Temporary erosion control methods may be required during construction. These methods may include geotextiles and mats (BMP EC-7), straw mulch (BMP EC-6), and preservation of existing vegetation (EC-2). The contractor is responsible for determining the need for and implementing temporary erosion control methods.

Preventive measures will be taken to avoid spillage of petroleum products and other pollutants (especially non-visible pollutants) and minimize their impact on storm water quality. Preventative measures are especially important to non-visible pollutants. These measures include, but are not limited to, the following:

- Conducting maintenance and fueling activities no closer than 200 feet from any channel, inlet, or detention basin. If spillage occurs, prompt action will be taken to clean up the spill.
- Avoiding exposure of construction materials to precipitation and storm water runoff.
- Using construction materials according to manufacturer’s recommendations.
- Maintaining a clean construction site.

Spill prevention and cleanup procedures are discussed in BMPs NS-6 (Illicit Connection/Discharge), NS-9 (Vehicle and Equipment Fueling), NS-10 (Vehicle and Equipment Maintenance), and WM-4 (Spill Prevention and Control).

Monitoring of the detention basins will occur after enhancement. This will include inspecting for damage due to erosion, inspection of vegetation success, inspection of the conveyance systems (inlets and outlets), and repair of any impacted areas if necessary. BMPs will be implemented and maintained through the construction and post-construction periods.

Erosion Control, Soil Stabilization, and Sediment Control

Erosion control is the most effective way to retain soil and sediment on the construction site. The most efficient way to address erosion control is to preserve existing vegetation where feasible, to limit disturbance, and to stabilize and revegetate disturbed areas as soon as possible after grading or construction. Soil erosion can occur on any unpaved, disturbed surface at the facility, especially where the native vegetation has been removed. To minimize soil erosion after construction, the embankment sideslopes will be revegetated through hydroseeding (BMP EC-4). The sideslopes of the dam embankment under the regulation of the California Division of Safety of Dams (DSOD) will not be revegetated. To minimize erosion at locations where concentrated flow is expected (inlets, outlets, and access ramps), either a gravel pad lining (BMP EC-10) or rock check dams/straw bales (BMPs SE-4 and SE-9, respectively) will be installed during construction and maintained after construction. At a minimum, silt fences (BMP SE-1) will be installed along the bottoms of the outside sideslopes of the embankments to help minimize sediment transport from these sideslopes. The need for other erosion control methods on the sideslopes will be determined by the contractor during construction.

In addition to those BMPs listed above, temporary erosion control methods may be required during construction. These methods may include geotextiles and mats (BMP EC-7), straw mulch (BMP EC-6), and preservation of existing vegetation (EC-2). The contractor will be responsible for determining the need for and implementing temporary erosion control methods.

Non-Storm Water Management

Non-storm water discharges should be eliminated or reduced to the extent feasible. One-time discharges shall be monitored during the time that such discharges are occurring. Qualified personnel shall be assigned the responsibility for ensuring that no materials other than storm water are discharged in quantities which will have an adverse effect on receiving waters or storm drain systems (consistent with BAT/BCT).

Non-storm water discharges that may occur in the construction areas, or within the limits of the construction area, include:

- Runoff from dust control activities.
- Dry-weather/nuisance flows from the Cactus Channel.

The contractor will be responsible for controlling the non-storm water discharges listed above. The contractor will develop a non-storm water control plan to be included in the SWPPP prior to construction. Dry weather flows will be diverted as necessary and practical.

Discharging sediment-laden water that will cause or contribute to an exceedance of the Santa Ana RWQCB's Basin Plan from a dewatering site or sediment basin into any receiving water or storm drain without filtration or equivalent treatment is prohibited.

Maintenance, Inspection, and Repair

The SWPPP for the proposed project will require a regular program to inspect and maintain all BMPs as identified in this SWPPP or reclamation plan throughout the entire duration of the project. The following qualified person(s) have been assigned the responsibility to conduct inspections:

- San Bernardino County representative and contractor representative - Prepare and implement SWPPP and oversee monitoring activities and preparation of the annual storm water report.

Inspections will be performed before and after storm events and once each 24-hour period during extended storm events to identify BMP effectiveness and implement repairs or design changes as soon as feasible, depending upon field conditions. Field inspections during extended storm events are contingent upon the ability to access constructions areas safely with personnel and equipment. Equipment, materials, and workers must be made available for rapid response to BMP failures and emergencies. All corrective maintenance to BMPs shall be performed as soon as possible after the conclusion of each storm depending upon worker safety.

For each inspection required above, the discharger shall complete an inspection checklist. At a minimum, an inspection checklist shall include:

a. Inspection date.
b. Weather information: best estimate of beginning of storm event, duration of event, time elapsed since last storm, and approximate amount of rainfall (inches).
c. A description of any inadequate BMPs.
d. If it is possible to safely access during inclement weather, list observations of all BMPs: erosion controls, sediment controls, chemical and waste controls, and non-storm water controls. Otherwise, list results of visual inspection at relevant outfall, discharge point, or downstream location and projected required maintenance activities.
e. Corrective actions required, including any changes to SWPPP necessary and implementation dates.
f. Inspectors name, title, and signature.

Monitoring Program and Reporting Requirements are included in the SWPPP in Appendix D of this EIR.

Mitigation Measures

Mitigation Measure HW-1

The contractor for the proposed project shall complete and comply with the SWPPP for the Upper Cactus Basins Enhancement Project.

Level of Significance after Mitigation

Application of the above mitigation will reduce the potential impacts to less than significant.

5.0 PREPARERS & BIBLIOGRAPHY

5.1 LIST OF PREPARERS

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DRAFT

HABITAT RESTORATION/ REVEGETATION PLAN AND SPECIFICATIONS

CACTUS BASIN NO. 3 PROJECT

SAN BERNARDINO COUNTY, CALIFORNIA

Prepared for:

County of San Bernardino Flood Control District
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LSA Project No. SBF530

LSA

November 2005

TABLE OF CONTENTS

INTRODUCTION 1
BACKGROUND 1
RESPONSIBLE PARTIES 1
SCOPE OF WORK 4
INSPECTIONS 4
SITE PREPARATION 5
INSTALLATION 5
METHODS 7
MAINTENANCE AND PERFORMANCE 8
PERFORMANCE STANDARDS 11
REMEDIAL MEASURES 12
MONITORING 12
MEASUREMENT AND PAYMENT 13

FIGURES

Figure 1: Project Vicinity 2
Figure 2: Project Location 3

TABLES

Table A: Cactus Basin No. 3 Seed List (13 acres) 6

INTRODUCTION

The purpose of this document is to provide the Technical Specifications (Specifications) for the revegetation of areas impacted by construction of the Cactus Basin No. 3. The revegetation is required as mitigation for the impacts to the vegetated slopes along the Cactus Basin No. 3 per the Final Environmental Impact Report (EIR) for the Upper Cactus Basin Flood Control Facility. The Cactus Basin No. 3 project falls under the jurisdiction of the California Division of Safety of Dams (DSOD); therefore, these Specifications have been prepared considering the DSOD requirements for vegetation on dam embankments, as well as the requirements of the EIR.

BACKGROUND

In order to accommodate storm water flows into the Rialto Channel/Cactus Basin system, the District plans to construct a series of basins for temporary impoundment of storm waters. This revegetation effort is focused on the Cactus Basin No. 3 project, which is located just north of Baseline Road and east of Ayala Drive in the City of Rialto, San Bernardino County, California (see Figures 1 and 2). The project will involve excavation, reconstruction of the slopes, construction of spillways, and inter-basin outlet conduits.

The EIR for the Upper Cactus Basin Flood Control Facility requires revegetation of the slopes and terraces of the basins once construction activities are completed. These Specifications outline the guidelines for that revegetation. Additionally, these Specifications have taken into account the DSOD requirements regarding vegetation on dam embankments. Considering those requirements, the seed list purposely excludes trees and large shrubs with extensive root systems and relies on shrub species that are relatively shallow-rooted.

RESPONSIBLE PARTIES

The San Bernardino County Flood Control District (District) is responsible for implementation of the revegetation and completion of the mitigation. The District has retained LSA Associates, Inc. (LSA) to provide this document, which will detail the Specifications for revegetation and for any recommended erosion control measures. The District will be required to retain a Revegetation Contractor who will be responsible for implementation of the Specifications. Additionally, the District shall retain a qualified Restoration Ecologist who will: (1) oversee the work of the Restoration Contractor to ensure that the Specifications are adhered to, and (2) provide recommendations of remedial action as necessary to achieve the Performance Standards most effectively. The Restoration Contractor shall be responsible for the installation and maintenance of the mitigation according to these Specifications.

Restoration Ecologist

The Restoration Ecologist is the representative for the District in the field and will be responsible for monitoring the restoration/revegetation area according to the guidelines set forth in these Specifications. The Restoration Ecologist shall be familiar with these Specifications and all aspects of the habitat restoration. The duties of the Restoration Ecologist will include overseeing all aspects of work performed by the Restoration Contractor. In addition, the Restoration Ecologist will have the responsibility of

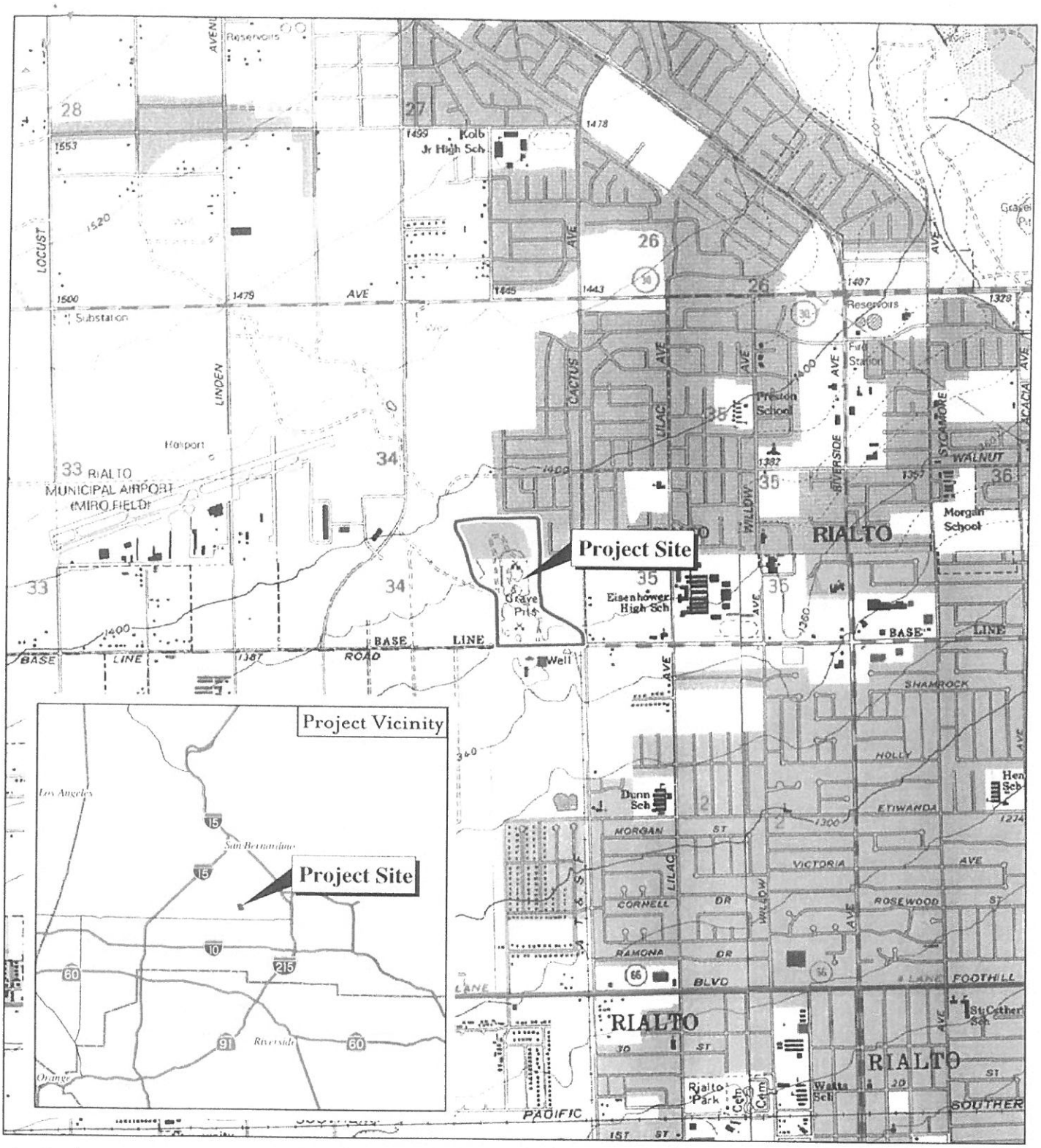

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FIGURE 1

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SOURCE: USGS 7.5' QUAD(s) - Devore & Fontana (1988, 1980), Calif.

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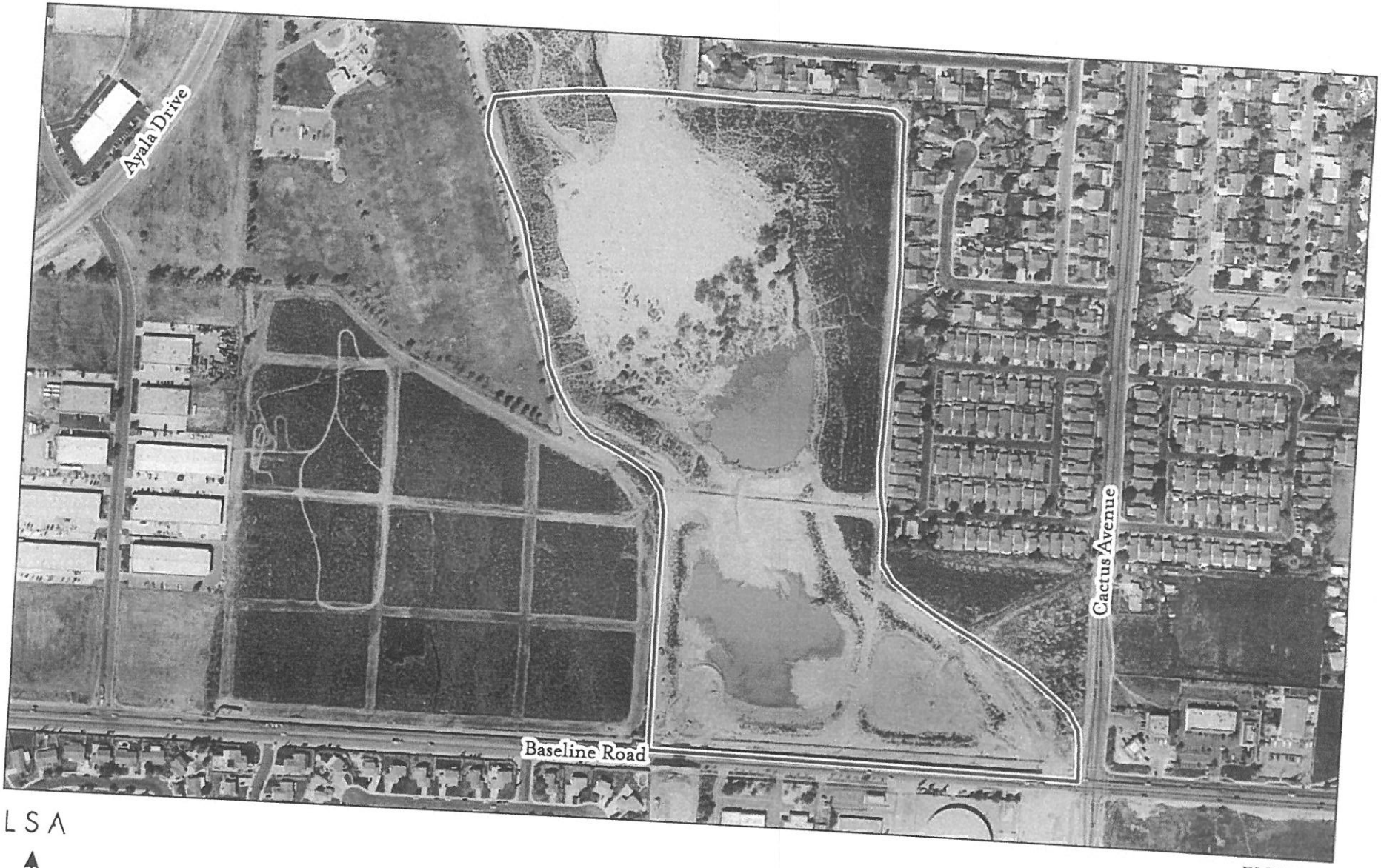
San Bernardino County Flood Control District
Cactus Basin No. 3 – Alluvial Fan Sage Scrub Revegetation Area

PROJECT LOCATION MAP



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SOURCE: Image-Eagle Aerial 2004

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LEGEND

Project Boundary

FIGURE 2

San Bernarndino County Flood Control District

Cactus Basin No. 3 - Alluvial Fan Sage Scrub Revegetation Area

Project Location

documenting and reporting the progress of the revegetation to the District and all other relevant governmental agencies, as well as making recommendations to achieve the performance standards. If necessary, the Restoration Ecologist may also prescribe remedial measures.

Restoration Contractor

Qualifications and Responsibilities of the Restoration Contractor. The Restoration Contractor responsible for the revegetation areas shall have successfully completed (with agency acceptance) a minimum of three restoration projects (installation and maintenance) involving establishment of alluvial fan scrub habitat that are comparable to this project in terms of size and species composition. The Restoration Contractor shall provide at least one English-speaking person who is experienced with all aspects of habitat restoration and thoroughly familiar with all aspects of the project, including equipment and materials being utilized or installed and the best methods for their installation and application. This person shall be present at all times during the execution of this work and shall direct and supervise all work specified herein. The job foreman shall be on site no less than 90 percent of the time that crews are working. All prospective Restoration Contractors shall provide resumes of the foreman and crew leader, who must meet the above experience criteria and whose replacements are subject to approval. Contractors who do not meet these qualifications will be disqualified from the bidding process. The Restoration Contractor will ensure that sufficient firefighting equipment (e.g., extinguishers and shovels) is available on site to help minimize the chance of human-caused wildfires.

SCOPE OF WORK

The Restoration Contractor shall be responsible for the following major items of work, as well as the minor components associated with them. This section is intended to provide the overall sequence and scope of work and is not intended to provide an exhaustive scope of work. The Restoration Contractor shall:

- Place the previously stockpiled duff throughout all of the areas to be revegetated.
- Perform site preparation (including decompaction and exotic species removal) for the revegetation area.
- Apply specified seed/materials by hydroseed over approximately 13 acres.
- Maintain the approximate 13-acre revegetation area according to these Specifications until the Performance Standards have been achieved and agency concurrences have been obtained.

INSPECTIONS

All inspections specified herein shall be conducted by the District and/or Restoration Ecologist. The Revegetation Contractor shall request inspection at least 48 hours in advance of the time inspection is required. Inspection by the District or Restoration Ecologist shall be required for the following phases of work, and each phase shall be approved by the District or Restoration Ecologist before the Revegetation Contractor commences work on the subsequent phase:

- During duff creation, including vegetation crushing and topsoil salvage

- Duff placement/decompaction
- During and upon completion of hydroseeding
- Prior to scheduled quarterly payments
- At the end of the 120-day establishment period
- Upon meeting the performance standards

SITE PREPARATION

As construction is completed, site preparation of the 41-acre restoration area will begin with the placement of native duff throughout the revegetation area.

Duff Placement

Prior to duff placement, the areas to be revegetated shall be raked to remove any unnaturally created rows, while leaving the soil roughened. The soil surface shall be left roughened and irregular, with clods no larger than two inches in maximum dimension, comprising no more than 10 percent of the soil surface. If clodding exceeds 10 percent of the soil surface or clods are larger than 2 inches in maximum dimension, disking, tracking, or additional cross-ripping shall be performed as required to break up the clods.

Following preparation of the soil surface, duff shall be placed throughout the revegetation area. The duff shall be spread evenly over the prepared subgrade approximately three to six inches thick, but no greater than three inches thick on slopes or inclined surfaces with an inclination of 2 horizontal to 1 vertical or steeper. Distribution of the duff shall be conducted with equipment other than scrapers unless otherwise approved by the District. To avoid compacting duff while redistributing it, the Contractor shall not drive equipment and vehicles over duff stockpiles or duff. Duff shall only be driven on with the equipment required to pull the sheepsfoot roller. Duff shall be bonded to the existing soil with a sheepsfoot roller or equivalent, as approved by the District, to prevent the duff from sloughing off the graded slopes. The duff shall not be compacted and shall be left with a rough surface.

INSTALLATION

Materials

Seed. Coordination will be made with a seed collection contractor as soon as possible to ensure that seed material will be collected from sites as close to the restoration site as possible. Table A shows the list of seed required for this project.

Table A: Cactus Basin No. 3 Seed List (13 acres)

Scientific Name	Common Name	Pounds per Acre	Pounds Required (13 acres)
Ambrosia acanthicarpa	sand-bur	1.25	16.25
Amsinckia menziesii	common fiddleneck	0.25	3.25
Artemesia californica	California sagebrush	0.08	1.04
Baccharis salicifolia	mulefat	0.10	1.30
Bromus carinatus	California brome grass	0.50	6.50
Croton californica	California croton	2.00	26.00
Croton setigenus	doveweed	0.75	9.75
Eriastrum densifolium	Santa Ana River woolly-star	1.00	13.00
Ericameria pinifolia	pine goldenbush	1.00	13.00
Eriodictyon crassifolium	thickleaf yerba santa	0.50	6.50
Eriogonum fasciculatum	California buckwheat	1.00	13.00
Gutierrezia californica	California matchweed	0.75	9.75
Heliotropum curassavicum	salt heliotrope	0.25	3.25
Lotus scoparius	coastal deerweed	0.35	4.55
Phacelia ramossissima	branching phacelia	0.05	0.65
Salvia apiana	white sage	0.75	9.75
Senecio flaccidus	sand-wash groundsel	1.00	13.00
Total		**14.08**	**150.54**

Mycorrhizal Inoculum

Mycorrhizal inoculum shall be applied to all areas that are to be seeded. If the area will be hydroseeded, the inoculum shall be applied in the hydroseed slurry; if the area will be broadcast seeded, the inoculum shall be broadcast prior to the seed and raked lightly into the top one or two inches of soil. The source and type of inoculum must be approved by the Restoration Ecologist prior to purchase. It must contain a minimum of 90,000 propagules per pound and shall consist of spores, mycelium, and mycorrhizal root fragments in a solid carrier suitable for hydroseeding. The carrier shall be the material in which the inoculum was originally produced and may include organic materials, vermiculite, perlite, calcined clay, or other approved materials consistent with mechanical application and with good plant growth. This inoculum shall carry a supplier's guarantee of number of propagules per unit weight or volume of bulk material. If the supplier claims more than one species, the label shall include a guarantee for each species of mycorrhizal fungus claimed. Using mycorrhizae inoculum that contains high concentrations of humus and humic acids reduces the potency of the inoculum (SERCAL—Mycorrhizae Workshop 2002). The Restoration Contractor shall supply a product that contains only mycorrhizae, roots, and growing medium such as that found in products sold at Reforestation Technologies International (800-784-4769) or Bionet, LLC (877-777-8327)

METHODS

Seeding

Following the placement of the native duff throughout the revegetation area, the Restoration Contractor will be responsible for applying the native seed mix via hydroseeding.

Hydroseeding. Native seed will be applied throughout the revegetation area. The method of application will depend on the accessibility and size of the particular area. Large, easily accessible areas will be hydroseeded with a mixture of 100 percent long-strand wood fiber, natural tackifier, and seed. Narrow, small, and/or inaccessible areas will be broadcast seeded. All areas that are seeded will be inoculated with mycorrhizae.

The restoration site shall be seeded using a two-stage hydroseed application method. The application procedure is as follows:

First Application

- 500 lbs/acre of long-strand wood fiber
- Specified seed
- 60 lbs/acre of vesicular-arbuscular mycorrhizal inoculum

Second Application

- 1,500 lbs/acre of long-strand wood fiber
- 100 lbs/acre Ecology Control "M" binder

All hydroseed mixing shall be performed in a clean tank. The tank must be rinsed a minimum of three times in the presence of the Restoration Ecologist. It is the Restoration Contractor's responsibility to locate a washout area where rinsing can legally be carried out. The hydroseeder must be equipped with a built-in continuous agitation and recirculation system of sufficient operating capacity to produce homogeneous slurry and a discharge system that will apply slurry to the designated areas at a continuous and uniform rate.

The slurry preparation shall take place at the project site and shall be started by adding water to the tank while the engine is running at half-throttle. Good recirculation shall be established when the water level has reached the height of the agitator shaft, at which time the seed shall be added; the long-strand wood fiber shall be added when the tank is at least 30 percent filled with water. The Restoration Contractor shall commence spraying once the tank is full and homogeneous slurry has been created.

The Restoration Contractor shall spray designated areas with the slurry in a sweeping motion and in an arched stream until a uniform coat is achieved, with no slumping or shadowing, as the material is

spread at the required rate. The hydroseed slurry should float down from the arched stream as opposed to being shot directly at the ground. The tanks must be emptied completely during each stage of hydroseeding.

Any slurry mixture that has not been applied by the Restoration Contractor within one hour after mixing shall be rejected and replaced at the Restoration Contractor's expense. In addition, all cost incurred for repair or replacement of bare, sparse, or damaged areas shall be the sole responsibility of the Restoration Contractor. Following application, all activity on the mulch layer must be kept at a minimum.

MAINTENANCE AND PERFORMANCE

The Restoration Contractor will be required to regularly maintain the site to ensure that levels of exotic species are kept low, plants receive adequate moisture, and plants are protected from excessive herbivory. It is to the Restoration Contractor's advantage to diligently maintain the site as a means of increasing the likelihood of achieving the Performance Standards as soon as possible (refer to page 11 for the Performance Standards). The restoration is expected to take between three and five years.

If the Restoration Contractor meets the performance standards and the site is released from further maintenance and monitoring obligations by the District at any time prior to the five-year contract period, the Restoration Contractor will, at that time, be eligible for payment of the entire remaining portion of the lump sum item, "Maintenance."

If the Restoration Contractor fails to meet the performance standards and is unable to obtain a release from further maintenance and monitoring obligations by the District within the five-year contract period, it is the responsibility of the Restoration Contractor to maintain the site until the performance standards have been met and the site has been released from further maintenance and monitoring obligations by the District.

Maintenance activities include but are not limited to the following items.

Slope Erosion Control

The Restoration Contractor shall provide erosion control as necessary to prevent damage to the site and to prevent the transport of sediment off of the site. Erosion may be controlled through vegetative and nonvegetative means. Erosion control via vegetative means will include the establishment of understory herbs, forbs, grasses, and the installation of some native shrubs. Nonvegetative means of erosion control include hydromulch, jute netting, sandbags, and seed-free straw or coir wattles. Nonnative seed/vegetation will not be allowed for erosion control.

In the case of heavy rainfall conditions, nonvegetative erosion control measures (i.e., silt fence, sandbags, rice straw wattles, jute netting) are to be used on the graded slopes. Only sandbags and straw wattles are to be used within the habitat restoration areas. Erosion control measures shall be installed following the completion of grading and before the installation of the planned native plant communities.

The Restoration Contractor shall be responsible for all post-grading erosion control required for the respective restoration/revegetation areas for the entire term of the contract. Erosion control shall include but not be limited to: (1) continuation of nonvegetative erosion control, as necessary; (2) repair of damaged plants, rutting, and washouts; (3) removal of downstream silt and mud; and (4) removal of all silt fences once the restoration/revegetation has been completed or at the Restoration Ecologist's discretion. Because the Restoration Contractor is responsible for the success of the restored/revegetated plant community, it is to the Restoration Contractor's advantage to use as many erosion control measures as necessary to prevent erosion damage. This will include slowing the velocity and dispersing concentrated water from entering and exiting the restoration/revegetation site. As a precaution, it is recommended that silt fences be installed at the bottoms of the slopes. The Restoration Contractor shall place seed-free straw or coir wattles at 15-foot intervals throughout the restoration/revegetation areas. All wattles will be installed along slope contours in accordance with the manufacturer's specifications. All wattles shall be manufactured from straw- or plant-derived material, shall be a minimum of eight inches in diameter, and can be purchased from California Straw Works (916-453-1456) or an approved equivalent. Wattles shall not be removed from the restoration/revegetation area once the restoration/revegetation effort is completed.

Weed Control

In order to help establish the developing plant community, the Restoration Contractor shall remove all nonnative weeds from the mitigation area to reduce the amount of competition for natural resources, including water, nutrients, and sunlight. The amount of weeding required will be determined by the amount of weed seed in the soil, weather conditions, and the Restoration Contractor's diligence in removing the weeds, thereby reducing the weed seed bank. The Restoration Contractor is responsible for weed removal in a 50-foot buffer around all restoration areas in accordance with these specifications regardless of whether or not someone else is maintaining it.

Weeds may be controlled through manual removal and the limited use of herbicide. Herbicide use will be limited to species that are difficult to control through manual removal, such as bermuda, pampas grass, arundo, castor bean, tamarisk, tree tobacco, fennel, and artichoke thistle *(Cynara cardunculus)*. Any herbicide used will be applied by a qualified individual using a backpack sprayer and will be used according to applicable State and federal regulations. All other weeds shall be removed manually. Regardless of the method of control, all weeds on site shall be removed prior to the development of seed to prevent the introduction of more weed seed into the soil seed bank. All vegetative debris generated by the weed removal process shall be disposed of legally off-site.

- The percent cover by weeds must be kept below 10 percent at all times.

The condition of the site will be evaluated at least once per quarter by the Restoration Ecologist, and approval of payment shall be dependent upon the satisfaction of the aforementioned maintenance criteria. The Restoration Contractor shall apply for payment of this line item on a quarterly basis (90-day periods) beginning after acceptance by the Restoration Ecologist and the District of the initial installation, then the first 90 days of the 120-day establishment period, and, finally, during the 5-year maintenance period. Quarterly payments shall be based upon the total lump sum cost for "Maintenance" divided by 20 (four quarters per year x five years). Additionally, the Restoration Contractor will be subject to a penalty of 10 percent of the quarterly maintenance payment per day if at any time the site contains greater than 10 percent coverage by nonnatives or greater than 1 percent

relative cover by invasive species, and will forfeit three quarterly payments if at any time the site contains more than 10 percent coverage by weeds that have reached seed production.[1]

Penalties will be implemented to discourage noncompliance with these Specifications and to prevent negligence. Penalties will be levied if the site is in violation of these standards at any time during the maintenance period. Penalties are financial and vary in severity according to the severity of damage caused by noncompliance. A separate, more severe standard and corresponding penalty exists for allowing the weeds to set seed, as weeds that set seed can exponentially increase the weed seed in the soil seed bank.

Weeds and exotic plants shall be controlled in all mitigation areas for a minimum of five years or until the performance standards have been achieved. This is necessary to prevent weeds and exotic plants from outcompeting native plant species for natural resources (e.g., space, water, nutrients, light). If maintenance continues past five years, the penalties continue to apply toward the Payment and Performance Bonds.

Herbicide Treatment Guidelines

In order to apply herbicide, the Restoration Contractor must have a Pest Control Business License, which requires that at least one individual employed by the Restoration Contractor be in possession of a Qualified Applicator's License (QAL). If a qualified applicator is not present during treatment, all applicators must have undergone documented herbicide application training. All licenses must be current licenses issued by the State of California and registered in Orange County.

Only EPA-approved, glyphosate-base, systemic herbicides approved for use in aquatic situations (e.g., Rodeo or its equivalent) may be used. No preemergent herbicides may be used. The following herbicide concentrations shall be used, according to the type of application required:

- Foliar spray application: a minimum 3 percent solution
- Foliar wick application: a 33 percent solution
- Stump treatment: a full-strength solution

A brightly colored dye shall be used in all applications. The dye shall be a nontoxic, water soluble, liquid material such as "Blazon" by Milliken Chemicals or its equivalent. The dye shall be mixed with the herbicide at no more than half the rate specified on the label (one-quarter the rate will usually suffice).

Spraying shall be conducted only when weather conditions are conducive to effective uptake of the herbicide by the targeted species (e.g., sunny, dry, and when plants are actively growing) and when wind conditions are such that herbicide drift is nonexistent (5 mph or less). During herbicide application, protection for nontargeted species is required. This is relevant to any native plants outside the restoration area, as well as native plants within the restoration area.

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[1] The seed dispersal stage has been reached when mature seed is easily shaken or pulled from the weed or has begun to fall out of or away from the weed.

Irrigation

Timing of installation and the selection of species appropriate to the hydrologic microclimate of the planting areas should avoid most of the need for supplemental irrigation. Irrigation will be used in case of precipitation shortfalls during the establishment of the restored plant communities. The District will provide a point of connection and water for an irrigation system that the Restoration Contractor may use to supplementally irrigate the site as necessary.

Irrigation, if necessary, may be applied by a temporary overhead spray system, hand-watered by a hose, or broadcast-sprayed by a water truck.

Pest Control

The control of insect and rodent (herbivore) damage shall be the responsibility of the Restoration Contractor, using only those methods approved by the Restoration Ecologist. At the earliest sign of damage, the Restoration Contractor shall implement control measures that may require fencing or caging of plant material during staging and upon installation.

Fertilization

No chemical fertilizers shall be used on the restoration areas unless specified by the Restoration Ecologist.

Pruning and Leaf Litter

Dead branches and leaf litter provide habitat for a variety of species. Therefore, since the goal is to replicate a naturally occurring habitat, no pruning or leaf litter removal shall take place within any of the mitigation areas. All dead branches shall be left on shrubs, trees, and herbaceous plant material.

Removal of Trash and Debris

All seeded areas shall be kept neat, clean, and free of all nonvegetative debris and trash.

PERFORMANCE STANDARDS

The goal of this Habitat Restoration/Revegetation Plan and Specifications (HRPS) is the successful restoration of alluvial fan scrub habitat. Success will be based on the establishment of seeded species and the exclusion of exotic and ruderal species. To be considered successful according to the permit requirements, the following criteria shall be achieved:

1. Attainment of between 30 and 50 percent relative cover by native alluvial fan scrub (AFS) plant components, a mix of shrubs that is similar to those of nearby high-quality AFS habitat, and greater than 40 percent bare ground

2. Germination and growth of a variety of the seeded plant species (total area coverage may be somewhat sparse after the first year)
3. Nonnative species shall comprise less than 5 percent of the cover after 5 years, and invasive species including but not limited to arundo, castor bean, tree tobacco, and fennel shall comprise 0 percent of the cover at the end of the five-year monitoring period
4. Irrigation shall be stopped a minimum of two years prior to achieving the success criteria
5. Concurrence by the appropriate regulatory agencies that the mitigation has achieved the performance standards

If the survival and cover requirements have not been met, the Restoration Contractor is responsible for supplemental seeding if needed. If prior to the end of the five-year monitoring contract, the site meets the five-year success criteria and the resource agencies review and approve the mitigation status in writing, the Restoration Contractor may be released from further maintenance and monitoring obligations.

REMEDIAL MEASURES

The purpose of remedial measures is to remedy unsuccessful restoration efforts. Remedial measures include weed eradication and/or reseeding in areas as necessary to meet the performance standards. Such actions will be taken immediately upon the identification of problems and will be implemented as often as necessary to meet the performance standards. Seeded areas will be assessed annually until the performance standards have been achieved. If at the time of assessment it is determined by the Restoration Ecologist that supplemental seeding is needed to meet the performance standards, this additional seeding shall be undertaken by the Restoration Contractor at his/her cost. Timing of the seeding is at the discretion of the Restoration Ecologist. Implementation and costs associated with all remedial measures required to meet the Performance Standards are the responsibility of the Restoration Contractor.

MONITORING

The Restoration Ecologist will monitor the site preparation and installation as necessary to ensure that procedures are implemented properly and thoroughly by the Restoration Contractor. The Restoration Ecologist will also monitor the maintenance and progress of the mitigation on a monthly basis until the performance standards have been achieved. Remedial measures, if necessary, will be formulated based on observations made during the site visits.

Documentation

The Restoration Ecologist will prepare field memoranda (field memos) following every site visit to record conditions and progress toward achieving the performance standards. Field memos will be sent to the Restoration Contractor and the District to ensure that any action items are handled in a timely manner.

The Restoration Ecologist will prepare an as-built report following the complete installation of the mitigation. The as-built report will document the materials installed and the methods of installation.

An annual report will be submitted by the Restoration Ecologist to the regulatory agencies by January 1 of each year until the performance standards have been achieved. The reports will include quantitative data for survival counts and percent cover. In addition, relevant information from the field memos will be included, providing a summary of the restoration effort and documenting any other remedial actions designed to accelerate the achievement of the performance standards. Photographs will be taken from established photo points and will be included in the reports. Annual reports will be submitted to the District and all other relevant governmental agencies. The final annual report will also be submitted to the Regional Water Quality Control Board.

MEASUREMENT AND PAYMENT

Mobilization

The lump sum price for the contract item "Mobilization" shall not exceed 2 percent of the total contract price and shall include full compensation for providing insurance and financing for moving equipment to the job site and for all mobilization and administration for the entire period; no additional payment will be made.

Payment and Performance Bonds

Full compensation for providing payment and performance bonds in accordance with the contract documents, including but not limited to all necessary document processing and payment, shall be considered included in the contract price for "Payment and Performance Bonds," and no additional compensation shall be allowed.

Develop Construction Water

Construction water shall be measured on a lump sum basis regardless of the actual quantity of water consumed. Full compensation for providing all labor, materials, tools, and equipment to develop construction water, including but not limited to applying and paying for applicable fees and charges, shall be considered included in the contract price for "Develop Construction Water," and no additional compensation shall be allowed.

Site Preparation

A lump sum will be paid for the initial site preparation activities prior to seed installation. These activities include trash and thatch removal, exotic species removal, soil preparation, and placement of native duff. Erosion control measures (vegetative and nonvegetative) for the duration of the contract shall be included in this line item. Exceptions to the project schedule shall be granted if delays due to weather are experienced. Once these actions have been carried out to the satisfaction of the Restoration Ecologist, the payment for this portion of the implementation shall be paid to the Restoration Contractor. All costs related to "Site Preparation" (including erosion control) shall be included in the contract price for this item; no additional payment will be made.

Seeding

A lump sum will be paid for hydroseeding and/or broadcast seeding a total of approximately 13 acres, including the incorporation of materials specified herein; no additional payment will be made.

120-Day Establishment and Five-Year Maintenance

The lump sum price for 120-day establishment and 5-year maintenance shall be inclusive of all work required to establish and maintain all vegetation within the restoration area, as well as weed removal within the 50-foot "buffer strip," per these Specifications. The Restoration Contractor shall apply for payment of this line item on a quarterly basis only (first month of each quarter). Quarterly payments shall be based upon the total lump sum cost for maintenance divided by 20 quarters. The Restoration Contractor will be eligible for payment each quarter only if all of the contract requirements for maintenance are met continuously throughout the quarter. If the Restoration Contractor fails to meet the maintenance criteria, payment will not be approved for that pay period.

If the Restoration Contractor fails to meet the maintenance criteria and agency concurrence, the District has the option of subcontracting another contractor at the expense of the Restoration Contractor. This cost will be deducted from the price of this contract.

If the Restoration Contractor meets the final performance standards and obtains agency concurrence any time prior to the five-year period, the Restoration Contractor will, at that time, be eligible for payment of the entire remaining portion of the lump sum item "120-Day Establishment and Five-Year Maintenance."

ATTACHMENT 3(D)

MAPS

Figure 1-1 Vicinity Map

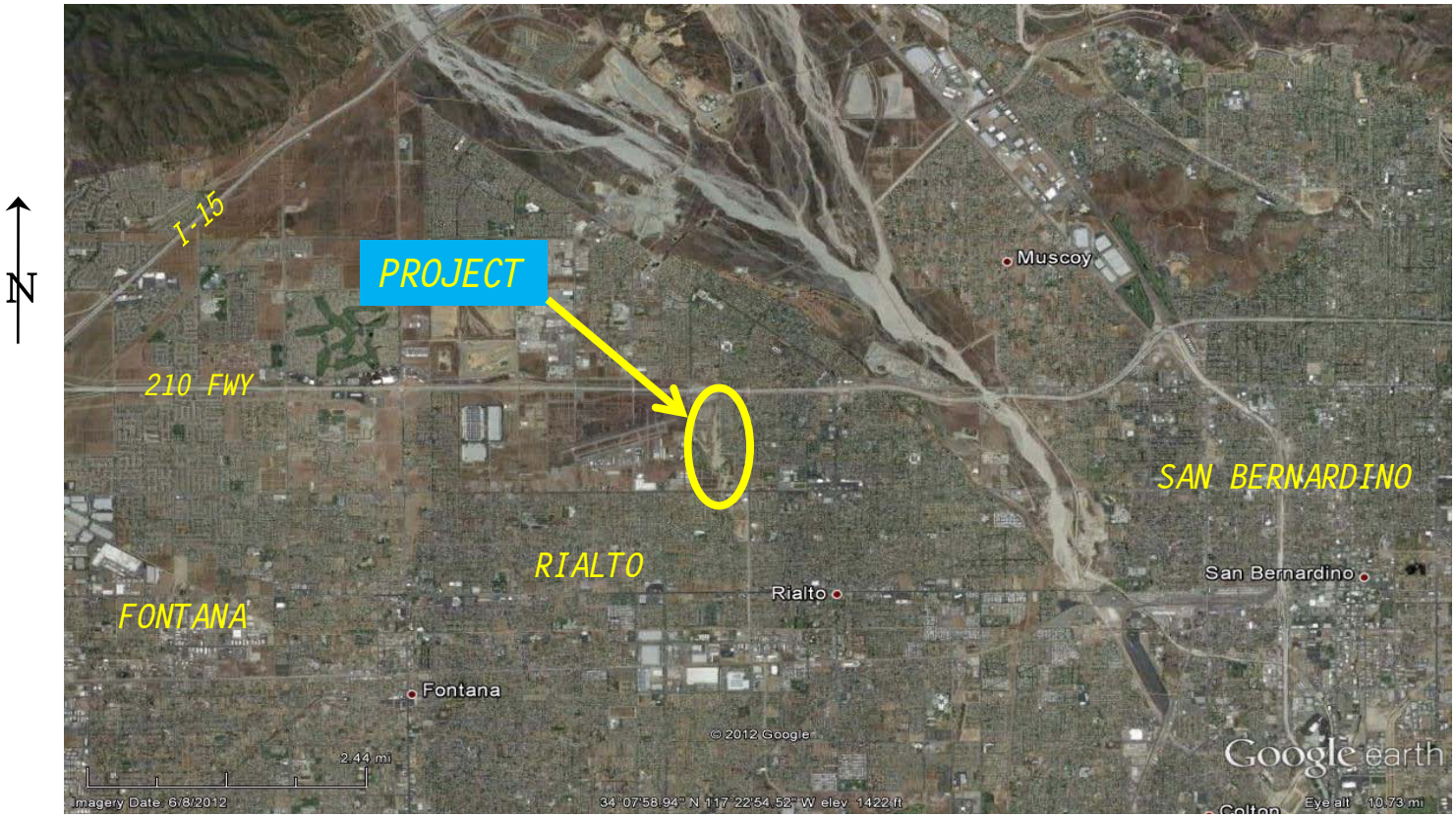


Fig. 1-1 VICINITY MAP

Work Order No. F01666

Latitude: 34.125 N Longitude: -117.3888 W

COUNTY OF SAN BERNARDINO

DEPARTMENT OF PUBLIC WORKS
FLOOD CONTROL DISTRICT

CACTUS BASINS 3
Rialto, California

Figure 1-2 Location Map

Fig. 1-2 LOCATION MAP

Work Order No. F01666

Latitude: 34.125 N Longitude: -117.3888 W

COUNTY OF SAN BERNARDINO

DEPARTMENT OF PUBLIC WORKS
FLOOD CONTROL DISTRICT

CACTUS BASIN 3
Rialto, California

Figure 1-3 Watershed Location

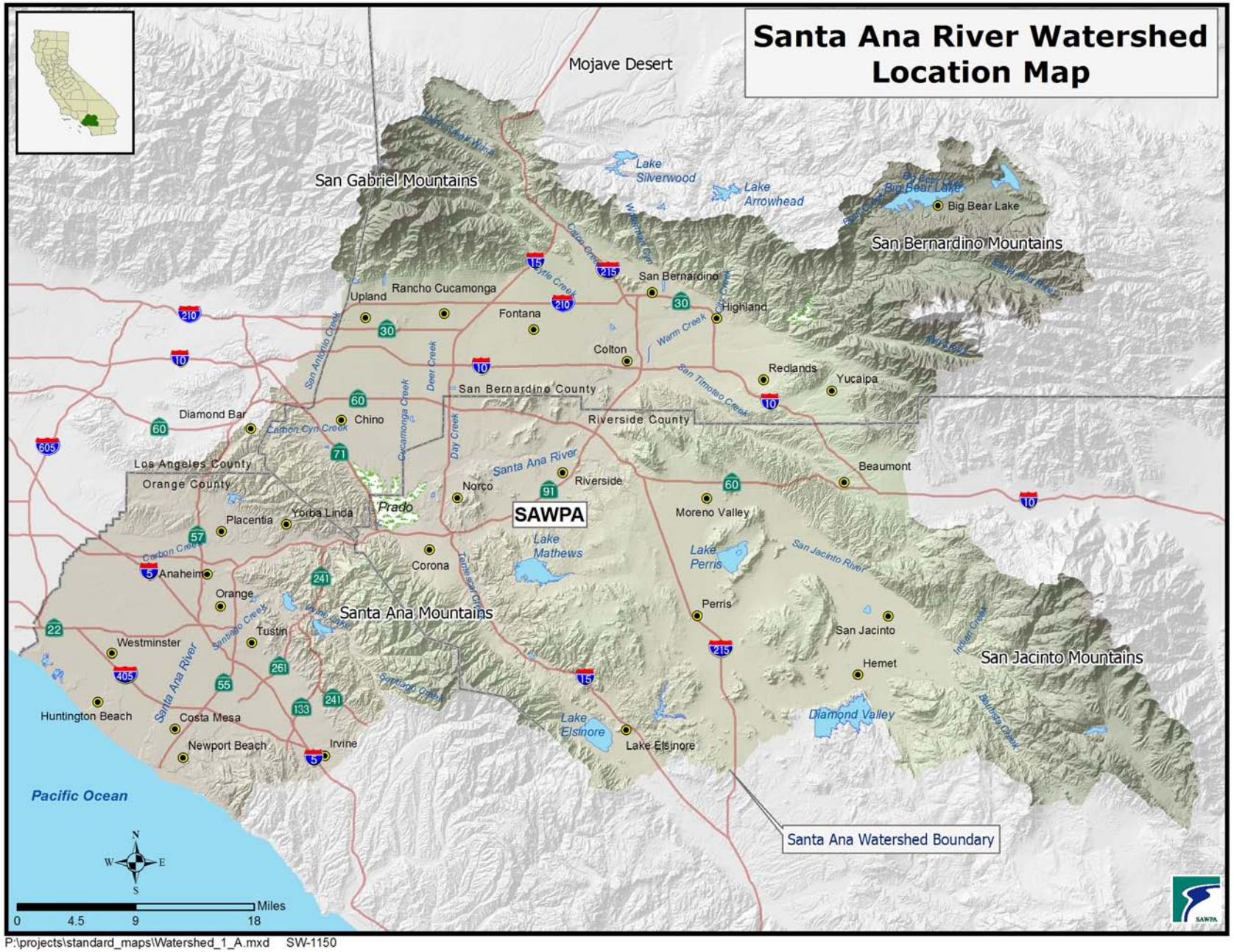
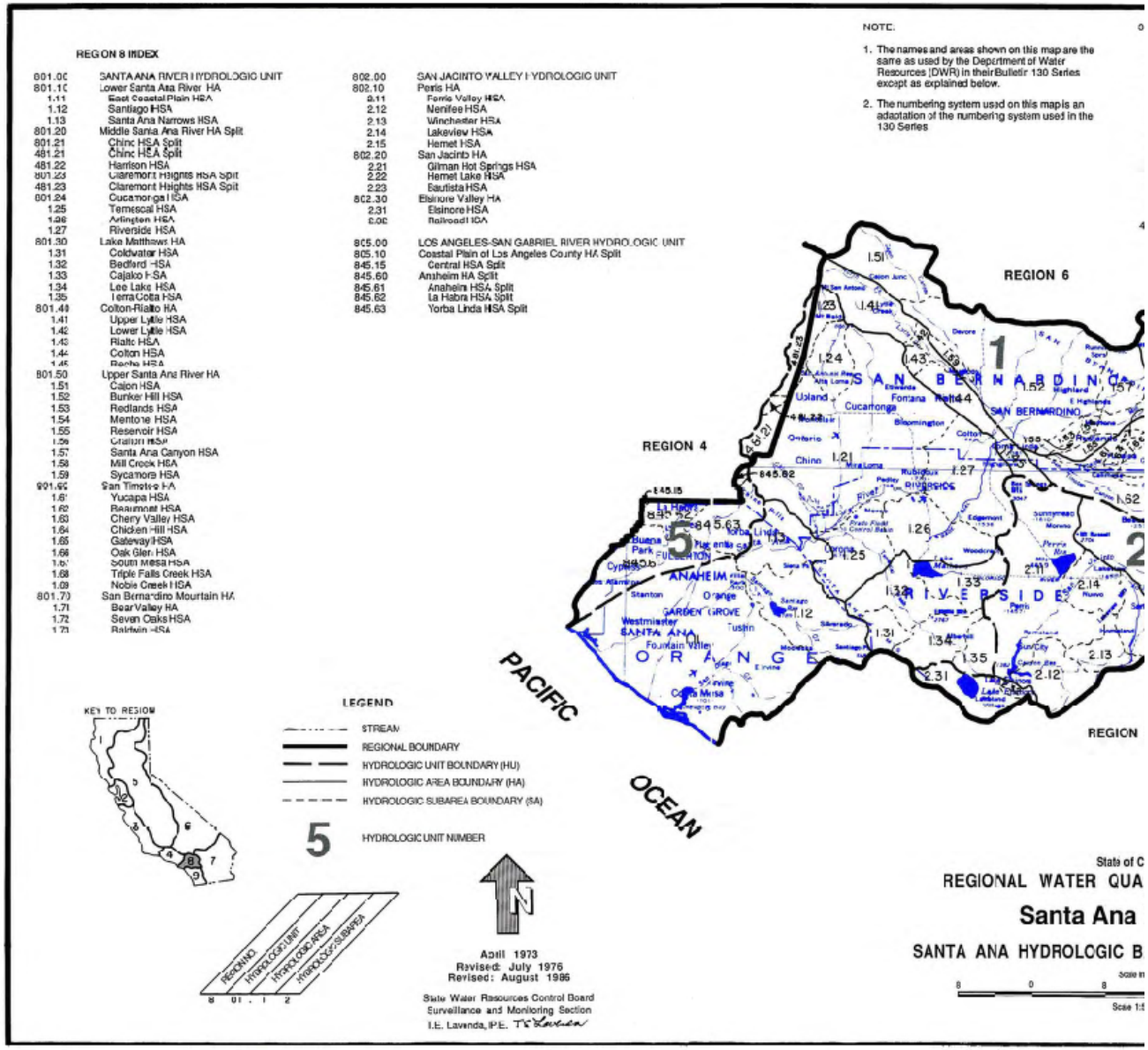
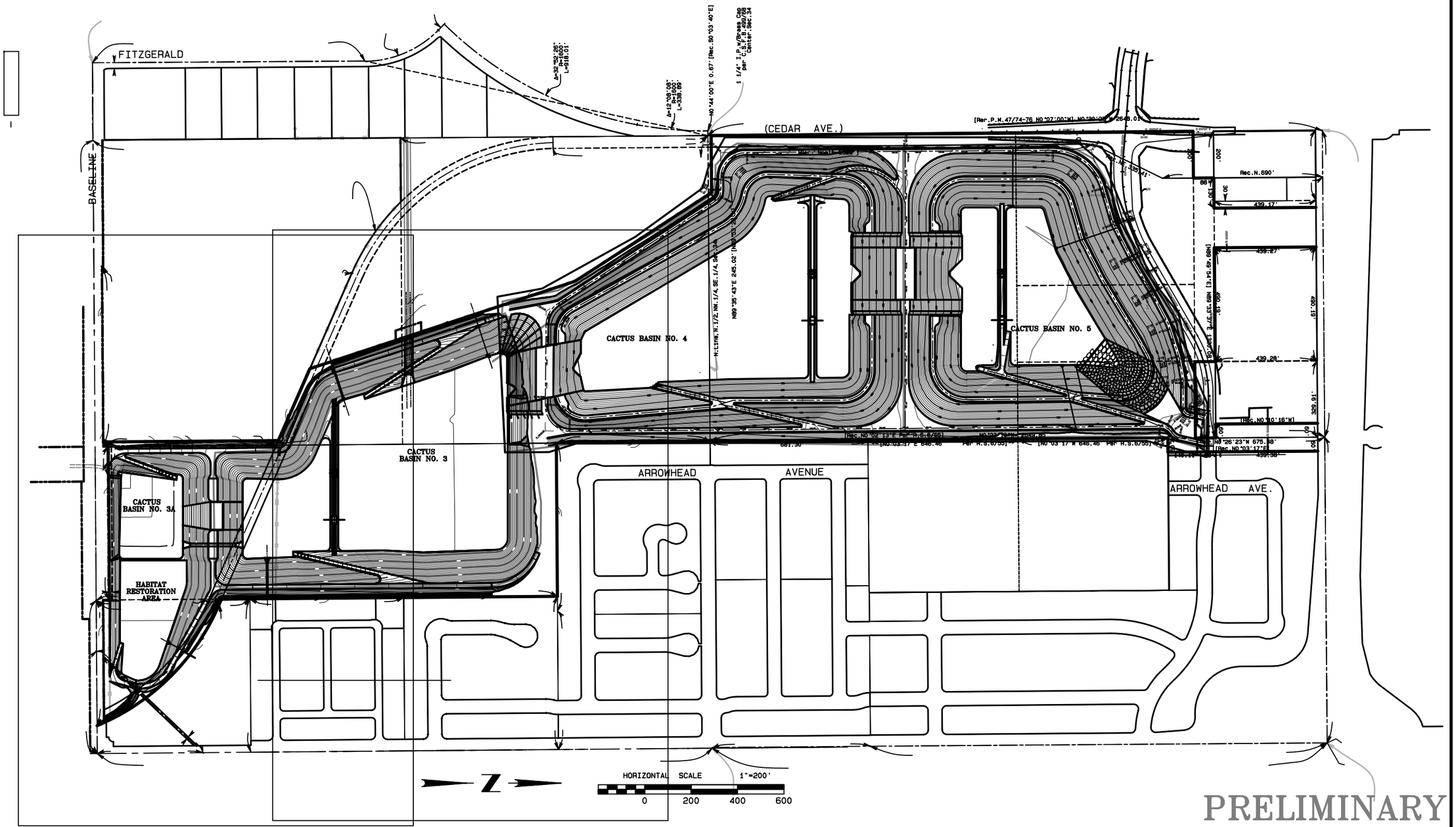


Figure 1-4 Hydrologic Basin Planning Area





REVISIONS			
MARK	DATE	DESCRIPTION	BY:

SAN BERNARDINO COUNTY
FLOOD CONTROL DISTRICT

DRAWN BY	DESIGNED BY	PROJ. ENGR.
DJN	MM/DJN	MM

SUBMITTED BY

MAINTENANCE/CONSTRUCTION REVIEW BY

RECOMMENDED/APPROVED BY

FONTANA-RIALTO DRAINAGE SYSTEM

CACTUS BASIN NO. 3

BASINS 3,3A,4&5

DATE	SCALE	FILE NO.	SHEET NO.
Dec 2010	AS SHOWN	2-104-	B-1

Table 2-11
Recharge Facilities

Facility Name	Owner or Operator	Conveyance Used to Serve Facility: Turnout Name & Capacity (cfs)	Recharge Facility Characteristics[a]: Active Recharge Facility Area[b] (acres)	Percolation Rate[c] (feet/day)	Monthly Capacity (acre-feet)	Groundwater Basin (and Subbasin) Recharged[d]
SAR Spreading Grounds	SBVWCD	Foothill Pipeline Santa Ana Low Flow (288) Santa Ana Intake (200 Max)	64[d]	3	12,000	SBBA (Bunker Hill)
Devil Canyon and Sweetwater Basins	SBCFCD[f]	Foothill Pipeline Sweetwater (37)	30	1.5	1,350	SBBA (Bunker Hill)
Lytle Basins	Lytle Creek Water Conservation Association	Fontana Power Plant Constructed drainage channel	Variable	1.5	Variable	SBBA (Lytle Creek)
City Creek Spreading Grounds	SBCFCD	Foothill Pipeline City Creek (60)	75	1.5	3,375	SBBA (Bunker Hill)
Patton Basins	SBCFCD	Foothill Pipeline Patton (12)	3	0.3	27	SBBA (Bunker Hill)
Waterman Basins	SBCFCD	Foothill Pipeline Waterman (135)	120	0.5	1800	SBBA (Bunker Hill)
East Twin Creek Spreading Grounds	SBCFCD	Foothill Pipeline Waterman (135)	32	1.5	1440	SBBA (Bunker Hill)
Badger Basins	SBCFCD	Foothill Pipeline Sweetwater (22)	15	0.5	225	SBBA (Bunker Hill)
Mill Creek	SBVWCD	Greenspot Pipeline Mill Creek Spreading (50) Mill Creek Intake (110)	66	3	6,000	SBBA (Bunker Hill)
Cactus Spreading and Flood Control Basins	SBCFCD	San Gabriel Valley MWD Lytle Pipeline Lower Lytle Creek (55)	46	1.5	2,070	Rialto-Colton
Wilson Basins	SBCFCD	East Branch Exten. Wilson Basins (30)	12	1	360	Yucaipa subbasin
Garden Air Creek	Valley District	East Branch Exten. Garden Air Creek (16)0	n/a	n/a	n/a	San Timoteo subbasin

[a] Values are from tabulation on map contained in Water Right Application by Valley District and Western to appropriate water from the SAR or by engineering evaluation of spreading grounds.

[b] Recharge facility area is the geographical extent of each basin that can be inundated for recharge.

[c] Estimated percolation rate. This is the estimated rate at which water can percolate into the ground through the basin, expressed in feet per day. The values used have generally been computed from the annual recharge capacity. These rates are typically about one-half of the percolation rates presented by the USGS (1972). The use of the small percolation rates is reasonable in that it would involve longer-term percolation rates that are typically smaller than short-term rates.

[d] Note that there may be flow out of the subbasin or basin identified. For example, a report by Geoscience Support Services, Inc. (1992) estimated that only 36 percent of the water recharged in the upper Lytle Creek area remains in the Lytle Creek subbasin, while most of it flows to the Rialto-Colton subbasin.

[d]Recharge facility area based upon 4/11/03, SBVWCD Report: "SBVWCD Basin Storage Capacity for SAR and MC." Or by estimating using GIS.

quality, traffic congestion and exercise for health considerations have combined to put a new emphasis on these modes as practical transportation.

Bicycle Trails

There is a Class I Bike Path which extends north along Cactus Avenue to the intersection of Base Line Road, from this intersection, the bike path extends northwest to Eaves Park.

Class II Bike Paths are found along the following street segments in the Specific Plan area, as shown on Exhibit 13, *Bicycle Routes*:

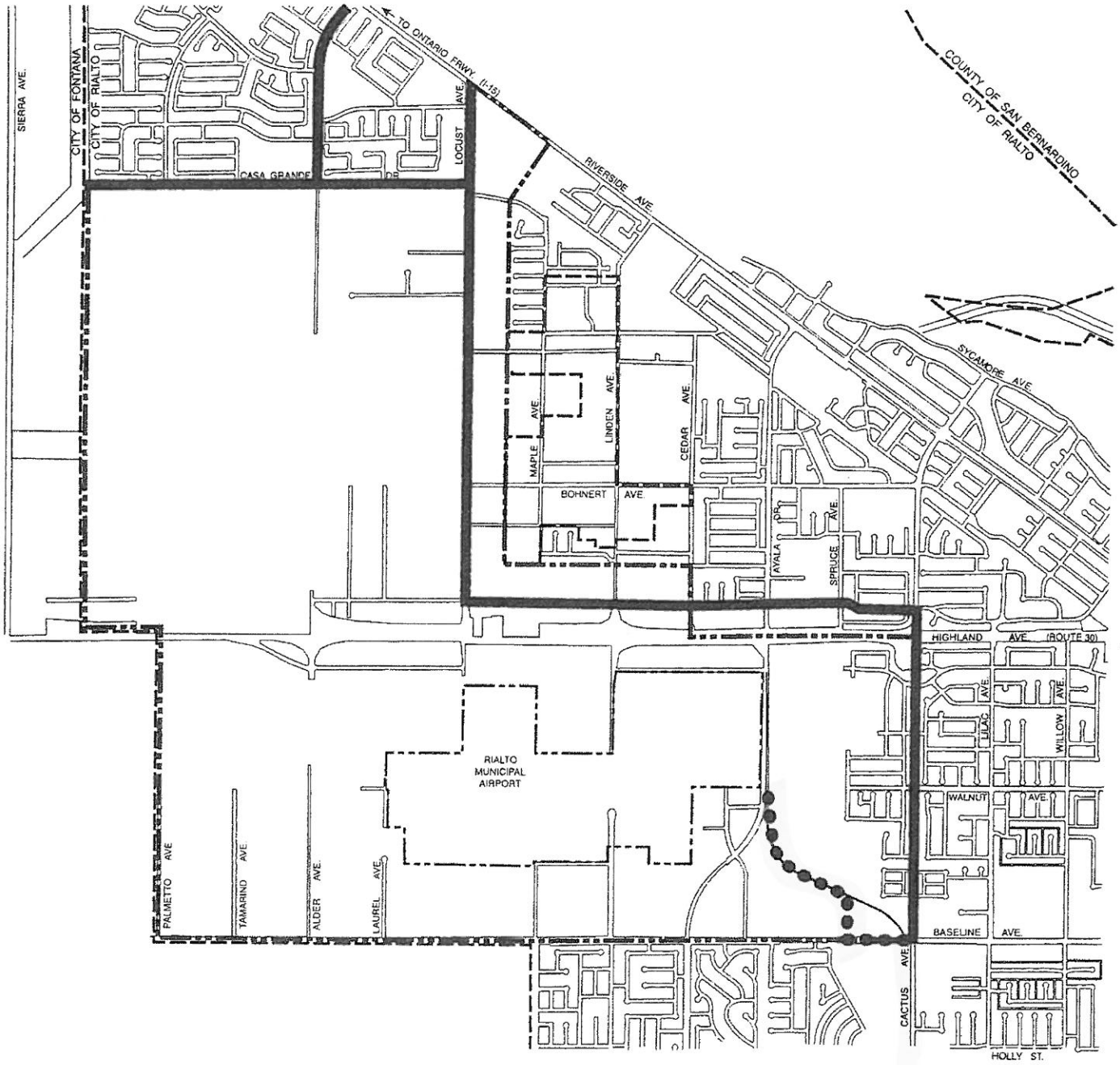
- Casa Grande Drive;
- Alder Avenue (between Casa Grande Drive and Riverside Avenue);
- Locust Avenue (between Riverside Avenue and Casmalia Street);
- Casmalia Street (between Locust and Cactus Avenues); and
- Cactus Avenue (between Casmalia Street and Base Line Road).

These bike paths are consistent with the City's Bike Path Master Plan with the exception of the Class II Bike Path along Casmalia Street; the Bike Path Master Plan shows this bike path along Highland Avenue, what will become Route 30.

The following is a summary of recommendations relating to the development of bicycle trails in the Specific Plan area:

- Provision of secure bicycle storage facilities at public parks, commercial centers, and at commercial recreation and activity areas, as well as at some industrial sites.

- Provision of rest stops along the bike path(s), as appropriate.



Class I Bike Path

Class II Bike Paths

0 3000'

RIALTO AIRPORT SPECIFIC PLAN

Bicycle Routes

Robert Bein, William Frost & Associates

12-96

JN 31638-4490

Exhibit 13

Pedestrian Trails

Pedestrian trails will be required in all residential and non-residential areas of the Specific Plan.

In residential areas yet to be developed, sidewalks will be required on both sides of the street. In commercial developments, pedestrian access will be required along the arterials bordering the project, with a strong pedestrian emphasis encouraged within the developments. Industrial developments will be required, at a minimum, to provide sidewalks on one side of the street.

The following is a summary of recommendations related to the development of pedestrian trails in the Specific Plan area (see also Section VI, *Community Design Plan*):

- Provision of cross-walks and pedestrian signals, as warranted, when both sides of arterial roadways are bordered by commercial retail and service uses.

- Provision of cross-walks and pedestrian signals, as warranted, when neighborhoods are separated from parks, shopping, and other activity nodes by arterials.

- Provision of enhanced, well marked, and/or well lit walkways through parking lots and within developments.

4.2 PUBLIC UTILITIES PLAN

4.2.1 WATER

The following discussion is based on the Water and Wastewater Master Plan prepared by Robert Bein, William Frost & Associates in July, 1996. This Master Plan is on file at the City of Rialto.

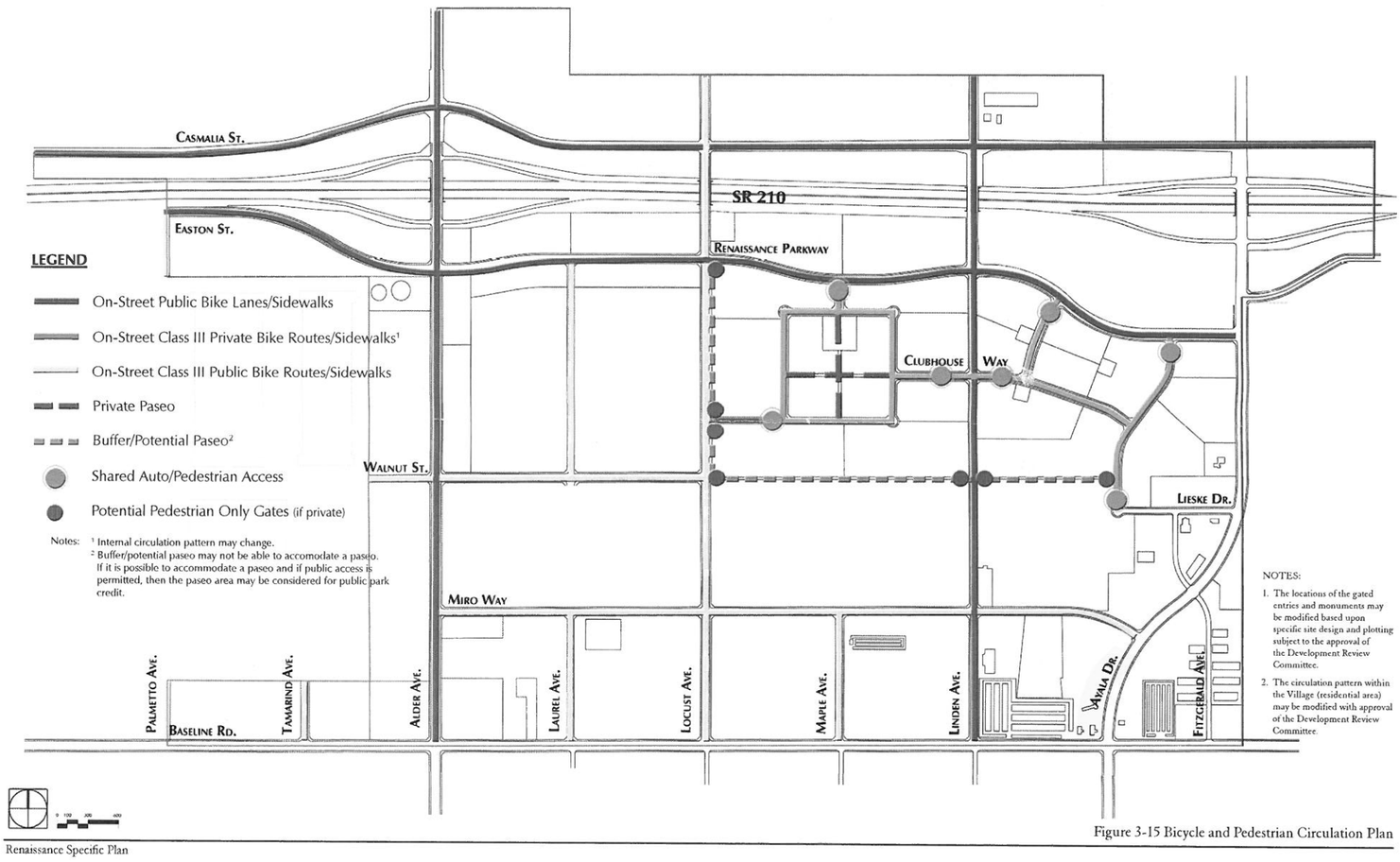
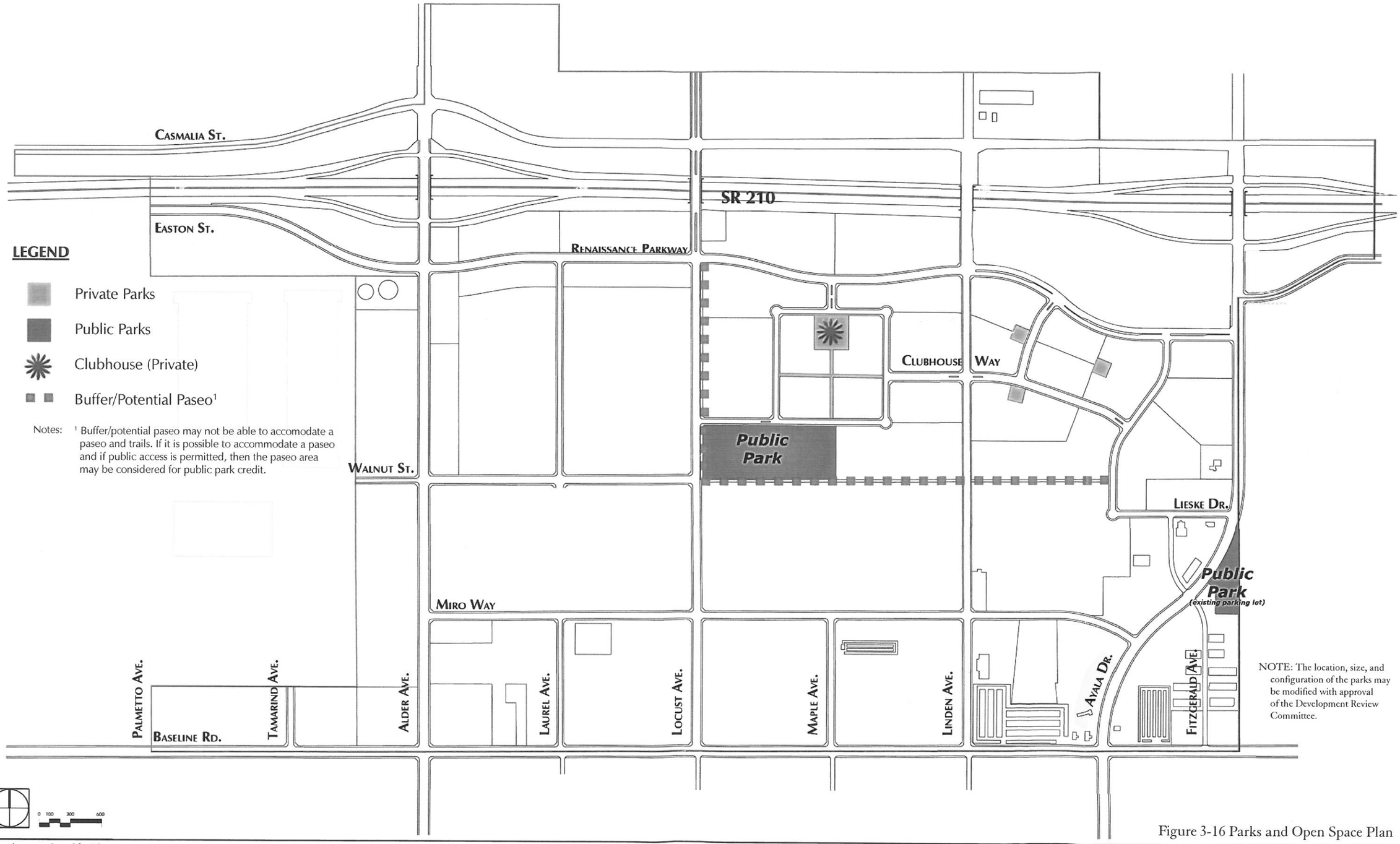


Figure 3-15 Bicycle and Pedestrian Circulation Plan



NOTE: The location, size, and configuration of the parks may be modified with approval of the Development Review Committee.

Figure 3-16 Parks and Open Space Plan

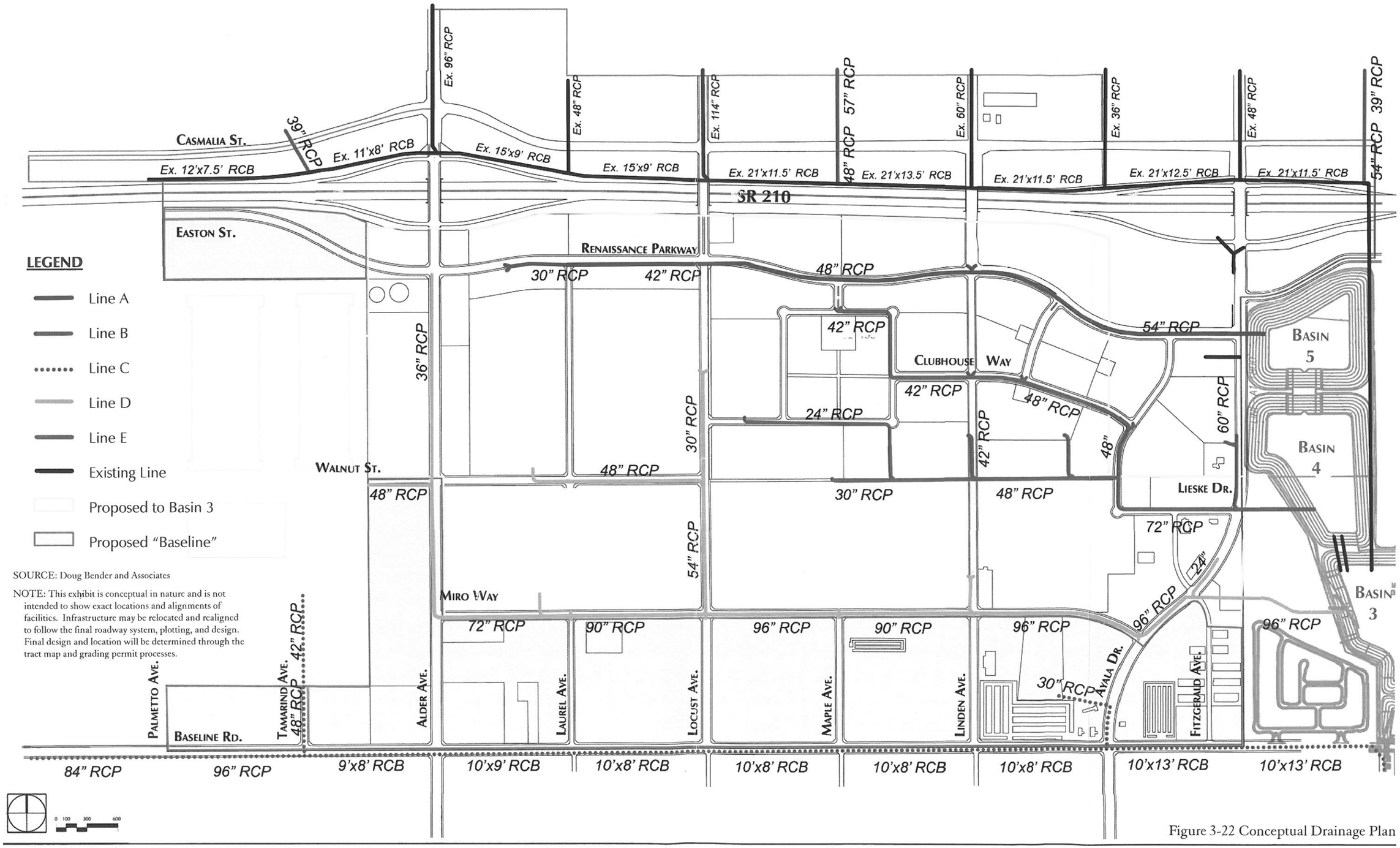


Figure 3-22 Conceptual Drainage Plan