DRAFT
SUPPLEMENTAL ENVIRONMENTAL IMPACT REPORT
(SCH No. 1987110914)

CACTUS BASINS 3 AND 3A FLOOD CONTROL FACILITY ENHANCEMENTS

Prepared for:

County of San Bernardino
Department of Public Works

Contact Person:
Mr. Frank Molina
Supervising Planner

Prepared by:

Lilburn Corporation
1905 Business Center Drive
San Bernardino, California 92408

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1.0 INTRODUCTION

This Supplement to the previously certified Environmental Impact Report (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 and 3A project on approximately 46.24 acres of land.

In 1988, the San Bernardino County Flood Control District (District) in association with the City of Rialto (City), previously prepared an EIR (SCH No. 87110914) for the construction of three detention 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.

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 has been conducted on all three basins. The District is now moving forward to enhance a portion of this flood control system evaluated in the 1988 EIR. The proposed project is for enhancement of Basins 3 and 3A (previously named Basin C). The basins will no longer be designed as retention basins for the recharge of groundwater or used by the SBVMWD. They will serve as detention basins for flood control purposes only. The California Environmental Quality Act (CEQA) provides for several types of Environmental Impact Reports (EIR), each applicable to its own unique project circumstances. The District will serve as Lead Agency for the CEQA review and has determined the need for a Supplement to the 1988 EIR to address these changes in the proposed project description.

Changes in the environment have also occurred since certification of the Final EIR, including the February 1998 emergency-listing of the San Bernardino kangaroo rat (SBKR) as a federally listed endangered species. In addition, the California gnatcatcher was identified as a federally threatened species by U.S. Fish and Wildlife Service (USFWS) in 1993 and a species of special concern by the State of California. Given these changes in the project description and the environment, as well as the lapse in time between the adoption of the original EIR in 1988 and the present proposal to construct a portion of the regional flood control system (Upper Cactus Basins 3 and 3A), the District acting as the Lead Agency pursuant to CEQA Guidelines, §15051, has decided that a Supplemental EIR is warranted. The U.S. Army Corps of Engineers (ACOE)

will be issuing a Clean Water Act Section 404 Permit and will therefore be responsible for NEPA compliance and consultation with the U.S. Fish and Wildlife Service (USFWS).

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. Development in the region, as well as completion of State Route 30 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.

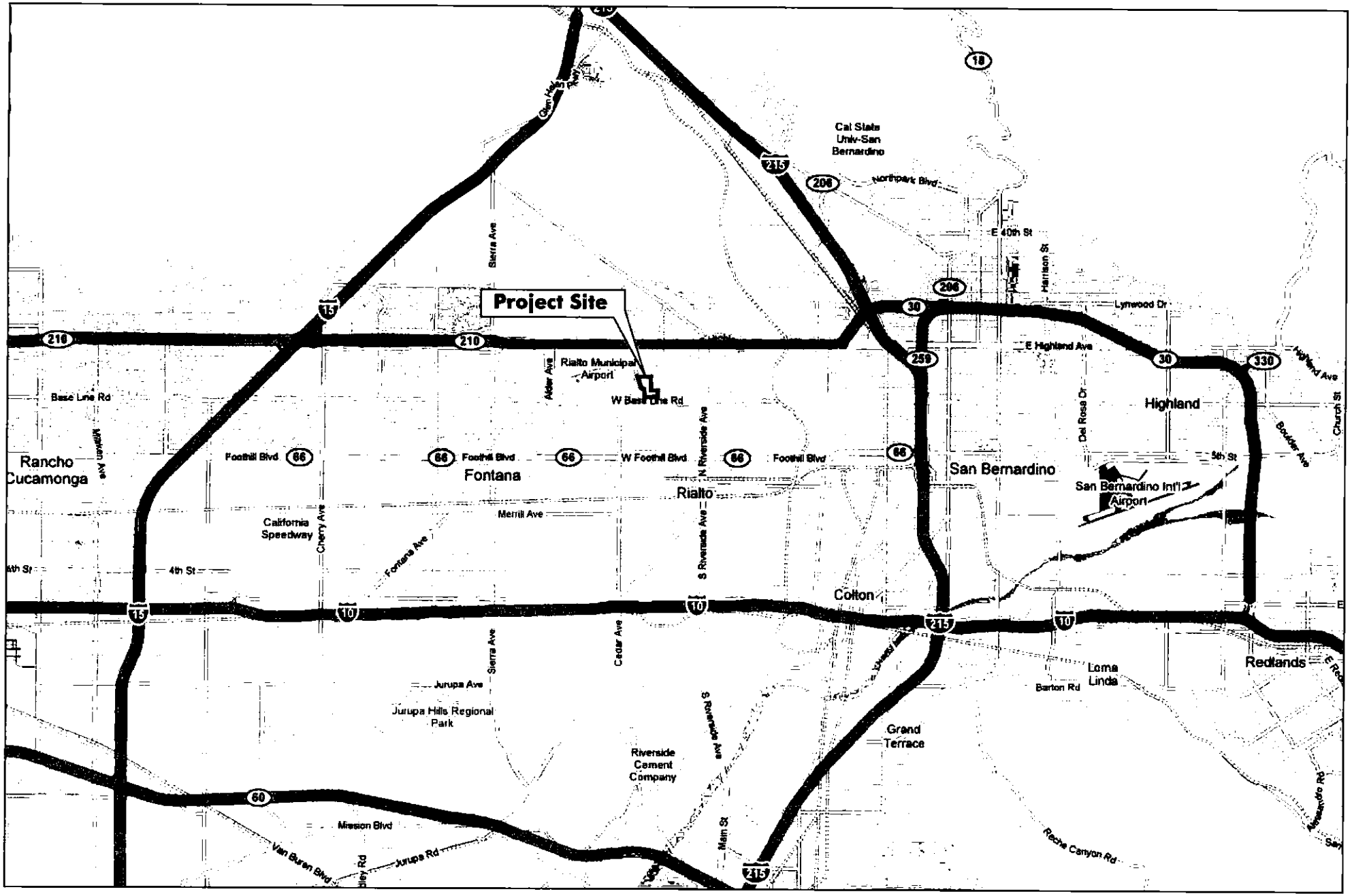
The District is acting as the Lead Agency for this Supplemental EIR, as defined in Section 15051(d) of the Guidelines for implementing California Environmental Quality Act (CEQA) which states "Where the provisions of subdivision (a), (b), and (c) leave two or more public agencies with a substantial claim 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). The District proposes the enhancement of two detention basins referred to as Upper Cactus Basin 3 and 3A and a segment of flood control channel in an area generally bounded by Highland Avenue, Ayala Drive, Baseline Road, and Cactus Avenue (see Figure 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 Rialto. 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 increased runoff entering the channel would exceed its capacity at the Interstate 10 culvert. To avoid this situation, the City of Rialto 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.

The need for additional flood protection arises because development will continue to increase the amount of impervious area thereby increasing the magnitude of flood peak flows and the volume of storm runoff. The Rialto Channel receives most of the storm runoff within the City of Rialto and is currently unable to handle the peak flow from a 100-year flood even under existing conditions. Completion of the Upper Cactus Basins has been determined by the District to be the most cost-effective means of offsetting flood hazard impacts due to projected new development in northern Rialto.

Basins 1 and 2 are located south of the other basins, below Baseline Road. Basins 1 and 2 have already been completed while Basins 4 and 5 are planned for enhancement at a future date. Basin 3 has been previously mined for gravel starting in June of 1984. The current design (see



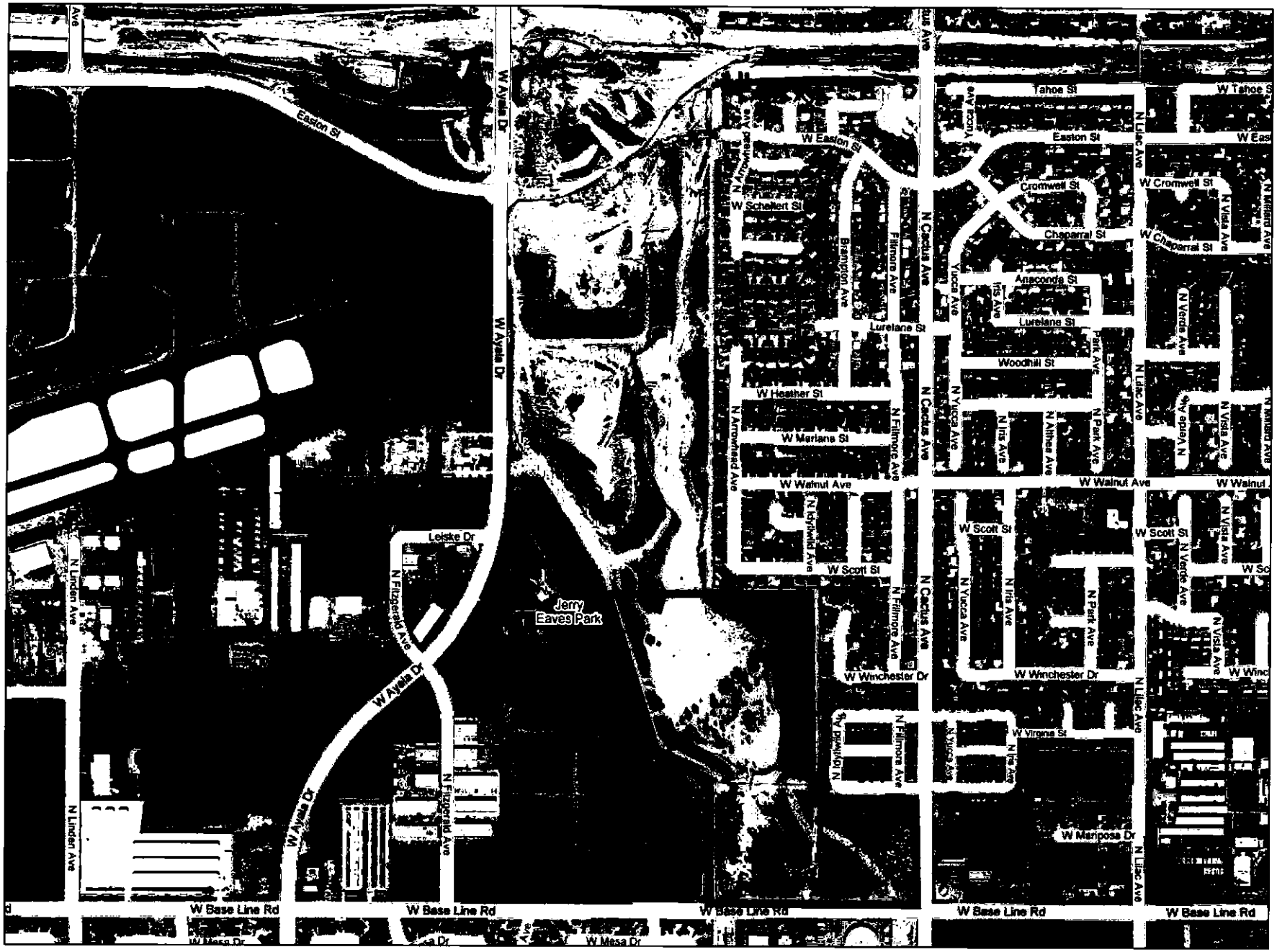
Regional Setting

Upper Cactus Basin 3
City of Rialto, California

Figure 1

N

0 2
Miles



Project Vicinity

Upper Cactus Basin 3
City of Rialto, California

Figure 2

Legend

—··—··— Project Site

N

0 550
Feet

Figure 3) is to continue to grade this basin to an average depth of elevation of 1,345' above sea level (asl). Basin 3A's depth of elevation will be at 1,340' asl. The top of the slopes for both basins will range between 1,360' to 1,390' asl with slopes measuring anywhere from 20' to 46' in height. Typical slopes for the basins will be a 3(horizontal):1(vertical) ratio. The top of the slopes, called the Dam Axis, will be level and measures 20' in width. The Dam Axis will encircle all of Basins 3 and 3A except for the northern portion of Basin 3.

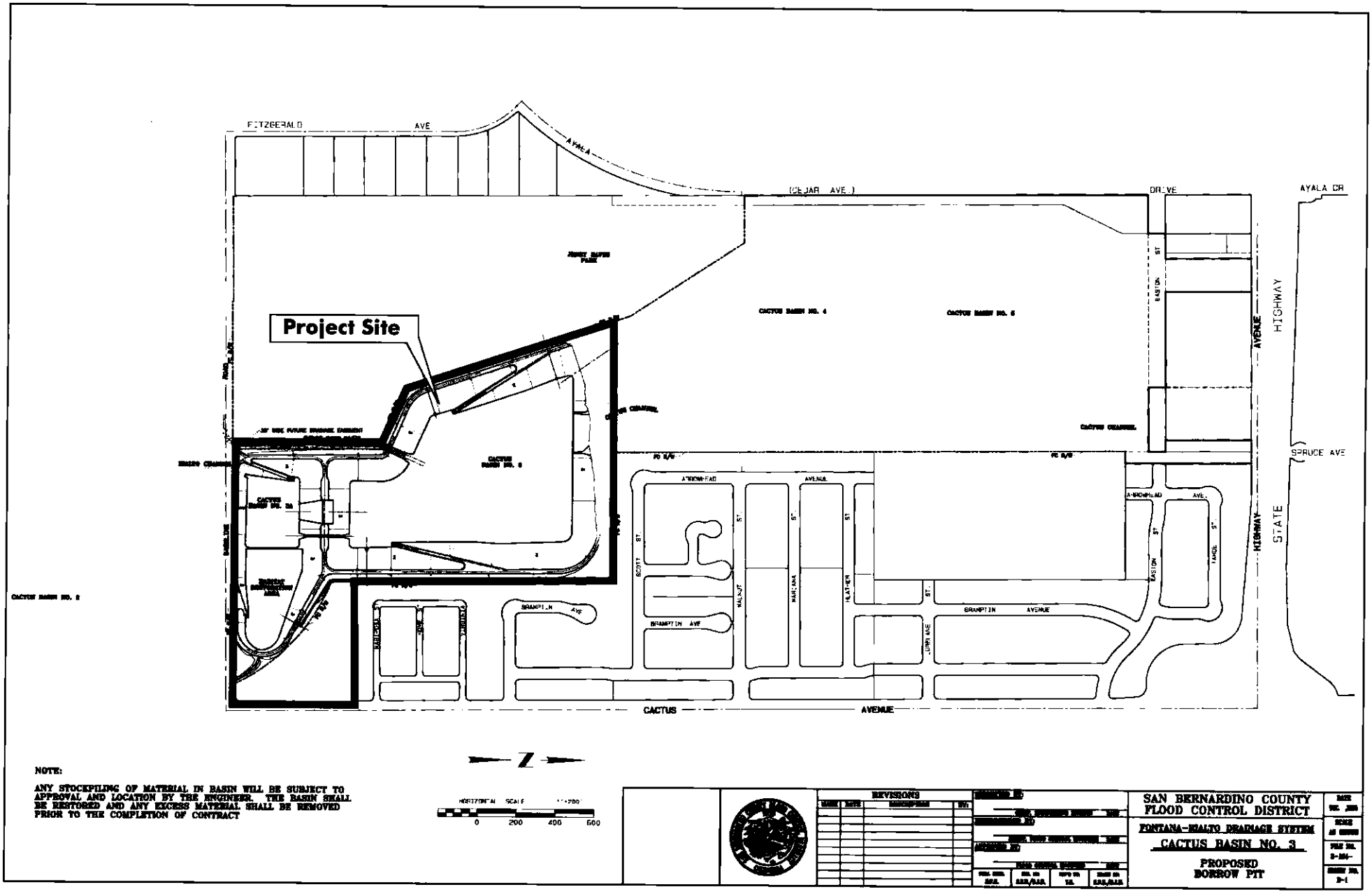
A dam embankment will separate Basins 3 and 3A. The top of the embankment, called the Dam Crest, is level and will measure 40' in width at the top of the slope. Water will flow into Basin 3 from the existing Cactus Channel located to the north of the basin, and from Basin 3 to Basin 3A from a proposed 96" reinforced concrete pipe. Water will then flow from Basin 3A via an existing reinforced concrete box and pipe structure in the southwest corner of the basin, under Baseline Road, to the existing Rialto Channel and Basins 1 and 2. A backup spillway measuring 120' in width separates Basins 3 and 3A and can handle additional water flows if needed. Each basin will include access ramps to the floor of the basin. A typical access ramp will be 15' wide and will include access for required enhancement or basin improvements as needed.

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. However, 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 a portion of the regional flood control system (Upper Cactus Basins 3 and 3A), 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 1988 EIR have been implemented by the City of rialto as result of gravel extraction operations and to provide necessary circulation improvements for growth in Rialto. For example, the mitigation measure requiring flashing beacons to be installed at Ayala Drive intersections would no longer be necessary at the Ayala Drive and Baseline Road intersection because it is signalized. The County of San Bernardino also determined the need to document any additional cultural resources found in the vicinity.

1.2.1 Lead Agency

The County of San Bernardino Flood Control District ("District") is the Lead Agency as agreed to by the City of Rialto, as being the public agency with the greatest responsibility for supervising or approving the project.



Project Site

Upper Cactus Basin 3
City of Rialto, California

Figure 3

A 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 County taking action on the proposed project during a public hearing before the County Planning Commission.

Comments on the Draft Supplemental EIR may be sent to:

Contact Person: County of San Bernardino Flood Control District
Attn: Mr. Frank Molina, Supervising Planner
875 West Third Street
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. The U.S. Army Corps of Engineers, the U.S. Fish and Wildlife Service, the California Department of Fish and Game and the California Regional Water Quality Control Board (RWQCB), Santa Ana Region, are responsible agencies for this project.

Another agency responsible for the protection of natural resources with interest in the proposed project includes the South Coast Air Quality Management District (SCAQMD). The above mentioned 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 3 and 3A 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 November 2, 2006 for a period of 30 days. The NOP was distributed to all responsible agencies and interested parties as required by CEQA and County of San Bernardino CEQA procedures. A copy of the NOP, the NOP distribution list, and written comments received by the City on the NOP are included in Appendix K 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 on the NOP

The following issues were raised in comments received on the NOP:

- Impact on the Renaissance Plan (Rialto Municipal Airport Area) – Specifically, the revised drainage proposed and the impact on the change in land use between airport and new uses and overall impact on the size and function of the proposed basin.
- How will the City of Rialto clean and maintain drainage facilities from the new tract to the northwest corner of Cactus Avenue and Baseline Road and the commercial development.
- Need for County to dedicate right-of-way and make improvements along the Baseline Road.
- Need to address current restrictions on discharge to the Rialto Channel downstream of the basins.
- Noise and dust from on-site screening during earthwork.
- Increase in traffic impacts due to new homes and development in the area.
- The proposed appearance and maintenance of the habitat area.
- Does the plan allow San Bernardino Valley Water to recharge in the basin in the future.
- Potential impacts on Jerry Eaves Park and planned or anticipated City of Rialto uses.

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 - References: Includes a list of lead agency staff members who participated in the preparation of the Supplemental EIR as well as the consultants who prepared the technical reports to support the environmental analysis.

1.4.1 Type and Purpose of the EIR

This Supplemental EIR addresses the environmental effects associated with the proposed improvements to the Rialto Channel enhancements to the Upper Cactus Basins 3 and 3A 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 all of the previously identified impacts in the original EIR would still occur during the course of the 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, 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 to enhance a portion of the regional flood control system (Upper Cactus Basins 3 and 3A), 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 becomes available. The Supplemental EIR will be utilized to augment the previous EIR to the extent necessary to address these new conditions and to examine any necessary 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 EIR. Information from documents incorporated by reference has been summarized in the appropriate 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 either 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 which, 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), previously prepared an EIR (SCH No. 87110914) for the enhancement of three detention 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 of Rialto in the east half of Township 1 North, Range 5 West, Section 34. The Upper Cactus Basins are located south of Highland Avenue, adjacent to the 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 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. 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.

In 2006, none of the improvements had been constructed, however sand and gravel excavation work has been conducted on all three basins. The District is now moving forward to construct a portion of this flood control system evaluated in the 1988 EIR. The proposed project is for enhancement of Basins 3 and 3A (previously named Basin C) and the Rialto Channel from south of Highland Avenue to Basin 3. The basins will no longer be designed as retention basins for the recharge of groundwater or use by the SBVMWD. They will serve as detention basins only for flood control purposes. Basins exist, but improvements/enhancements needed to allow for flood control capacity.

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. Development in the region, as well as completion of State Route 30 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 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	North of Base Line Road, part of the proposed project (portion of previously named Basin C)
Basin 3A	North of Base Line Road, part of proposed project (portion of previously named Basin C)
Basin 4	North of Base Line Road and Basin 3, part of ultimate system (previously named Basin B and not a part of this project)
Basin 5	North of Base Line Road and Basin 3, part of ultimate system (previously named Basin A and not a part of this project)

The Upper Cactus Basins (those north of Base Line Road) comprise a total of 115.68 acres. The basins proposed for enhancement total approximately 46.24 acres (Basin 3 is approximately 35.33 acres and Basin 3A consists of approximately 10.91 acres). Basins 3 and 3A are located north of Base Line Road, west of Cactus Avenue, and east of Ayala Drive. The Jerry Eaves Park lies west of the project site and adjacent to Basin 3. The Rialto Municipal Airport lies further to the west of the proposed project, opposite Ayala Drive. Residential communities are adjacent to the east of the basins. (Refer to Figure 1 regional Location Map and Figure 2 Vicinity Map).

2.1.2 Project Summary

The project as currently proposed will be to enhance Upper Cactus Basins 3 and 3A, leaving necessary improvements to Basins 4 and 5 for a future date. 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 to meet the increased runoff. The slopes will measure between 20' and 46' in height from the bottom of the basin to the top of the slope. An embankment will separate the basins and water will flow from Basin 3 to Basin 3A via reinforced concrete pipe. Rialto Channel improvements are divided in 3 Segments. Segment 1 consists of a rectangular concrete-lined channel from Willow Avenue to the SCRRA (Metrolink) railroad. The bottom width of the channel varies from 16 feet to 24 feet while the channel height varies from 10 feet to 12 feet. The existing reinforced concrete boxes (RCBs) at Willow Avenue, San Bernardino Avenue and Bloomington Avenue will remain in place. New RCBs are proposed at Randall Avenue and Merrill Avenue. Segment 2, which extends from the SCRRA (Metrolink) railroad to approximately 400 feet upstream of Rialto Avenue, consists of an underground single cell 16' wide X 8' high RCB. Segment 3 from upstream of Rialto Avenue to Etiwanda Avenue consists of a trapezoidal concrete-lined channel with a bottom width that varies from 8 feet to 10 feet, varying height of 7 to 9 feet, and 1.5:1 side slopes. The existing RCBs at Second Street and Rosewood Street will remain in place. RCBs are proposed at Foothill Boulevard and Etiwanda Street. Concrete-lined channel transition structures connect the multi-cell RCBs to the trapezoidal 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 of the proposed project. CEQA also requires that a review of a No Action alternative be provided. The following alternatives were considered in original 1988 EIR; no additional alternatives have since been identified. The analysis previously provided is considered adequate for the purpose of determining if project objectives can be met while reducing environmental effects, except in the area of water quality criteria.

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 the 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 would the proposed project. Previous cost analyses (as determined in the 1988 EIR) have indicated that this alternative would cost approximately $3 million more than the proposed project. A second alternative considered was the enhancement of equivalent detention basins at another downstream location adjacent to the Rialto Channel. This alternative was determined not to be feasible because of a lack of appropriate and available sites. Construction of numerous small detention basins throughout Rialto is not considered to be capable of providing an equivalent level of flood protection.

2. 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 completing the freeway construction project. Under No Project Alternative scenario, the current system would be unable to accommodate the increased runoff and subject adjacent areas to flooding. 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 follows, which describes the thresholds used to determine the levels of significance before and after mitigation.

2.3 SUMMARY OF THE ENVIRONMENTAL EVALUATION

An evaluation of the 1988 EIR for the Upper Cactus Basins was completed by the County of San Bernardino Land Use Services staff and District Environmental Management 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 regulatory environment related to air quality, biological resource, cultural resources, and hydrology. All other impacts and mitigation measures identified in the Final EIR as certified by the City of Rialto were determined to be adequate.

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 3 & 3A project would have no impact in the following areas:

- Energy
- Human Health
- Land Use
- Population
- Public Services
- Recreation

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 proposed in 2006, 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.

3.0 PROJECT DESCRIPTION

The following discussion includes a general overview of the Upper Cactus Basin project's environment and a focused description of the Upper Cactus Basins 3 and 3A project and its objectives. Portions of the description are obtained directly from previous sections of the EIR that was completed and finalized for this project in September of 1988 (*Final Environmental Impact Report, Upper Cactus Basin Flood Control Facility,* prepared by Harmsworth Associates, September 1988).

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 has been conducted on all three basins. The District is now moving forward to construct a portion of this flood control system evaluated in the 1988 EIR. The proposed project is for enhancement of Basins 3 and 3A (previously named Basin C) and the Rialto Channel from south of Highland Avenue to Basin 3. The basins will no longer be designed as retention basins for the recharge of groundwater or use by the SBVMWD. They will serve as detention basins only for flood control purposes. The California Environmental Quality Act (CEQA) provides for several types of Environmental Impact Reports (EIR), each applicable to their own unique project circumstances. The District will serve as Lead Agency for the CEQA review and has determined the need for a Supplement to the 1988 EIR to address these changes in the proposed project description.

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. However, in February of 1998, the San Bernardino kangaroo rat (SBKR) was emergency-listed as a federally listed endangered species. In addition, 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 construct a portion of the regional flood control system (Upper Cactus Basins 3 and 3A), the District acting as the Lead Agency pursuant to CEQA Guidelines, §15051, has decided that a Supplemental EIR is warranted. The County of San Bernardino also determined the need to document any additional cultural resources found in the vicinity.

The U.S. Army Corps of Engineers (ACOE) will be issuing a Clean Water Act Section 404 Permit and will therefore be responsible for NEPA compliance and consultation with the U.S. Fish and Wildlife Service (USFWS).

3.1 REGIONAL SETTING

The Upper Cactus Basins are located in the City of Rialto, in the west valley portion of San Bernardino County. The site is located just south of State Route 210 that is being constructed to connect San Bernardino to Los Angeles County and approximately 1.5 miles west of Interstate 215. Approximately 1.0 mile to the east is Lytle Creek, an ephemeral wash that contains high quality aggregate resources. The site is on an alluvial fan, at the base of the San Gabriel Mountains, and also supports aggregate resources that have been commercially mined for purposes of excavating the flood control basins to a specific elevation. The City of Rialto has a population of 99,483 (2005 est.) and supports a diversified mix of manufacturing, distribution, service, and retail businesses.

3.2 LOCAL SETTING

The proposed 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 proposed project site is owned by the County and includes approximately 46.24 acres (Basin No. 3 is approximately 35.33 acres and Basin 3A consists of approximately 10.9 acres). The Upper Cactus Basins 3 and 3A are located south of Highland Avenue, adjacent to the north of Baseline Road, west of Cactus Avenue, and east of Ayala Drive. The Jerry Eaves Park lies west of the project site adjacent to Basin 3 and the Rialto Municipal Airport lies further to the west. Residential communities are adjacent to the east of the basins. South of Baseline Road are Basins 1 and 2, a part of the Cactus Basins Flood Control System. Adjacent to the north is District property identified as Basins 4 and 5. These basins are not yet improved, but have been mined for aggregate resources.

3.3 SITE CHARACTERISTICS

The 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. The site has been altered by sand and gravel mining operations as approved in the 1988 EIR, and the existing flood control basins.

There are a few small scattered elements of alluvial fan sage scrub on the floor of the upper basin (Cactus Basin 3). Slopes on the west side of Cactus Basin 3 are dominated by native shrubs, but species diversity is very low, and the area may have been seeded following earlier enhancement work in the basin. The eastern slope of Basin 3 and adjacent alluvial bench at the top of the slope support a mix of native chaparral and coastal sage scrub shrubs, including California sagebrush (*Artemisia californica*), black sage (*Salvia mellifera*), California buckwheat (*Eriogonum fasciculatum*), chamise (*Adenostoma fasciculatum*), hollyleaf cherry (*Prunus ilicifolia*), prickly-pear cactus (*Opuntia littoralis* var. *vaseyi*) and several other shrubs. The shrubland structure is open, and areas between the native shrubs are heavily dominated by non-native weedy grasses and forbes including brome grasses, wild oats, and wild mustards.

There is a small (0.89 acres) stand of riparian woodland in the basin, just above the basin floor. Surface water was present within this woodland during the spring field visits. Dominant trees are Fremont cottonwood (*Populus fremontii*), red willow (*Salix laevigata*), and black willow (*S. gooddingii*). The shrubby understory is dominated by mulefat (*Baccharis salicifolia*). There is very little herbaceous vegetation due to shading. The existing basin floors were covered with seedlings of herbaceous plants during the winter and spring field visits, but woody riparian vegetation could not become established due to varying water levels, periodic brief inundation, and periodic debris and silt removal.

3.4 PROJECT DESCRIPTION

3.4.1 Project Need and Objectives

The District proposed the enhancement of two detention basins referred to as Upper Cactus Basin 3 and 3A and a segment of flood control channel in an area generally bounded by Highland Avenue, Ayala Drive, Baseline Road, and Cactus Avenue. 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 increased runoff entering the channel would exceed its capacity at the Interstate 10 culvert. With the construction of State Route 30 by the California Department of Transportation (Caltrans) north of the Cactus Basins, additional stormwater flows into the Cactus Basins have made it necessary for the District to initiate immediate improvements to the system in order to mitigate the increased flows associated with the highway.

The need for additional flood protection arises because development will continue to increase the amount of impervious area thereby increasing 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 handle the peak flow from a 100-year flood even under existing conditions. Completion of the Upper Cactus Basins has been determined by the District to be the most cost-effective means of offsetting flood hazard impacts due to projected new development in northern Rialto.

3.4.2 Major Components of Proposed Project

The proposed project site is owned by the County of San Bernardino. The Upper Cactus Basins 3 and 3A are located between Highland Avenue and Baseline Road, west of Cactus Avenue, and east of Ayala Drive. The Jerry Eaves Park lies adjacent to the west of the project site and the Rialto Municipal Airport lies further to the west. Residential communities are adjacent to the east of the basins.

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	North of Base Line Road, part of the proposed project (portion of previously named Basin C)
Basin 3A	North of Base Line Road, part of proposed project (portion of previously named Basin C)
Basin 4	North of Base Line Road and Basin 3, part of ultimate system (previously named Basin B and not a part of this project)
Basin 5	North of Base Line Road and Basin 3, part of ultimate system (previously named Basin A and not a part of this project)

The Upper Cactus Basins (those north of Base Line Road) comprise a total of 115.68 acres. The basins proposed for enhancement total approximately 46.24 acres (Basin 3 is approximately 35.33 acres and Basin 3A consists of approximately 10.91 acres). Basins 3 and 3A are located north of Base Line Road, west of Cactus Avenue, and east of Ayala Drive. The Jerry Eaves Park lies west of the project site and adjacent to Basin 3 The Rialto Municipal Airport lies further to the west of the proposed project, opposite Ayala Drive. Residential communities are adjacent to the east of the basins.

Basins 1 and 2 are located south of the other basins, below Baseline Road. Basins 1 and 2 have been completed and are operational; Basins 4 and 5 are planned for enhancement at a future date. The basin improvements scheduled at this time will be to Basins 3 and 3A, located just north of Baseline Road and west of Cactus Avenue. Basin 3 has been previously mined for gravel starting in June of 1984. The current design is to continue to grade this basin to an average depth of elevation of 1,345' above sea level (asl). Basin 3A's depth of elevation will be at 1,340' asl. The top of the slopes for both basins will range between 1,360' to 1,390' asl with slopes measuring anywhere from 20' to 46' in height. Typical slopes for the basins will be a 3(horizontal):1(vertical) ratio. The top of the slopes, called the Dam Axis, will be level and measures 20' in width. The Dam Axis will encircle all of Basins 3 and 3A except for the northern portion of Basin 3. Aggregate resources (i.e. sand and gravel) removed during the excavation of the proposed basins that is not utilized during basin enhancement will continue to be used to meet a strong market demand resulting from the proposed local growth and associated construction.

A dam embankment will separate Basins 3 and 3A. The top of the embankment, called the Dam Crest, is level and will measure 40' in width at the top of the slope. Water will flow into Basin 3 from the existing Cactus Channel located to the north of the basin, and from Basin 3 to Basin 3A from a proposed 96" reinforced concrete pipe. Water will then flow from Basin 3A via an existing reinforced concrete box and pipe structure in the southwest corner of the basin, under Baseline Road, to the existing Rialto Channel and Basins 1 and 2. A backup spillway measuring 120' in width separates Basins 3 and 3A and can handle additional water flows if needed.

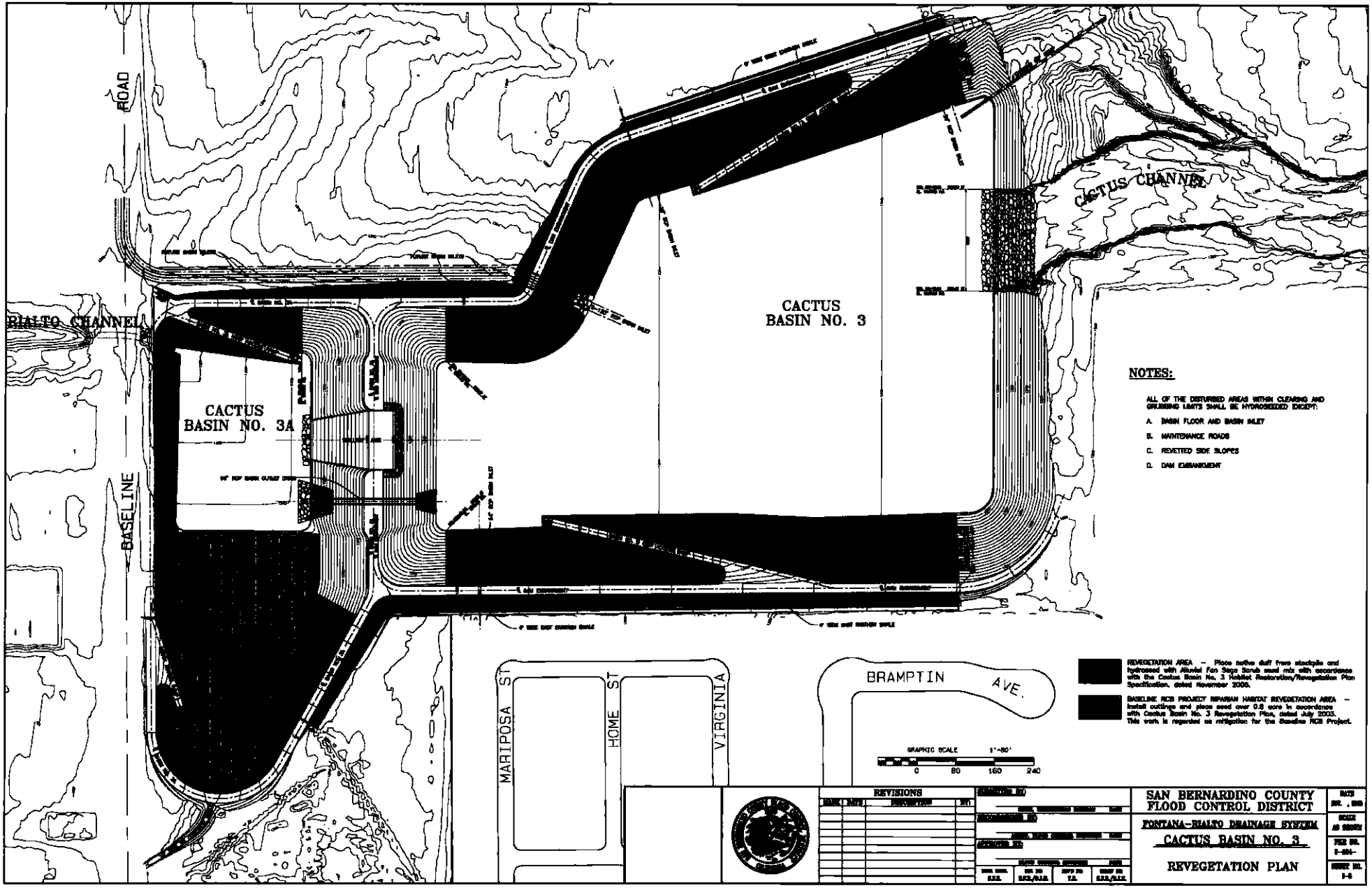
Each basin will include access ramps to the floor of the basin. A typical access ramp will be 15' wide and will include access for required enhancement or basin improvements as needed. Figure 3 shows the proposed site plan.

Revegetation Plan

The proposed project for Basins 3 and 3A will require the removal of a vast majority of the existing vegetation located on-site. In order to mitigate this loss, the project calls for the placement of native duff (decaying vegetation) from stockpile and hydroseed with alluvial fan sage scrub seed mix in accordance with the previously approved Cactus Basin No. 3 Habitat Restoration/Revegetation Plan Specifications dated November of 2005. Figure 4 shows the proposed revegetation plan. All of the disturbed areas within the clearing and grubbing limits shall be hydroseeded except for the following areas:

(1) Basin Floor and Basin Inlet
(2) Maintenance Roads
(3) Revetted Side Slopes
(4) Dam Embankment

The easterly portion of Basin 3A will contain a Habitat Restoration Area. Cuttings will be installed and seeded over a 0.8-acre area in accordance with the Cactus Basin No. 3 Revegetation Plan, dated July 2003. It is anticipated that all required mitigation due to habitat loss would be mitigated on-site.



Basin 3 Revegetation Plan

Upper Cactus Basin 3
City of Rialto, California

Figure 4

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 issues in order to reduce and limit the adverse impacts, the following impacts were unavoidable consequences that the City Council of Rialto had to override 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 affect however 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 of an accidental release of hazardous material into the basins drainage area is low, it would cause a significant 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 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. The loss of site vegetation is locally significant and is only partly offset 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 of basin enhancements phase.

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 Biological Report and trapping for SBKR presence and a focused survey for California gnatcatcher have been performed for the 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. The County Archaeologist determined the need to review any new documented sites. The environmental impacts are therefore evaluated herein for the following topics:

- Air Quality
- Biological Resources
- Cultural Resources
- Hydrology and Drainage

Format of Environmental Topic Sections

Each topic identified above is addressed in a section of this 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 impacts by environmental topic are identified as required by CEQA Guidelines. Thresholds 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** to reduce any significant impacts are identified.

Finally, a determination of the **Level of Significance** following implementation of the recommended mitigation measures is provided.

4.1. AIR QUALITY

4.1.1 Introduction

This section of the Supplemental EIR provides background air quality information including a regulatory overview, a description of the climate, and existing or ambient air quality in the project area. The potential air quality impacts associated with the project, and recommended mitigation measures for impacts determined to be potentially significant are assessed. All of the previous impacts identified in the 1988 EIR have been re-evaluated in light of adopted, post-1988 changes to air quality emissions rules and regulations. This Supplemental EIR has been focused to address any additional impacts that the project as proposed may create.

Background material is referenced from the City of Rialto General Plan Update Final MEIR, June, 1992 and South Coast Air Quality Management District (SCAQMD) CEQA Guidelines. Information obtained from the air quality assessment for the project area, prepared by Lilburn Corporation on June, 2006, was used in the formation of this section. The Air Quality Assessment is included in Appendix J.

4.1.2 Environmental Setting

Regional Setting

The project site is located in the City of Rialto in the San Bernardino Valley portion of the South Coast Air Basin (SCAB). Weather patterns are characterized by hot summers and generally moderate humidity, moderate winters, light annual rainfall from early November to April, and generally light to moderate winds.

Rialto and the greater San Bernardino Valley area are located in the eastern portion of SCAB. The primary non-point source of emission in the Valley is vehicular traffic. Because of the trapping effects of the nearby mountains and the inversion conditions of the area, this portion of the Basin experiences some of the worst air quality in the nation.

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.
- Will the project result in significant air emissions or deterioration of ambient air quality either from stationary or mobile sources.
- 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.
- Will the project potentially result in the creation of objectionable odors?

Project Impacts

The proposed project consists of improvements to a County flood control system 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 property is owned and operated by the County of San Bernardino Flood Control District ("District"). The Upper Cactus Basins 3 and 3A are located north of Baseline Road and generally west of Cactus Avenue and east of Ayala Avenue.

The proposed project will be constructed in one phase. It will include approximately 502,676 cubic yards (CY) of cut and approximately 319,488 CY of fill volume. The project is anticipated to be developed within a nine month period. Construction is anticipated to begin in September 2006 and to be completed in May 2007. Cut volumes not used within the Cactus Basin 3A will be used in the re-grading of Cactus Basin 3.

The proposed project was screened using the South Coast Air Quality Management District (SCAQMD), "Air Quality Handbook" guidelines. The criteria pollutants screened for included: reactive organic gases (ROG), nitrous oxides (NOx), carbon monoxide (CO), and particulates (PM_{10}). Two of these, ROG and NOx, are ozone precursors.

The California Environmental Quality Act (CEQA) Air Quality Handbook published by SCAQMD provides a method to determine if a project is likely to be significant by screening the project using the "Screening Table for Construction-Quarterly Thresholds of Potential Significance for Air Quality" Table 6-3. According to Table 6-3, projects are anticipated to have a Potentially Significant Air Quality Impact if grading exceeds 177 acres. The proposed project is the disturbance of approximately 35 acres, less than one quarter of the threshold.

Construction Emissions

Construction emissions for the proposed project are estimated in Tables 4.1-1, and 4.1-2, for year 2006 and Tables 4.1-3 and 4.1-4 for year 2007. The following construction assumptions were assumed:

Representing approximately 75-percent of the earthwork:

- Three Scrapers operating 8 hours per day for approximately 198 days.
- One Scraper operating for 8 hours per day for approximately 140 days.

Representing approximately 25-percent of the earthwork:

- Two Heavy Heavy Duty Diesel Trucks operating 8 hours per day for approximately 10.3 days.
- Two Tractors/Loaders/Backhoes operating 8 hours per day for approximately 10.3 days.

As listed in Tables 4.1-1 through 4.1-4, construction equipment impacts are not anticipated to exceed SCAQMD thresholds.

Table 4.1-1
Equipment Emissions 2006*
Diesel Fuel (Pounds per day)

Equipment	Quantity	Hours per day	ROG	NO_X	CO	PM_{10}
Scrapers	4[1]	8	5.5	99.2	29.1	2.1
Total	-	-	**5.5**	**99.2**	**29.1**	**2.1**
SCAQMD Threshold	-	-	75	100	550	150
Significance			**No**	**No**	**No**	**No**

Source: SCAQMD, Off-Road Mobile Source Emission Factors, 2006.
* Representing approximately 75 percent of the earthwork
[1] Three scrapers operating for 198 days and one scraper operating for 140 days (88 working days in 2006).

Table 4.1-2
Equipment Emissions 2006*
Diesel Fuel (Pounds per day)

Equipment	Quantity	Hours per day	ROG	NO_X	CO	PM_{10}
Heavy Heavy Duty Diesel Trucks[1]	2[2]	8	3.2	46	10.8	1.6
Tractors/Loaders/Backhoes	2[3]	8	2.1	13.3	6.7	1.3
Total	-	-	**5.3**	**59.3**	**17.5**	**2.9**
SCAQMD Threshold			75	100	550	150
Significance			**No**	**No**	**No**	**No**

Source: SCAQMD, Off-Road Mobile Source Emission Factors, 2006.
* Representing approximately 25 percent of the earthwork
[1] SCAQMD, EMFAC 2006 Heavy Heavy Duty Diesel Trucks Emission Factors.
[2] Two Heavy Heavy Duty Diesel Trucks operating for 10.3 days.
[3] Two Tractors/Loaders/Backhoes operating for 10.3 days.

Table 4.1-3
Equipment Emissions 2007*
Diesel Fuel (Pounds per day)

Equipment	Quantity	Hours per day	ROG	NO_X	CO	PM_{10}
Scrapers	4[1]	8	5.1	89.2	26.1	2.7
Total	-	-	**5.1**	**89.2**	**26.1**	**2.7**
SCAQMD Threshold	-	-	75	100	550	150
Significance			**No**	**No**	**No**	**No**

Source: SCAQMD, Off-Road Mobile Source Emission Factors, 2007.
* Representing approximately 75 percent of the earthwork
[1] Three scrapers operating for 198 days and one scraper operating for 140 days (110 working days in 2007).

Table 4.1-4 Equipment Emissions 2007* Diesel Fuel (Pounds per day)						
Equipment	**Quantity**	**Hours per day**	**ROG**	**NO_X**	**CO**	**PM_{10}**
Heavy Heavy Duty Diesel Trucks[1]	2[2]	8	3.0	43.2	10.2	1.6
Tractors/Loaders/Backhoes	2[3]	8	2.1	13.1	6.7	1.3
Total	-	-	**5.1**	**56.3**	**16.9**	**2.9**
SCAQMD Threshold			75	100	550	150
Significance			**No**	**No**	**No**	**No**

Source: SCAQMD, Off-Road Mobile Source Emission Factors, 2007.
* Representing approximately 25 percent of the earthwork
[1] SCAQMD, EMFAC 2006 Heavy Heavy Duty Diesel Trucks Emission Factors.
[2] Two Heavy Heavy Duty Diesel Trucks operating for 10.3 days.
[3] Two Tractors/Loaders/Backhoes operating for 10.3 days.

The project will also generate fugitive dust during grading operations. The city, and 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 35 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 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.

Since the South Coast Air Basin is in non-attainment status for ozone and PM_{10}, and to avoid any potential significant impacts, fugitive dust would be mitigated by implementation of the mitigation measures described below. During construction, exhaust emissions from construction vehicles and equipment and fugitive dust generated by equipment traveling over exposed surfaces, would increase NO_X and PM_{10} levels in the area.

Operational Emissions

The proposed project is the improvement of two un-lined stormwater detention basins, no operational emissions are anticipated. Therefore, operational emissions of the proposed project would not exceed the SCAQMD thresholds.

There are no sensitive receptors such as schools or hospitals adjacent to the site. However, Eisnehower 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 the mitigation measures listed below would decrease potential impacts to sensitive receptors. Therefore, impacts are anticipated to be less than significant.

The Basins would detain stormwater flow, eliminate natural erosion and reduce the risk of flooding to the surrounding area. The proposed enhancement to Upper Cactus Basins 3 and 3A is not anticipated to generate objectionable odors. Therefore, no impact is anticipated.

Mitigation Measures

The following mitigation measures are recommended to reduce impacts from fugitive dust, and NO_X and PM_{10} levels,

AQ1. 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 Air Quality Management Plan (AMCP), 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 all disturbed areas are treated to prevent erosion until the site is constructed upon.

(c) The project proponent shall ensure that landscaped areas are installed as soon as possible to reduce the potential for wind erosion.

(d) The project proponent shall ensure that all grading activities are suspended during first and second stage ozone episodes or when winds exceed 25 miles per hour.

AQ2. 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.

AQ3. The project proponent shall, prior to the issuance of a grading permit, receive approval of an erosion control plan and PM_{10} plan from the Public Works Department.

AQ4. The project proponent shall ensure that existing power sources are utilized where feasible via temporary power poles to avoid on-site power generation.

AQ5. 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 EIR describes the type of habitat occurring on-site and evaluates the potential impacts that could occur to biological resources occupying the proposed site. Information used to prepare this section was summarized from the following:

- *Biological Technical report: Cactus Basin No. 3 and 3A*, prepared by Scott White Biological Consulting, dated August 31, 2006 (Appendix E)
- *Interim Revegetation Plan and Topsoil Salvage Specifications*, and *Draft Habitat Restoration/Revegatation Plan and Specifications*, prepared by LSA Associates, Inc., October 2005 and November, 2005, (Appendices A and B respectively);
- *Presence/Absence Trapping Studies for the San Bernardino Kangaroo Rat Cactus Basin Number 3 Project*, prepared by Natural Resources Assessment, Inc., July 12, 2006 (Appendix G); and
- *Results of Focused Surveys for the California Gnatcatcher in the Cactus Basins 3 and 3A*, prepared by Leatherman Bioconsulting, Inc., July 18, 2006 (Appendix H)

This section discusses the project's potential impacts on sage scrub, the California gnatcatcher, and the San Bernardino kangaroo rat that were not identified in the 1988 EIR.

Pursuant to the current presence/absence protocol, six focused surveys (four surveys conducted prior to June 30, 2006 and two surveys conducted in the first two weeks of July, 2006) were conducted for the California gnatcatcher. Five trappings were conducted for the San Bernardino kangaroo rat (SBKR), with the first trapping on January 31, 2006 and the last trapping conducted on February 5, 2006.

A wetlands delineation was conducted to determine the presence of wetlands. Scott D. White and Justin Wood (of Scott White Biological Consulting) evaluated the jurisdiction on September 17, 2006 by walking over the two basins at the site, noting vegetation, soils, and hydrology characteristics. Dominant plant species and any potential indicators of wetland conditions were recorded in field notes. The lists of dominant plant species were compared against Appendix 0 of the Delineation Manual that lists wetland plants of California. The vegetation criterion for wetlands is satisfied if half or more of the dominant plant species on a site are ranked as "obligate wetland," "facultative wetland," or "facultative" species (OBL, FACW, or FAC, respectively). The report is attached as Appendix F of this EIR.

4.2.2 Environmental Setting

The project site is bounded by residential development on the east, and Basins 1 and 2 to the south. The Jerry Eaves Park lies west of the project site and adjacent to Basin 3. Basins 4 and 5 (planned for enhancement at a future date) lie to the north. 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 other land uses, including the former sand and gravel mining operations and existing flood control basins. The slopes associated with the Cactus Basins 3 and 3A, currently consist of a California buckwheat phase of Alluvial Fan Scrub. This habitat appears to be healthy, and very few non-natives were observed during LSA's site evaluations conducted on September 2005.

Available literature was reviewed to identify special status plants and animals known from the project site and vicinity. Literature sources included the California Natural Diversity Data Base (CNDDB 2005, 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* (2006, for the same quads) and compendia of special status species published by the US Fish and Wildlife Service (2004) and California Department of Fish and Game (CDFG; 2005a, 2005b).

Scott D. White and Justin Wood (of Scott White Biological Consulting) visited the site on February 6, 2006 to document plants and animals on the site and describe vegetation and habitat. Wood visited the site again on February 20, 2006 to further document wildlife species and habitat. All accessible areas on the site were walked over. During both visits, weather was cool and clear. Winds were strong on the February 6 site visit, but much more calm on February 20. All species seen were recorded in field notes. Plants of uncertain identity were collected and subsequently identified from keys, descriptions and illustrations in Abrams (1923-1960), Hickman (1993) and Munz (1974); voucher specimens of these species will be placed in the herbarium collection at Rancho Santa Ana Botanic Garden.

Vegetation and Habitat

The 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 site has been altered by other land uses, including former sand and gravel mining operations and the existing flood control basins.

There are a few small scattered elements of alluvial fan sage scrub on the floor of the upper basin (Cactus Basin 3). Slopes on the west side of Cactus Basin 3 are dominated by native shrubs, but species diversity is very low, and the area may have been seeded following earlier enhancement work in the basin. The eastern slope of Basin 3 and adjacent alluvial bench at the top of the slope support a mix of native chaparral and coastal sage scrub shrubs, including California sagebrush (Artemisia californica), black sage (Salvia mellifera), California buckwheat (Eriogonum fasciculatum), chamise (Adenostoma fasciculatum), hollyleaf cherry (Prunus ilicifolia), prickly-pear cactus (Opuntia littoralis var. vaseyi) and several other shrubs. The shrubland structure is open, and areas between the native shrubs are heavily dominated by non-native weedy grasses and forbes including brome grasses, wild oats, and wild mustards.

There is a small (0.89 acres) stand of riparian woodland in the basin, just above the basin floor. Surface water was present within this woodland during the spring field visits. Dominant trees are

Fremont cottonwood (*Populus fremontii*), red willow (*Salix laevigata*), and black willow (*S. gooddingii*). The shrubby understory is dominated by mulefat (*Baccharis salicifolia*). There is very little herbaceous vegetation due to shading. The existing basin floors were covered with seedlings of herbaceous plants during the winter and spring field visits, but woody riparian vegetation could not become established due to varying water levels, periodic brief inundation, and periodic debris and silt removal.

The vegetation types found in Basins 3 and 3A is described from field notes, and mapped onto an aerial photograph (see Figure 5). The estimated acreage of each vegetation type is as follows:

- Flood channel (open sand and gravel): 11.88 acres
- Maintained flood basin: 9.23 acres
- Maintained basin slopes and access roads: 12.20 acres
- Riparian woodland: 0.89 acres
- Degraded coastal sage scrub and chaparral: 12.04 acres

Riparian vegetation and degraded native shrublands on the site support local wildlife species occurring in similar habitats shrublands 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 Cactus Basin site is partially isolated from other open space. It is bounded by Baseline Road and adjacent development on the south and east, but much of the surrounding land to the north and west is open space (e.g., the Rialto Municipal Airport, Jerry Eaves Park, Cactus Basins 4 and 5, and vacant land to the immediate west). Cactus Basin is at the eastern end of about 2.5 square miles of mixed open space and low-density development between Baseline Road and Highland Avenue (and SR-210). Major roads and other surrounding land uses tend to isolate or 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 patches tend to decline in numbers. Scattered development is ongoing throughout the area, and SR- 210 once completed, will create a complete barrier to movement for many species. Due to its increasing isolation from larger areas of natural open space, the project site will support only remnant populations of many native wildlife species whose movement is interrupted 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.

1.	FLOOD CHANNEL (OPEN SAND AND GRAVEL)	11.88 ACRES
2.	MAINTAINED FLOOD BASIN	9.23 ACRES
3.	MAINTAINED BASIN SLOPES AND ACCESS ROAD	12.20 ACRES
4.	RIPARIAN WOODLAND	0.89 ACRES
5.	DEGRADED COASTAL SAGE SCRUD, CHAPARRAL	12.04 ACRES
	TOTAL AREA	46.24 ACRES

N

Source: Scott White Biological Consulting, 07/07.

Vegetation Map

Upper Cactus Basin 3
City of Rialto, California

Figure 5

Special Status Plants

James Huelsman (of Leatherman BioConsulting Inc.) observed and photographed Plummer's mariposa lily (*Calochortus plummerae*) on the site during Spring 2006. Plummer's mariposa lily is on 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 5600 feet. Its habitats include chaparral, coastal sage scrub, grassland, woodlands, and pine forests. It is not listed, proposed for listing, or a candidate for listing as threatened or endangered.

Based on habitat occurring on the project site, there is a low or moderate potential that several other special status plants could occur on the site. No plant was observed on the site during the site visit. However, since the site visits were made outside their flowering or growing seasons, a conclusion of "absent" from the surveys could not be made.

Plants with a low or moderate probability of occurring on the site are: Parry's spineflower (*Chorizanthe parryi* var. *parryi*, low probability in remnant shrublands), white-bracted spineflower (*Chorizanthe xanti* var. *leucotheca*, low probability in remnant shrublands), Robinson's peppergrass (*Lepidium virginicum* var. *robinsonii*, moderate probability in remnant shrublands). None of these plants are listed as threatened or endangered under state or federal Endangered Species Acts or meets criteria for listing; instead, they are generally regarded as "special plants" by California Department of Fish and Game (CDFG) and are included in CNPS's Inventory.

Special Status Wildlife

Three special status wildlife species were observed on the site (San Diego black-tailed jackrabbit, horned lark, and Coopers hawk). James Huelsman (of Leatherman BioConsulting Inc.) also observed San Diego horned lizard, western whiptail, and Cooper's hawk on the site during Spring 2006. As a result of protocol trappings in 2006, biologists from Natural Resources Assessment, Inc. also reported San Bernardino kangaroo rat and San Diego pocket mouse on the site. Several other special status wildlife species could occur on the site or in the general area.

San Diego black-tailed jackrabbit is the coastal subspecies of the common desert black-tailed jackrabbit. It is still relatively widespread in southern California. Its distribution, abundance and threat ranks do not meet criteria for state or federal listing.

California horned lark is the coastal California subspecies of the common and widespread horned lark. Horned larks were observed in the basin area, but were not identified as to subspecies. These birds could have been either the coastal California subspecies, or (more likely) any of several other horned lark subspecies which spend winters in southern California. Its distribution, abundance and threat ranks do not meet criteria for state or federal listing.

Cooper's hawk is a migratory hawk which nests in oak woodlands throughout much of southern California. The Cooper's hawks observed at the site may have been migrant bird or seasonal visitors. There is no suitable oak woodland Cooper's hawk nesting habitat on the site, and Cooper's hawks would be unlikely to nest in the narrow strip of riparian woodland in Basin 3. Cooper's hawk is still relatively widespread in southern California. Its distribution, abundance and threat ranks do not meet criteria for state or federal listing.

Reptiles: San Diego horned lizard and coastal western whiptail occur on the site. Several other special status reptiles could also occur, with probabilities ranging from low to high. These include San Diego banded gecko, rosy boa, San Bernardino ringneck snake, red diamond rattlesnake, and coast patch-nosed snake. None of these species is listed as threatened or endangered under state or federal Endangered Species Acts.

Birds: Listed threatened or endangered birds known from the general area are generally limited to riparian habitats (e.g., southwestern willow flycatcher, least Bell's vireo) or coastal sage scrub (California gnatcatcher). There is a small patch of riparian habitat on the site but it is not large enough to support breeding pairs of willow flycatchers or least Bell's vireos. Either of these listed threatened or endangered birds could visit the site briefly during migration, but would not breed there.

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. But there is a minimal probability that California gnatcatcher could occur on the Cactus Basin site due to isolation from larger tracts of undisturbed habitat and negative results of focused field surveys (Leatherman BioConsulting, Inc. 2006). The site is not within the area proposed as critical habitat by the US Fish and Wildlife Service (2003).

Mammals: One federally listed small mammal, San Bernardino kangaroo rat (*Dipodomys meeriami parvus*), is known from similar habitats in the region. In a trapping study contracted by the District, one individual San Bernardino kangaroo rat was found on the project site (Natural Resources Assessment, Inc. 2006).

Other special status mammals occurring on the site include are San Diego black-tailed jackrabbit and San Diego pocket mouse (Natural Resources Assessment, Inc. 2006). Other special-status mammals potentially occurring on the site, but not found during trapping surveys are: Los Angeles pocket mouse, southern grasshopper mouse, and San Diego desert woodrat. Also, several sensitive bats could use the site for foraging or roosting. All of these species are California Species of Special Concern (CDFG 2005b). All except Los Angeles pocket mouse are relatively widespread in southern California and do not meet criteria for state or federal listing.

Wetlands

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 1603 of the California Fish and Game code requires a Streambed Alteration Agreement for projects which would alter a

stream channel. The proposed project would alter the existing Cactus Basin facility by recontouring the slopes, embankment, and basin, and would remove existing riparian vegetation.

Site Survey Results

Special Status Species

Focused surveys for California gnatcatcher were conducted between march 15 and June 30, 2006, by walking slowly within and along the perimeter of coastal sage scrub stands while watching and listening for California gnatcatcher activity. Taped vocalizations were used conservatively to solicit response from any gnatcatcher potentially present. The frequency of taped playback use varied with site conditions including habitat patch size, topography, and ambient noise levels. No California gnatcatchers were observed or heard during the site surveys. Based on the negative results of the species during the survey; the lack of recent records from the project site, and the distance to extant populations; the fragmented nature of the surrounding habitat; and professional judgment and experience, the California gnatcatcher is likely absent from the project site at this time.

Presence/Absence Trapping Studies were conducted for SBKR between January 31 and February 5, 2006. The trapping included six trap-lines of twenty traps each at six locations. Traps were placed in suitable habitat areas within and adjacent to the basin, concentrating on locating traps in areas containing sandy soils and suitable vegetation. Each trap was baited, with the bait placed at the back of the trap. The traps were set at dusk each night and inspected once during the night and at dawn each morning. All animals were identified and released at the point of capture. One SBKR was captured during the 2006 trapping studies (no SBKR were captured during a documented 2001 survey on the same property). Overall, the small mammal population on site appears low. Based on the trap results, SBKR are currently present on-site in very trace numbers. Improvement of the basin may have an impact on the local population, and will require mitigation.

Wetlands

Hydrology: During the field visit there was no running water in the channel and the soil was not moist. Basin 3A had been disced or dredged sometime after the Spring 2006 rainy season. Most ordinary high water marks were not visible due to soil disturbance. Silt deposits and water marks, as well as the site's function and topography, indicated occasional running or standing water.

Soils: Soil in both basins was sandy and silty. No evidence of hydric soil coloration or mottling was seen, though sandy soils often do not develop these hydric soil indicators (Corps Delineation Manual, 1987).

Vegetation: The upper basin supports mulefat scrub and a small stand of riparian woodland. Dominant plants in both these areas are hydrophytic species (mulefat, black willow, red willow, and Fremont cottonwood). Upstream from the mulefat scrub, the channel is essentially unvegetated due to occasional scouring during heavy rains. The lower basin on the west supports a mix of native and non-native species, including mulefat, black willow, castor bean,

jimsonweed, and annual sunflower. Most of the basin has been disced or dredged, and the plants are growing in and around furrows left by heavy equipment.

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 enhancement would result in removing almost all natural vegetation and maintaining the site for flood control uses. Vegetation would be replaced in part through the proposed on-site revegetation and by off-site preservation of 45 acres of similar upland habitat (1988 EIR).

Impacts to Special Status Vegetation and Habitat

Project development would eliminate 12.04 acres of degraded chaparral and coastal sage scrub on the slopes and alluvial bench around Cactus Basin 3 and 3A. It would also eliminate less than one acre of riparian woodland on the floor of the basin. Project construction would also create new riparian vegetation in the proposed Habitat Restoration Area in the eastern portion of Basin

3A. Coastal sage scrub is considered a special status plant community, but it is concluded that this local loss would not be significant in terms of CEQA because the site is small, isolated from surrounding open space, and largely degraded by heavy cover of weedy annual plants.

Impacts to Special Status Plants

Plummer's mariposa lily was observed during field surveys, and there is low to moderate probability that several other special status plants could occur on the site. None is listed, proposed for listing, or a candidate for listing as rare, threatened or endangered. Impacts to any of these plants, if they occur on the site, would not meet CEQA criteria for significance.

Impacts to Special Status Wildlife

A total of five small mammal species were trapped during the survey period. Trapping success was low for SBKR over the entire trapping period.

One male San Bernardino Kangaroo rat was captured during the 2006 trapping surveys. No SBKR were captured during the 2001 survey. A focused field survey determined that California gnatcatchers do not occur on the site. Adverse impacts to San Bernardino kangaroo rat would meet CEQA criteria for mandatory findings of significance. None of the other special status animals occurring or potentially occurring have formal status under state or federal Endangered Species Acts and adverse impacts generally would not meet the CEQA criteria for mandatory findings of significance.

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. Overall, 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 would partially mitigate the impacts to less than significant.

Impacts on Wetlands

It is anticipated that regular basin maintenance would remove silt deposits before chemical reduction could cause hydric soil color indicators to appear. The vegetation meets criteria as hydrophytic vegetation, though several of the common species are primarily upland plants. Presumably, in the absence of maintenance work, hydrophytic species would be more prevalent. Upstream from the vegetated area, the lower western basin is similar to the scoured unvegetated area in the upper basin. The eastern portion of Basin 3A has been disced or dredged since it was last inundated, and there was essentially no vegetation there. Due to topography and evidence of periodic inundation, it is presumed that it would support hydrophytic vegetation in the absence of maintenance work.

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 (Assessor's Parcel Number 026204210) 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.

BIO3 U.S. Fish and Wildlife shall be contacted to discuss the need for a mitigation plan for the one SBKR trapped. If necessary, the applicant shall formally consult with the Service under Section 10(a) of the Federal Endangered Species Act and prepare a Habitat Conservation Plan.

BIO4 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.

BIO5 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 and, if they occur, "forced dispersal" shall be conducted at any occupied burrows prior to brush removal or grading.

Level of Significance after Mitigation

Application of the above Mitigation will reduce the potential impacts to less than significant.

Point #	Latitude	Longitude
1	N 34°11'07.8"	W 117°22'08.3"
2	N 34°11'13.7"	W 117°22'08.8"
3	N 34°11'14.3"	W 117°22'20.2"
4	N 34°11'11.7"	W 117°22'21.2"
5	N 34°11'10.2"	W 117°22'21.8"
6	N 34°11'12.5"	W 117°22'20.2"
7	N 34°11'12.2"	W 117°22'21.6"
8	N 34°11'10.1"	W 117°22'18.1"
9	N 34°11'12.4"	W 117°22'09.6"
10	N 34°11'08.5"	W 117°22'18.0"
11	N 34°11'10.2"	W 117°22'18.3"
12	N 34°11'09.2"	W 117°22'05.7"
13	N 34°11'05.8"	W 117°22'10.5"
14	N 34°11'06.5"	W 117°22'10.5"
15	N 34°11'07.1"	W 117°22'17.6"
16	N 34°11'03.7"	W 117°22'21.2"
17	N 34°10'48.4"	W 117°22'45.7"
18	N 34°10'47.5"	W 117°22'46.5"
19	N 34°11'[illegible].5"	W 117°22'[illegible]
20	N 34°11'[illegible].1"	W 117°22'[illegible]
21	N 34°11'[illegible].5"	W 117°22'28.5"
22	N 34°11'[illegible].2"	W 117°22'23.4"
23	N 34°11'34.8"	W 117°22'17.3"
24	N 34°11'[illegible].4"	W 117°22'11.8"
25	N 34°11'[illegible].6"	W 117°22'00.7"
26	N 34°11'[illegible].6"	W 117°21'57.6"
27	N 34°11'[illegible].4"	W 117°21'57.6"
28	N 34°11'13.3"	W 117°22'08.2"
29	N 34°11'18.1"	W 117°22'13.6"
30	N 34°11'24.4"	W 117°22'25.5"
31	N 34°10'[illegible].4"	W 117°22'46.6"
32	N 34°10'[illegible].2"	W 117°22'11.4"
33	N 34°9'[illegible].0"	W 117°22'01.8"
34	N 34°9'[illegible].0"	W 117°22'00.7"
35	N 34°9'48.0"	W 117°21'[illegible].7"
36	N 34°9'54.0"	W 117°22'02.6"
37	N 34°9'54.0"	W 117°22'18.4"
38	N 34°10'[illegible].0"	W 117°22'[illegible].7"
39	N 34°9'48.0"	W 117°22'08.2"
40	N 34°9'46.0"	W 117°22'[illegible].1"
41	N 34°9'40.0"	W 117°22'00.3"
42	N 34°9'39.0"	W 117°22'00.3"
43	N 34°9'36.0"	W 117°21'57.2"
44	N 34°9'50.0"	W 117°21'57.6"

Coordinates were derived from the San Bernardino County Parcel Basemap and projected upon the NAD 83 NAD83 coordinate system. Based accuracy is within +/- 15 feet.

Mitigation Lands

Upper Cactus Basin 3
City of Rialto, California

Figure 6

4.3 CULTURAL RESOURCES

4.3.1 Introduction

This section of the EIR addresses cultural resources. Information in this section has been obtained from the report entitled "*Final CRM Report for Upper Cactus Basins 3 & 3A*", prepared by Roger Hatheway, County of San Bernardino, Department of Public Works, on June 2006, and from the EIR that was certified for this project in September of 1988. 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. The cultural resources report is included as Appendix I.

4.3.2 Environmental Setting

Cultural Resources

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 previous investigative work for the 1988 EIR was updated by records review and a field survey conducted in 2006. All archaeological work was conducted under the supervision of Principal Investigator, John Romani, RPA, Compass Rose Archaeological, Inc. The field survey was conducted on June 5, 2006. The area was surveyed by Mr. Hatheway under the direction of Mr. Romani. The project area was photographed and field notes were taken for use in preparing the final report. Limited 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
- 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

Field Survey Findings

Ground visibility was excellent (90-100%). Only 1-3% of the entire project area appears as unaltered. By far the majority of the project area has been utilized as a gravel pit at least as early as the 1980s. The areas appearing as undisturbed were systematically surveyed using 15 meter transects in north-south, east-west sweeps. Rodent holes were inspected for cultural remains.

Building features associated with this project area (circa 1984 gravel pits) do not appear to qualify as potentially eligible for listing in the National Register of Historic Places. There are many examples of complete gravel pit mining systems remaining from much earlier periods in time, and gravel pit mining cannot be regarded in this instance and location as a significant contribution to the broad patterns of our history. As such, no cultural resources were identified that appear to qualify as potentially eligible for listing in the National Register of Historic Places.

No building features less than 50 years in age (1984 Gravel Pits) were identified as having any architectural, design, or historical significance. None of the building features (less than 50 years in age) associated with the project appear to qualify as having achieved a level of significance that would qualify them as being of "exceptional importance." More specifically, project area improvements have not been the subject of extensive scholarly recognition and/or evaluation, they have no unique design features, and were not designed by architects of recognized significance. In other words, the existing gravel pits and drainage system is not a property whose "unusual contribution to the development of American history, architecture, archeology, engineering, and culture can clearly be demonstrated" with regards to any built feature less than 50 years in age.

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 15604.5;
- Cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15604.5;
- Disturb any human remains, including those interred outside of formal cemeteries; or
- Disturb a unique paleontological resource or site or unique geological feature.

<u>Project Impacts</u>

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

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 NEPA 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."

Level of Significance after Mitigation

Application of the above mitigation will reduce the potential impacts to less than significant.

4.4 HYDROLOGY AND DRAINAGE

4.4.1 Introduction

This section of the EIR provides a description of the existing environment, potential impacts of the proposed project, and recommended mitigation measures for the Upper Cactus Basins 3 and 3A. A construction Stormwater Pollution Prevention Plan (SWPPP) has been 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.

The SWPPP was prepared for use in the Supplemental Environmental Impact Report (EIR) to be submitted to the Santa Ana RWQCB by San Bernardino County. The SWPPP covers activities associated with the Cactus Basin #3 Enhancement Project, including work on Cactus Basins 3 and 3A and is included as Appendix D of this EIR. Information for this section has been summarized from the SWPPP. 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.

4.4.2 Environmental Setting

The subject project site is owned by the San Bernardino County Flood Control District ("District") and includes approximately 46.24 for the Upper Cactus Basins 3 and 3A (Basin 3 is approximately 35.33 acres and Basin 3A consists of approximately 10.9 acres). The Cactus Basins 3 and 3A are located south of Highland Avenue, north of Baseline Road, west of Cactus Avenue, and east of Ayala Drive.

This project can be divided into two components: Cactus Basin 3 and Cactus Basin 3A (including the Habitat Restoration Area). As part of this project, Cactus Basin 3 will be enlarged, mostly via excavation, to detain and convey the additional storm water flows. Features of Basin 3 include:

- Inside embankment slopes of 3H:1V and outside embankment slopes of 2H:1V;
- Four storm water inlet pipes;
- A gravel pad inlet allowing water from the Cactus Channel to enter Basin 3 from the north;
- A 96-inch RCP low level outlet that will drain water from Basin 3 into Basin 3A;
- A 120-foot bottom width spillway with a gravel pad entrance between Basin 3 and Basin 3A; and
- Two 15-foot wide access ramps (on the east and west sides).

To create additional storm water detention capacity, Cactus Basin 3A (which includes a Habitat Restoration Area over its eastern portion) will be constructed adjacent to and south (downstream) of Cactus Basin 3. The Habitat Restoration Area of Basin 3A will receive storm water flows from two inlets on its east side and the western portion of Basin 3A will receive surface water

from Basin 3 from the low level outlet and the spillway as well as surface water from the Habitat Restoration Area. Surface water will drain from Basin 3A into the Rialto Channel through a 12-foot by 6-foot rectangular concrete box culvert. Other features of Basin 3A include:

- Inside embankment slopes ranging from 2.25H:1V to 3H:1V;
- Outside embankment slopes of 2H:1V;
- Spillway and 96-inch RCP inlets with gravel pad protection that convey surface water from Basin 3;
- A 36-inch RCP and a 10-foot wide concrete swale that convey surface water into the Habitat Restoration Area; and
- Two 15-foot wide access ramps (on the west and south sides).

Local Surface and Groundwater Resources

The project site is located within the Rialto Channel drainage, which is tributary to the Santa Ana River. 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 major problem for the Rialto Channel is that it is undersized relative to 100-year flood peak flows. With the construction of State Route 30 (SR-30) by the California Department of Transportation (Caltrans) north of the Cactus Basins, additional stormwater flows into the Cactus Basins have made it necessary for the District to initiate immediate improvements to the system in order to mitigate the increased flows associated with the highway.

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 defines in the 1961 adjudication of the "Rialto Basin". Groundwater movement in the Rialto sub-basin is from the northwest to the southeast. The proposed project would not be used as groundwater recharge basins.

4. 4.3 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:

- 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 that could affect adjacent wells;
- Substantially alter the existing drainage pattern of the site or area through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site;
- Substantially alter the existing drainage pattern of the site or area 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 or alteration of flow that would affect irrigation channels;

- Create or contribute runoff water, which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional source of polluted runoff; or
- Otherwise substantially degrade surface water or ground water.

Project Impacts

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 and Northwest Rialto Specific Plan that relate to future development and infrastructure requirements. The Upper Cactus Basins 3 and 3A will act as sediment and debris traps, which will cause a minimal reduction in the amount of such material reaching the Santa Ana River.

Pollutant Source Identification

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).

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. The San Bernardino County Water Resources Division performed calculations to determine the 100-year flow rate in Cactus Basin 3. The anticipated 100-year peak flow is 3,320 cfs. The District has a frequency relations chart for the County of San Bernardino that shows an approximate percentage in relation to 100-year storm for any storm frequency between

2-year and 100-year storm. The flow rates value determined for different storm frequencies from this chart area as follows:

- 2-year. Q_2 = 1,210 cfs.
- 5- year. Q_5 = 1,690 cfs.
- 10-year. Q_{10} = 2,130 cfs.
- 25-year. Q_{25} = 2,600 cfs.
- 50-year. Q_{50} = 2,940 cfs.

The calculations for the 100-year flow rate was done by using a basin routing program that routes the inflows through Cactus Basins 3, 4 and 5 and is giving the outflow hydrographs at the outlet from each basin. The hydrographs show the peak flow rate at that particular node (San Bernardino County Water Resources Division, 2004). The size of the construction site is 41.1 acres. The runoff coefficients for the construction of enhancements to Cactus Basin 3 and 3A before and after enhancements are 0.81 and 0.86, respectively. The percentage impervious areas before and after enhancement are zero and 7.3 percent, respectively.

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 of Basins 3 and 3A will be revegetated through hydroseeding (BMP EC-4). The sideslopes of the dam embankment between Basins 3 and 3A will not be hydroseeded due to California Division of Safety of Dams (DSOD) regulations. 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 (see Figure 2). 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 person have been 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, but 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 requires 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 HW1:

The contractor for the proposed project shall comply with the SWPPP for Upper Cactus Basins 3 and 3A.

Level of Significance after Mitigation

Application of the above mitigation will reduce the potential impacts to less than significant.

5.0 REFERENCES & BIBLIOGRAPHY

5.1 LIST OF PREPARERS

County of San Bernardino

Frank Molina, Principal Planner
Roger Hatheway

Lilburn Corporation

Cheryl A. Tubbs, Principal In-Charge
Lonnie Bell, Senior Planner
Frank Amendola, Environmental Analyst
Tina Grag, Environmental Analyst
Troy Goodwalt, Graphic Artist/CADD Operator
Mary Jones, Word Processor

5.2 Persons and Organizations Consulted

Biological Resources Report

Scott D. White, Biologist

Revegetation Plan

LSA Associates Inc.

SWPPP

Golder Associates, Inc.

5.3 BIBLIOGRAPHY

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6.0 MITIGATION MONITORING AND REPORTING PROGRAM

6.1 INTRODUCTION

The Mitigation Monitoring and Reporting Program (MMRP) to be prepared for implementation of the mitigation measures identified in the Upper Cactus Basins 3 & 3A Supplemental EIR will incorporate the mitigation measures provided in this Draft EIR and any other mitigation measures that may be recommended as a result of the DEIR public review period. CEQA Section 21081.6 requires adoption of a monitoring or reporting program when mitigation measures have been identified that would reduce or avoid significant environmental effects. Because some of the measures identified in the EIR would be implemented through monitoring of an activity such as grading or excavation and other measures must be implemented through a reporting mechanism such as obtaining and/or renewing an air quality permit, this MMRP has been developed as a Mitigation Monitoring and Reporting Program.

The 1988 EIR was certified by the City of Rialto the same month and year that Section 21081.6 was signed by the Governor to amend the Public Resources Code requiring Lead Agencies to adopt a MMRP. Therefore, a MMRP was not adopted by the Rialto City Council at the time of certifying the 1988 EIR. The responsibility of implementing those mitigation measures recommended in the 1988 Final EIR, during implementation of the project, would lie with the City. However, only the material excavation portion of the project was undertaken between 1988 and 2006. Mitigation measures related to the mining and exportation of mineral resources from the site were related to dust control and roadway improvements. Those measures were implemented by the City. Other measures in the 1988 EIR related to activities associated with basin improvements after excavation are included in this EIR supplement.

CEQA requires adoption of a MMRP for those measures or conditions placed on a project to mitigate or avoid adverse effects on the environment. The law states that the MMRP shall be designed to ensure compliance during project implementation. When implemented environmental effects associated with the expansion project through implementation of the CUP and Reclamation Plan, will be reduced or eliminated.

The MMRP has been prepared as a matrix containing the following elements:

- Measures that would mitigate significant impacts on the environment are recorded with the action and the procedure necessary to ensure compliance.

- A procedure of compliance and verification has been outlined for each measure. This procedure designates who will take action, what action will be taken and when, and to whom and when compliance will be reported.

- 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.

6.2 PROGRAM MANAGEMENT

The MMRP will be in place through all phases of the project. The project planner, assigned by the District, shall coordinate enforcement of the MMRP and oversee it to ensure that proper action is taken on each mitigation measure. Each County department or division shall ensure compliance of the conditions (mitigation) that relate to that department.

The project planner or responsible County department has the authority to stop the work of the operator if compliance with any aspects of the MMRP is not occurring after written notification has been issued. The project planner or responsible County department also has the authority to deny construction activities until compliance with a mitigation measure occurs.

APPENDIX A
INTERIM REVEGETATION PLAN AND TOPSOIL SALVAGE SPECIFICATIONS

INTERIM REVEGETATION PLAN AND TOPSOIL SALVAGE SPECIFICATIONS

CACTUS BASIN NO. 3

SUBMITTED TO:

San Bernardino County Public Works Department
825 East Third Street
San Bernardino, California 92415-0835

PREPARED BY:

LSA Associates, Inc.
20 Executive Park, Suite 200
Irvine, California 92614-0666

LSA Project No. SBF530

LSA

October 2005

INTRODUCTION

This document serves as the Interim Revegetation Plan (Plan) for the approximately 41-acre Cactus Basin No. 3 project. The purpose of this document is to provide specifications for topsoil salvage and implementation of an interim revegetation plan for areas associated with the construction of the Cactus Basin No. 3 project. In accordance with the Final Environmental Impact Report for the Upper Cactus Basin Flood Control Facility (EIR), a Final Revegetation Plan will be prepared subsequent to this that will address the long-term revegetation process for the slopes of the Cactus Basin No. 3 project.

SCOPE OF WORK

The San Bernardino County Flood Control District (District) shall be responsible for the following major items of work, as well as the provision of equipment, labor, and materials associated with each item. 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 District shall:

- Salvage topsoil, create and stockpile duff in accordance with this Plan
- Apply specified interim seed/materials by hydroseed over the 41-acre site

IMPLEMENTATION

According to the grading plans the slopes will be graded during the upcoming Cactus Basin No. 3 construction project. Therefore, it would be beneficial to salvage the top one to three inches of topsoil and integrate it with the existing vegetative matter. The resulting "duff" will be stockpiled during the construction phase of the process and then replaced on the slopes prior to the implementation of the final revegetation plan.

Duff Creation

The slopes associated with the Cactus Basin No. 3 project currently consist of a California buckwheat phase of Alluvial Fan Scrub. This habitat appears to be healthy, and very few nonnatives were observed during LSA's site evaluations conducted in September 2005. Although the area is predominantly covered with riverine rocks and sand material, there is still a small amount of organic matter within the top one to three inches of topsoil that would be worth salvaging for use during the revegetation.

Prior to grading, duff shall be created by integrating the areas of native vegetation with the topsoil along the slopes within the Cactus Basin No. 3 project area. The initial stages of duff creation include crushing native vegetation in place prior to grading in order to retain organic matter and seed. Existing shrubs and other small plants within the designated areas shall be mulched by mowing, discing, track-walking, or by other methods that break or chip the plant material into particles no greater than six inches in maximum dimension.

The created mulch shall than be mixed with the top three inches of topsoil as it is removed to form duff. If local site conditions require, the depth to which the topsoil is removed can be altered at the

time of the clearing. The topsoil mixed with the vegetation to form duff shall not contain rocks, large clods, or similar irreducible particles greater than six inches in maximum dimension.

Duff Stockpiling

The District shall designate a stockpile area prior to commencement of duff creation activities. To avoid weed contamination, the area shall be scraped with a bulldozer blade and water-permeable sheeting, such as a separator cloth or silt fence cloth, and shall be spread on the ground prior to storing the duff. Duff stockpiles shall not exceed three feet in height unless otherwise approved and areas where the duff is stored shall be fenced off so that they are not impacted during construction activities. Duff stockpiles shall be kept dry; therefore, an appropriate cover should be utilized (e.g., UV-resistant plastic sheeting).

INTERIM EROSION CONTROL SEEDING

In order to reduce water and wind erosion at the Cactus Basin No. 3 project site, the EIR requires that an interim revegetation plan be implemented. The main focus of this plan will be to seed the exposed slopes with fast-growing native vegetation, which will act to stabilize those areas until final grading is complete. Upon completion of grading, the final revegetation plan can be implemented.

Seed Source/Methods of Collection. All 41 acres of the project site will be hydroseeded. The species to be included in the interim erosion control seeding area were selected based on those native species found within the immediate area. All seed shall be custom-ordered and must be collected from areas within a 20-mile radius of the project site and from a similar microclimate regime, if available. For widespread herbaceous species that are more likely to be genetically homogeneous, site specificity is a less important consideration, and stock from commercial sources may be used. If local propagules are not available or cannot be collected prior to the winter planting, materials grown from other sources with a similar geographic climate shall be substituted. Species may be substituted for or eliminated depending upon the availability of appropriate genetic sources. Upon receipt, the seed must be stored in a manner that ensures its viability until it is sown. All seed must be sown within 48 hours of being delivered.

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 B lists the seed required for this project.

Table B: Cactus Basin No. 3 – Interim Erosion Control Seed Mix (41 acres)

Scientific Name	Common Name	Pounds Per Acre
Bromus carinatus	California brome	0.50
Eriophyllum confertiflorum	golden yarrow	0.50
Eschscholzia californica	California poppy	0.50
Gnaphalium californica	California everlasting	0.20
Hemizonia fasciculatum	fascicled tarweed	1.00
Isocoma menziesii	coast golden bush	1.50
Lasthenia californica	coastal goldfields	1.50
Lupinus bicolor	miniature lupine	1.00
Lupinus succulentus	arroyo lupine	2.00
Plantago ovata	woolly plantain	2.00
Plantago erecta	California plantain	2.00
Sisyrinchium bellum	blue-eyed grass	0.50
Vulpia microstachys var. *pauciflora*	Pacific fescue	0.50
Total		**13.70**

Hydroseeding. Native seed will be applied in all terrestrial restoration areas. The method of application will depend on the accessibility and the size of the particular area. Large, easily accessible areas will be hydroseeded with a mixture of 100 percent long-strand wood fiber and natural tackifier. 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. Preventive measures must be taken to avoid damage to container plants and cuttings (e.g., spraying and covering plants with mulch, breaking stems or branches with hoses). The application procedure is as follows:

First Application

- 500 lbs/acre of long-strand wood fiber
- Specified seed
- 60 lbs/acre of vesicular-arbuscuclar 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 Project Biologist. 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. During hydroseeding, the container plants must be protected from damage (including but not limited to coating with mulch, damage by direct spray, and dragging hose). The tanks must be emptied completely during each stage of hydroseeding. Excessive mulch coating on container plants must be removed before the end of the day.

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 to a minimum.

MONITORING

The Project Biologist will monitor the duff creation and seeding as necessary to ensure that procedures are implemented properly and thoroughly.

APPENDIX B
HABITAT RESTORATION/REVEGETATION PLAN AND SPECIFICATIONS

HABITAT RESTORATION/ REVEGETATION PLAN AND SPECIFICATIONS

CACTUS BASIN NO. 3 PROJECT

SAN BERNARDINO COUNTY, CALIFORNIA

Prepared for:

County of San Bernardino Flood Control District
825 East Third Street
San Bernardino, California 92415-0835

Prepared by:

LSA Associates, Inc.
20 Executive Park, Suite 200
Irvine, California 92614-4731
(949) 553-0666

LSA Project No. SBF530

LSA

November 2005

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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.

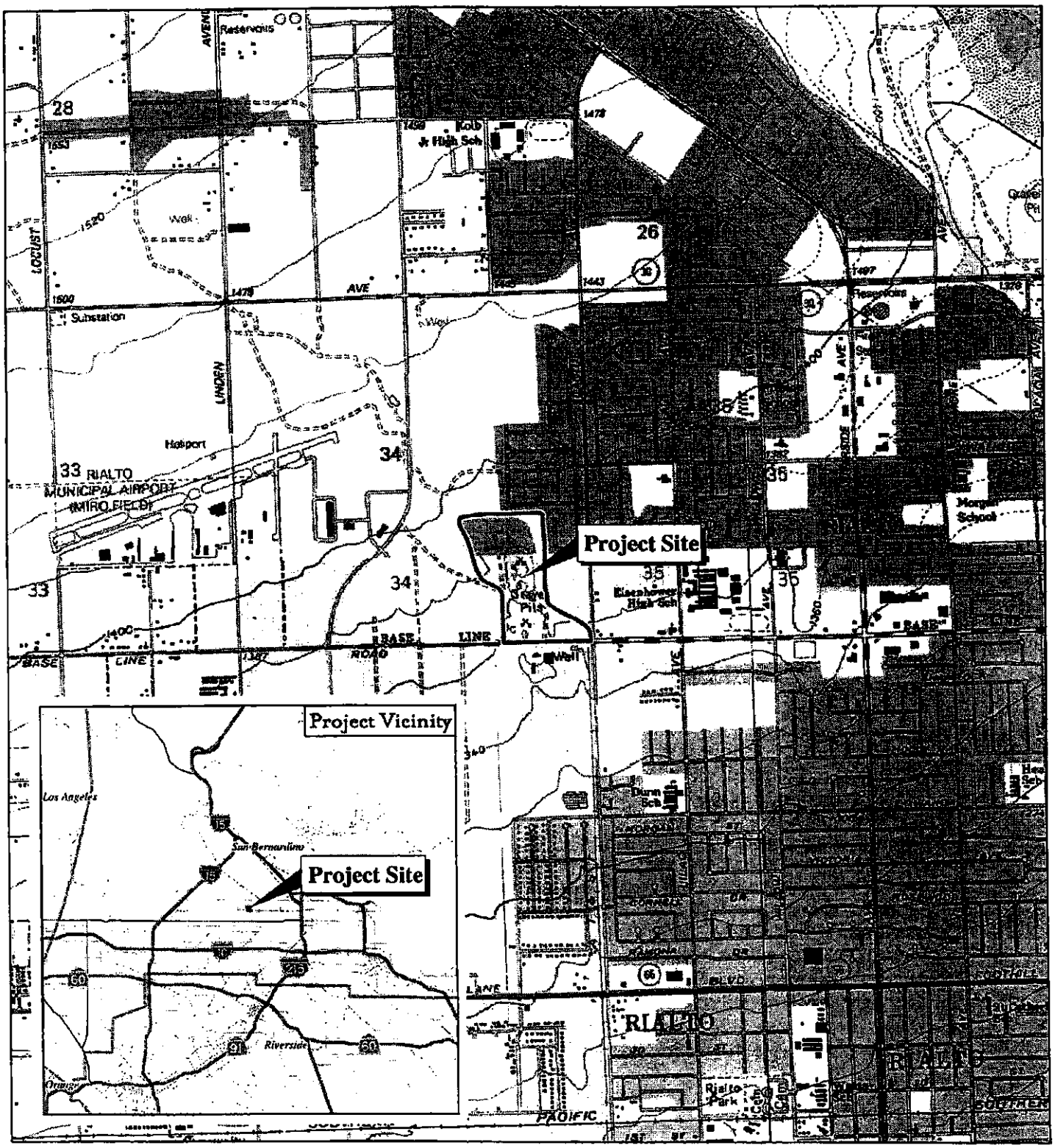
The EIR for the Upper Cactus Basin Flood Control Facility requires revegetation of the slopes and terraces of the basins once construction activities are completed. These Specifications outline the guidelines for that revegetation. Additionally, these Specifications have taken into account the DSOD requirements 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



LSA

FIGURE 1

0 1,000 2,000
FEET

San Bernardino County Flood Control District
Cactus Basin No. 3 – Alluvial Fan Sage Scrub Revegetation Area

PROJECT LOCATION MAP

SOURCE: USGS 7.5' QUAD(s) - Devore & Fontana (1988, 1980), Calif.

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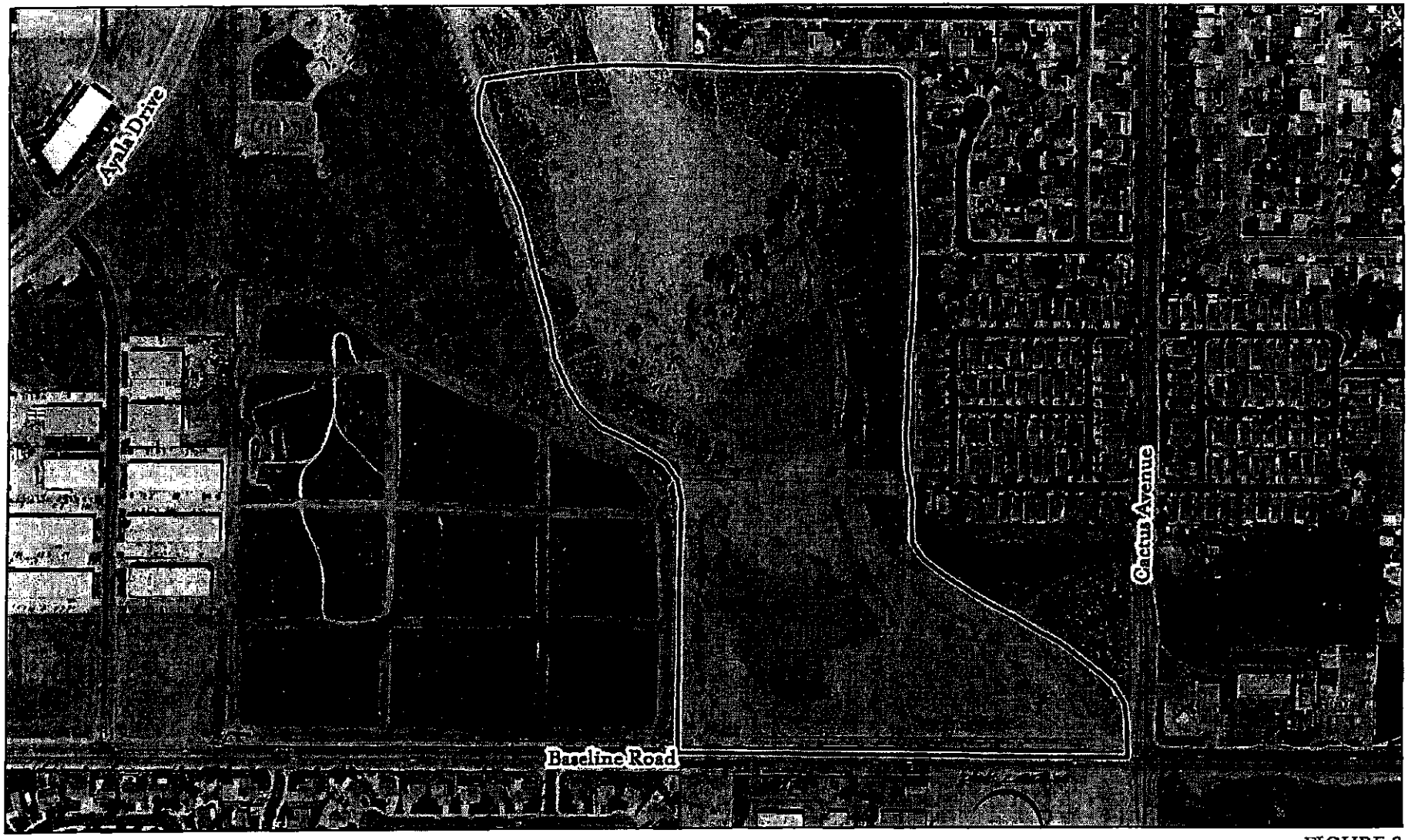

FIGURE 2

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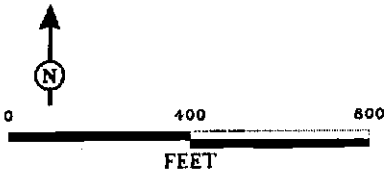

SOURCE: Image-Eagle Aerial 2004
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LEGEND

Project Boundary

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."

APPENDIX C
REVEGETATION PLAN
CACTUS BASIN NO. 3

REVEGETATION PLAN
CACTUS BASIN NO. 3

Provided as Mitigation for the Baseline RCB Project

In the County of San Bernardino

Submitted to:
U.S. Army Corps of Engineers

Prepared by:
San Bernardino County Flood Control District
Environmental Mangement Division
825 E. Third Street, Room 127
San Bernardino, CA 92415-0835

July 2003

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To TINA GARG	From FRANK MOLINA	
Co./Dept.	Co. SBCo DPW-EMD	
Phone #	Phone #	
Fax #	Fax #	

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Appendix A **California Department of Fish and Game 1601 Agreement**

REVEGETATION PLAN
CACTUS BASIN NO. 3

Provided as Mitigation for the Rialto Channel-Baseline RCB Project

Introduction and Background

This revegetation plan is being prepared as a requirement of U.S. Army Corps of Engineers 404 permit (Corps) No. 200300220-GS and California Department of Fish and Game (DFG) Streambed Alteration Agreement Notification No. 6-2002-193 (Appendix A).

In June 2002, the San Bernardino County Flood Control District (District) notified the DFG of its intent to replace two (2) thirty-(30)-inch pipes, under Baseline Road, with a reinforced concrete box (RCB). Additionally, 148 linear feet of concreted-rock channel bottom and side slopes and 210 linear feet of rip rap sides with natural invert will be constructed for the additional runoff that will be directed into the northern Cactus Basins from the new I-210 freeway. As part of the five-(5) year mitigation plan, approximately fifteen (15) mule fat (*Baccharis viminea*), and fifteen (15) willows (*Salix brachycarpa and Salix spp*) will be planted over 0.8 acres within Cactus Basin No. 3, using seeds and cuttings.

Corps Permit Conditions:

The Corps had requested that 0.8 acres of riparian habitat be provided through the establishment of native riparian species within the Cactus Basin No. 3, a flood control facility located north of Baseline Road in the City of Rialto.

The following criteria was developed and assessed.

- Depth to groundwater
- Soil type and compaction
- Irrigation/water sources

The Cactus Basins, classified as storm water debris basins, receive runoff from Highland Avenue. The District identified the lower eastern portion of Cactus Basin No. 3 as the most appropriate site for revegetation for the following reasons:

Depth to groundwater: Riparian species will typically root in groundwater or in the fringe zone. The depth to groundwater at this site is approximately 600 to 800 feet below ground surface (bgs). This is too deep for the roots for riparian species. However, the basin does retain stormwater.

Soil type and compaction: The soil type is generally deep, coarse grained, and excessively well drained on level to moderately level slopes. The specific soil type found on the project site is Tujunga gravelly loamy sand on nearly level slopes. This soil type is highly permeable and therefore runoff is low and erosion hazard is minimal. This soil type is anticipated to retain adequate amounts of water, when saturated, while providing some drainage. The soil is moderately compacted.

Irrigation/water sources: No irrigation system is available at the site. The source of water is stormwater runoff.

Project Design

District staff engineers began preparing plans for Cactus Basin No. 3 in June 2002. The goal of the design was to provide a 0.8- acre area within the basin that is approximately three (3) to four (4) feet above the average water depth. The average water depth is unknown, but was assumed to be approximately one (1) to three (3) feet above the basin floor. The water level can be controlled by a weir or pipe through the north embankment. During the summer of 2003, the District's Environmental Management Division staff will make periodic visits to the basin to observe the flows. The soil here is anticipated to provide adequate water for establishment and maintenance of the riparian plants in the revegetation area.

Site Preparation and Planning

In the winter of 2003, a District Biologist will obtain cuttings of willow from along the Santa Ana River. The work will be performed in a manner that will not impact potential habitat for nesting birds. Approximately thirty (30) cuttings of willows will be required. This will provide a 2:1 ratio and assumes a 50% mortality rate. The District Biologist will plant the cutting stock in the project area within five (5) days of taking the stock from the Santa Ana River, or within five (5) days of a predicted major storm event.

Mule fat seeds will be scattered randomly throughout the project site. Willow cuttings will be placed on a minimum of eight (8)-foot centers and random areas throughout the project site. Slight adjustments may be made in the field as deemed necessary by the Biologist. The Biologist will take field notes during the installation of the plants, noting soil conditions, water availability, climatic conditions, and any design changes. After the planting is complete, the District will survey and map the site so a set of as-built drawings can be created.

Maintenance

District maintenance crews will be trained to recognize the desirable and undesirable plant species in the project area. As an alternative, the District may contract out the work to a qualified biologist. The District Biologist will train maintenance crews by January 30, 2004, as to the appropriate maintenance of the project site. According to the verbal authorization by the DFG and the Corps, District maintenance crews will utilize Rodeo, or other environmentally-safe herbicide, to spot spray any tree tobacco (*Nicotiana glauca*), Tamarisk (*Tamarix* spp.), and mustard. Exotics that do not represent a threat to the successful establishment of the target vegetation, such as sweet clovers (*Melilotus* spp.), will not be removed. All weed removal will be performed by hand in the project area. Large clumps of weeds in the project area may be sprayed with Rodeo, or other acceptable herbicide, and left to decompose. Otherwise, individual plants may be sprayed with Rodeo, or other acceptable herbicide, and should be pulled by hand, once the plants die. Machines may be used along the side slopes of the basin that are not part of the project area. Machinery may not be used along the side slopes during bird breeding season, from March 1 to August 31, without a biologist present.

Monitoring and Annual Reporting

A biologist or botanist will monitor the site qualitatively twice per month during the first ninety (90) days after installation. Monitoring at a reduced frequency may be implemented at the direction of the Biologist.

A series of photo stations will be identified by the Biologist prior to construction. Photos will be taken prior to construction, one (1) set during construction, and one (1) set immediately after construction. Photos will be taken once per month during the first ninety (90) days after installation.

After the first ninety (90) days, the Biologist will visit the site twice per month through the remainder of the year. Adjustments to water levels and control of exotic species can be made at those times.

Photos will be taken quarterly during those visits. The Biologist will continue to monitor the site twice per month during the second through fifth years of the District's responsibility. Photos will be taken quarterly during those years.

After each visit throughout the District's responsibility period of five (5) years, the Biologist will document each visit. The notes will be used to prepare an annual report. The draft report will recommend any mitigation measures or enhancements, if needed to be implemented the following year. Subsequent annual reports will discuss the success of the mitigation or enhancements, as required. Draft copies of the annual report will be prepared and submitted to the DFG and Corps. Each agency will be requested to review the report within thirty (30) days and submit comments back to the District. The District will incorporate comments of the DFG and the Corps and submit a Final Report within thirty (30) days of receiving the DFG and Corps' comments.

Success Criteria

No irrigation system is proposed, and any water to the site will be supplied by storm runoff. Because of this, success criteria has been established that will be similar to what may be found in a natural environment.

The following success criteria are proposed:

- Year 1 – December 15, 2003 through December 15, 2004 – 20 percent cover
- Year 2 – December 16, 2004 through December 16, 2005 – 35 percent cover (cumulative)
- Year 3 – December 17, 2005 through December 17, 2006 – 45 percent cover (cumulative)
- Year 4 – December 18, 2006 through December 18, 2007 – 50 percent cover (cumulative)
- Year 5 – December 19, 2007 through December 19, 2008 – 65 percent cover (cumulative)

District Responsibility and Liabilities

The District is liable for propagating this site and insuring the success of this project for five (5) years from the date of planting. The scope of the District's responsibility is limited to that which can be controlled by the District. The District will make every effort to control exotic weeds, vehicle access, pedestrian access, and water into the basin, as available by storm runoff. The District will be responsible for re-planting areas of the project site deemed damaged by vehicles, pedestrians, and weed infestation. The District will make every effort to ensure the success of the project with the limited water available. If the success criteria are not met after the second year, the District Biologist will make a determination as to the probable cause(s) of the failure. Recommendations and adjustments may be made, depending upon the circumstances.

The District is not responsible for propagating, maintaining, or restoring this site in the event of acts of nature, such as fire, flood, vector or insect infestation, plant diseases, drought, earthquake, or other natural events that are beyond the control of the District. If success criteria are met before the end of the five-year responsibility period, the District's responsibility will end, with the approval of the DFG and the Corps.

APPENDIX D
STORMWATER POLLUTION PREVENTION PLAN

COUNTY OF SAN BERNARDINO, CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
CACTUS BASIN #3 CONSTRUCTION PROJECT
CONSTRUCTION STORM WATER POLLUTION PREVENTION PLAN (SWPPP)

Prepared for:

Lilburn Corporation.
1905 Business Center Drive
San Bernardino, California 92408

and

San Bernardino Department of Public Works
825 East Third Street
San Bernardino, California 92415

Prepared by:

Golder Associates Inc.
230 Commerce, Suite 200
Irvine, California 92602

August 2006

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COUNTY OF SAN BERNARDINO, CALIFORNIA DEPARTMENT OF PUBLIC WORKS CACTUS BASIN #3 CONSTRUCTION PROJECT CONSTRUCTION STORM WATER POLLUTION PREVENTION PLAN (SWPPP)

DESCRIPTION OF GENERAL PERMIT CONDITIONS

This construction Stormwater Pollution Prevention Plan (SWPPP) has been prepared 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 General Permit regulates pollutants in discharges of storm water associated with construction activity (storm water discharges) to surface waters, except from those areas on Tribal Lands; Lake Tahoe Hydrologic Unit; construction projects which disturb less than one acre, unless part of a larger common plan of development or sale; and storm water discharges which are determined ineligible for coverage under this General Permit by the California Regional Water Quality Control Boards (RWQCBs).

Federal regulations for controlling pollutants in storm water runoff discharges were promulgated by the U.S. Environmental Protection Agency (USEPA) (40 CFR Parts 9, 122, 123, and 124). The regulations require discharges of storm water to surface waters associated with construction activity including clearing, grading, and excavation activities (except operations that result in disturbance of less than one acre of total land area and which are not part of a larger common plan of development or sale) to obtain an NPDES permit and to implement Best Available Technology Economically Achievable (BAT) and Best Conventional Pollutant Control Technology (BCT) to reduce or eliminate storm water pollution. No numeric effluent limitations have been established for pollutants in storm water discharges from construction activities. Instead, the provisions of this General Permit require implementation of Best Management Practices (BMPs) to control and abate the discharge of pollutants in storm water discharges.

This SWPPP has been prepared for use in the Environmental Impact Report (EIR) to be submitted to the Santa Ana RWQCB by San Bernardino County. This SWPPP covers activities associated with the Cactus Basin #3 Construction Project, including work on Cactus Basin #'s 3 and 3A and the mitigation area (see Figure 1).

The proposed project is situated in the north-central portion of the City of Rialto in the eastern half of Township 1 North, Range 5 West, Section 34 (see Figure 1). The subject property is owned by San Bernardino County and includes upwards of 140 acres. The Cactus Basins (Basin #'s 3, 3A, 4, and 5) are located between Highland Avenue and Baseline Road, west of Cactus Avenue, and east of Ayala Drive. The Jerry Eaves Park lies west of the project site and adjacent to Basin #3 and the lower portions of the planned Cactus Basin 4. The Rialto Municipal Airport lies further to the west of the project and residential development is adjacent to the east of the basins. To the north is vacant land that is planned for the future development of Cactus Basin #'s 4 and 5. South of the Upper Cactus Basins are the existing Cactus Basin #'s 1 and 2, which are located south of Baseline Road. This SWPPP pertains only to the construction of Basin #'s 3 and 3A.

Basin #3 was previously mined for gravel starting in June of 1984. The current design of Basin #3 involves grading the floor of this basin down to an average elevation of approximately 1,345 feet above mean sea level (asl). The final floor elevation for Basin #3A will be, on average, approximately 1,340 feet asl in the southwest portion of the basin and 1,344 feet asl in the Mitigation Area of the basin. The top of the sideslopes for both basins will range between approximately 1,360 feet and 1,390 feet asl, with sideslope heights between approximately 10 feet and 45 feet. Typical slopes for the basins will be inclined 3H:1V (horizontal:vertical). The top of the sideslopes around Basin #3, called the Dam Axis, will be level and measures 20 feet in width. The Dam Axis will encircle all of Basin #3 except for its northern side. The top of the sideslopes around Basin #3A, called the Mitigation Axis, will also be level and measures 20 feet in width. The Mitigation Axis will encircle all of Basin #3A. Aggregate resources (i.e., sand and gravel) removed during excavation of the basins that is not utilized during basin construction will continue to be used to meet a strong market demand resulting from the local growth and associated construction.

A dam embankment will separate Basin #'s 3 and 3A. The top of the dam embankment, called the Dam Crest, is level and will be 40 feet wide. Surface water in the area will flow southward from the existing Cactus Channel into Basin #3 and from Basin #3 into Basin #3A through a proposed 96-inch reinforced concrete pipe installed under the dam embankment. Surface water will then flow from Basin #3A through an existing reinforced concrete box and pipe structure (located in the southwest corner of Basin #3A) under Baseline Road into the existing Rialto Channel and Basins 1 and 2. The dam embankment will have a backup, 120-foot-wide spillway that will handle additional surface water flows if needed.

Each basin will include access ramps to their floors. A typical access ramp will be 15 feet wide and will include access for required construction or basin improvements.

SECTION A - STORM WATER POLLUTION PREVENTION PLAN

A.1.0 Objectives

a. Identify all pollutant sources including sources of sediment that may affect the quality of storm water discharges associated with construction activity (storm water discharges) from the construction site.
b. Identify non-storm water discharges.
c. Identify, construct, implement in accordance with a time schedule, and maintain BMPs to reduce or eliminate pollutants in storm water discharges and authorized non-storm water discharges from the construction site.
d. Develop a maintenance schedule for BMPs installed during construction designed to reduce or eliminate pollutants after construction is completed (post-construction BMPs).
e. Identify a sampling and analysis strategy and sampling schedule for discharges from construction activity which discharge directly into any water bodies listed on Attachment 3 of the General Permit (Clean Water Act Section 303(d) [303(d)] Water Bodies listed for Sedimentation).
f. For all construction activity, identify a sampling and analysis strategy and sampling schedule for discharges that have been discovered through visual monitoring to be potentially contaminated by pollutants not visually detectable in the runoff.

A.2.0 Implementation Schedule

San Bernardino County will submit a Notice of Construction (NOC) to be covered under the California General Storm Water Permit for the inclusion of construction activities associated with the Cactus Basin #3 Construction Project. San Bernardino County and its Contractors will implement the measures identified in this SWPPP throughout construction. San Bernardino County will ensure the BMPs are maintained until the permanent erosion control measures are effectively implemented.

A.3.0 Availability

A minimum of one copy of this SWPPP shall remain on the construction site while the site is under construction, commencing with the effective date of this SWPPP and ending with termination of coverage under the Construction General Permit.

A.4.0 Required Changes

a. San Bernardino County shall amend the SWPPP whenever there is a change in construction or operations which may affect the discharge of pollutants to surface waters, ground waters, or a municipal separate storm sewer system (MS4). The SWPPP shall also be amended if San Bernardino County violates any condition of this General Permit or has not achieved the general objective of reducing or eliminating pollutants in storm water discharges. If the Santa Ana RWQCB determines that San Bernardino County is in violation of this General Permit, the SWPPP shall be amended and implemented in a timely manner, but in no case more than 14-calendar days after notification by the RWQCB. All amendments should be dated and directly attached to the SWPPP.
b. The Santa Ana RWQCB may require San Bernardino County to amend the SWPPP.

A.5.0 Source Identification

Project Information

A site vicinity map is attached as Figure 1. Figure 2 shows the major roadways near the Cactus Basin #3 Construction Project along with the following information:

- Perimeters of the construction site including Cactus Basin #3 (30.9 acres) and Cactus Basin #3A (10.4 acres).
- Inlets draining storm water into the construction areas, including storm water pipe inlets and the Cactus Channel inlet into Cactus Basin #3.
- The discharge from Cactus Basin #3A into the Rialto Channel.
- Geographic features and topography surrounding the Cactus Basin #3 area.

General Description of the Cactus Basin #3 Construction Project

The purpose of the existing Cactus Basins 1 and 2 is to provide temporary storm water detention (to safely control and pass peak storm water flows) in the Rialto Channel/Cactus Basins system. The construction of State Route 30 is expected to increase storm water flows into the Cactus Basins, requiring improvements to the system.

This project can be divided into two components: Cactus Basin #3 and Cactus Basin #3A (including the Mitigation Area). As part of this project, Cactus Basin #3 will be enlarged, mostly via excavation, to detain and convey the additional storm water flows. Features of Basin #3 include:

- Inside embankment slopes of 3H:1V and outside embankment slopes of 2H:1V;
- Four storm water inlet pipes;
- A gravel pad inlet allowing water from the Cactus Channel to enter Basin #3 from the north;
- A 96-inch RCP low level outlet that will drain water from Basin #3 into Basin #3A;
- A 120-foot bottom width spillway with a gravel pad entrance between Basin #3 and Basin #3A; and
- Two 15-foot wide access ramps (on the east and west sides).

To create additional storm water detention capacity, Cactus Basin #3A (which includes a Mitigation Area over its eastern portion) will be constructed adjacent to and south (downstream) of Cactus Basin #3. The Mitigation Area of Basin #3A will receive storm water flows from two inlets on its east side and the western portion of Basin #3A will receive surface water from Basin #3 from the low level outlet and the spillway as well as surface water from the Mitigation Area. Surface water will drain from Basin #3A into the Rialto Channel through a 12-foot by 6-foot rectangular concrete box culvert. Other features of Basin #3A include:

- Inside embankment slopes ranging from 2.25H:1V to 3H:1V;
- Outside embankment slopes of 2H:1V;
- Spillway and 96-inch RCP inlets with gravel pad protection that convey surface water from Basin #3;
- A 36-inch RCP and a 10-foot wide concrete swale that convey surface water into the Mitigation Area; and
- Two 15-foot wide access ramps (on the west and south sides).

Pollutant Source Identification

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.
- Drainage patterns and slopes after major grading activities are shown in Figure 2. 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).

SWPPP Provisions and BMP Identification

During construction of the detention basins, BMPs for construction activities will be employed to prevent stormwater pollution in conformance with those listed in Appendix A. 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 construction. 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.

Notice of Construction and Waste Discharge Identification Number

The Notice of Construction (NOC) for the Cactus Basin #3 Construction Project has not been completed, but will be submitted prior to construction. A Waste Discharge Identification (WDID) number is not typically issued until the NOC is received and processed by the RWQCB.

Additional Information

Construction activities have not been scheduled as of August 2006. BMPs will be implemented and maintained through the construction and post-construction periods. The San Bernardino County Water Resources Division performed calculations to determine the 100-year flow rate in Cactus Basin°#3. The anticipated 100-year peak flow is 3,320 cfs. The District has a frequency relations chart for the County of San Bernardino that shows an approximate percentage in relation to 100-year storm for any storm frequency between 2-year and 100-year storm. The flow rates value determined for different storm frequencies from this chart area as follows:

- 2-year. $Q_2 = 1{,}210$ cfs.
- 5- year. $Q_5 = 1{,}690$ cfs.
- 10-year. $Q_{10} = 2{,}130$ cfs.
- 25-year. $Q_{25} = 2{,}600$ cfs.
- 50-year. $Q_{50} = 2{,}940$ cfs.

The calculations for ~~flow~~ the 100-year flow rates was~~ere~~ done by using a basin routing program that routes the inflows through Cactus Basin #'s 3, 4 and 5 and is giving the outflow hydrographs at the outlet from each basin. The hydrographs show the peak flow rate at that particular node (San Bernardino County Water Resources Division, 2004). The size of the construction site is 41.1 acres. The runoff coefficients for the construction of Cactus Basin #3 and #3A before and after construction are 0.81 and 0.86, respectively. The percentage impervious area before and after construction are zero and 7.3 percent, respectively.

The following qualified people are assigned responsibility for pre-storm, post-storm, and storm event BMP inspections as well as preparing and implementing the SWPPP and overseeing monitoring activities and preparation of the annual storm water report. Individual contact information will be provided prior to construction.

- San Bernardino County representative:_____
- Contractor representative:_____

The following qualified people are assigned the responsibility to ensure full compliance with the permit and implementation of all elements of the SWPPP, including the preparation of the annual compliance evaluation and the elimination of all unauthorized discharges. Individual contact information will be provided prior to construction.

- San Bernardino County representative:_____
- Contractor representative:_____

A.6.0 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 of Basin #'s 3 and 3A will be revegetated through hydroseeding (BMP EC-4), as shown on Figure 2. The sideslopes of the dam embankment between Basin #'s 3 and 3A will not be hydroseeded due to California Division of Safety of Dams (DSOD) regulations. 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 (see Figure 2). At a minimum, silt fences (BMP SE-1) will be installed along the bottoms of the outside sideslopes of the embankments as shown on Figure 2 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 is responsible for determining the need for and implementing temporary erosion control methods.

A.7.0 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. The qualified person(s) listed above under "Additional Information" (Section A.5.0) have been 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, but 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.

A.8.0 Maintenance, Inspection, and Repair

This SWPPP requires 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.

A.9.0 Training

Individuals responsible for SWPPP preparation, implementation, and permit compliance shall be appropriately trained and the SWPPP shall document all training. This includes those personnel responsible for installation, inspection, maintenance, and repair of BMPs. Those responsible for overseeing, revising, and amending the SWPPP shall also document their training. Training should be both formal and informal, occur on an ongoing basis when it is appropriate and convenient, and should include training/workshops offered by the SWRCB, RWQCB, or other locally-recognized agencies or professional organizations.

A.10.0 List of Contractors/Subcontractors

The following is a list of the names of all contractors (or subcontractors) and individuals responsible for implementation of this SWPPP:

San Bernardino County representative
Specific areas of responsibility:
Emergency contact numbers:

Contractor representative
Specific areas of responsibility:
Emergency contact numbers:

A.11.0 Other Plans

There are no other local, State, or Federal plans.

A.12.0 Public Access

This SWPPP shall be provided, upon request, to the RWQCB. This SWPPP is considered a report that shall be available to the public by the RWQCB under section 308(b) of the Clean Water Act.

A.13.0 Preparer Certification

This SWPPP and each amendment shall be signed by the landowner (discharger) or his/her representative and include the date of initial preparation and the date of each amendment.

SECTION B - MONITORING PROGRAM AND REPORTING REQUIREMENTS

B.1.0 Required Changes

The RWQCB may require the discharger to conduct additional site inspections, to submit reports and certifications, or perform sampling and analysis.

B.2.0 Implementation

- The requirements of this Section shall be implemented from the effective date of this SWPPP (see also Section A.2. Implementation Schedule). The discharger is responsible for implementing these requirements until construction activity is complete and the site is stabilized.
- For ongoing construction activity involving a change in ownership of property covered by this General Permit, the new owner must complete a NOC and implement the requirements of this Section concurrent with the change of ownership. For changes of information, the owner must follow instructions in C.7.0 Special Provisions for Construction Activity of the General Permit.

B.3.0 Site Inspections

Qualified personnel shall conduct inspections of the construction site prior to anticipated storm events, during extended storm events if it is safe to do so, and after actual storm events to identify areas contributing to a discharge of storm water associated with construction activity. The name(s) and contact number(s) of the assigned inspection personnel are listed in Sections A.5.0 and A.8.0. Pre-storm inspections are to ensure that BMPs are properly installed and maintained; post-storm inspections are to assure that the BMPs have functioned adequately. During extended storm events, inspections shall be required each 24-hour period. BMPs shall be evaluated for adequacy and proper implementation and whether additional BMPs are required in accordance with the terms of the General Permit (see language in Section A.8.0 Maintenance, Inspection, and Repair). Implementation of non-storm water discharge BMPs shall be verified and their effectiveness evaluated. One time discharges of non-storm water shall be inspected when such discharges occur.

B.4.0 Compliance Certification

Each discharger or qualified assigned personnel listed by name and contact number in the SWPPP must certify annually that construction activities are in compliance with the requirements of the General Permit and this SWPPP. This Certification shall be based upon the site inspections required in Item 3.0 of this Section. The certification must be completed by July 1 of each year.

B.5.0 Noncompliance Reporting

Dischargers who cannot certify compliance, in accordance with Item 4.0 of this Section and/or who have had other instances of noncompliance excluding exceedances of water quality standards as defined in Section B.3.0 Receiving Water Limitations Language, shall notify the Santa Ana RWQCB within 30 days. Corrective measures should be implemented immediately following discovery that water quality standards were exceeded. The notifications shall identify the noncompliance event,

including an initial assessment of any impact caused by the event; describe the actions necessary to achieve compliance; and include a time schedule subject to the modifications by the Santa Ana RWQCB indicating when compliance will be achieved. Noncompliance notifications must be submitted within 30-calendar days of identification of noncompliance.

B.6.0 Monitoring Records

Records of all inspections, compliance certifications, and noncompliance reporting must be retained for a period of at least three years from the date generated. With the exception of noncompliance reporting, dischargers are not required to submit these records.

B.7.0 Monitoring Program for Sedimentation/Siltation

This section (B.7.0) does not apply to the Cactus Basin #3 project as it does not directly discharge to a sediment-impaired receiving water. However, dischargers of storm water associated with construction activity that directly enters a water body listed in Attachment 3 of the Construction Activity (General Permit), Water Quality Order 99-08-DWQ shall conduct a sampling and analysis program for the pollutants (sedimentation/siltation or turbidity) causing the impairment. The discharger shall monitor for the applicable parameter. If the water body is listed for sedimentation or siltation, samples should be analyzed for Settleable Solids (ml/l) and Total Suspended Solids (mg/l). Alternatively or in addition, samples may be analyzed for suspended sediment concentration according to ASTM D3977. If the water body is listed for turbidity, samples should be analyzed for turbidity (NTU). Discharges that flow through tributaries that are not listed in Attachment 3 (of the General Permit) or that flow into Municipal Separate Storm Sewer Systems (MS4) are not subject to these sampling and analysis requirements. The sampling and analysis parameters and procedures must be designed to determine whether the BMPs prevent discharges of sediment from contributing to impairment in receiving waters. Storm water discharges from the Cactus Basin #'s 3 and 3A construction site do not directly enter any of the water bodies listed.

Samples shall be collected during the first two hours of discharge from rain events which result in a direct discharge to any water body listed in Attachment 3 (of the General Permit). Visual monitoring shall be performed during daylight hours (sunrise to sunset). Dischargers need not collect more than four (4) samples per month. All samples shall be taken in the receiving waters and shall be representative of the prevailing conditions of the water bodies. Samples shall be collected from safely accessible locations upstream of the construction site discharge and immediately downstream from the last point of discharge.

For laboratory analysis, all sampling, sample preservation, and analyses must be conducted according to test procedures under 40 CFR Part 136. Field samples shall be collected and analyzed according to the specifications of the manufacturer of the sampling devices employed. Portable meters shall be calibrated according to manufacturer's specification. All field and/or laboratory analytical data shall be kept in this SWPPP document, which is to remain at the construction site at all times until a Notice of Termination has been submitted and approved.

B.8.0 Monitoring Program for Pollutants Not Visually Detectable in Storm Water

A sampling and analysis program shall be developed by the contractor and conducted for pollutants which are not visually detectable in storm water discharges, which are or should be known to occur on the construction site, and which could cause or contribute to an exceedance of water quality

objectives in the receiving water. Pollutants that should be considered for inclusion in this sampling and analysis program are those identified in Section A.5.0.

The contractor shall be responsible for ensuring that a sampling and analysis program is implemented for the project. The contractor may perform the sampling and analysis or hire a consultant to perform the service. The contractor or consultant shall designate qualified people to conduct sampling, have supplies for sampling available on site, and have a plan for sampling and analysis. Below is a generic discussion of monitoring for pollutants not visually detectable in storm water that should be amended/adjusted by the contractor to be site-specific.

Construction materials and compounds that are not stored in water-tight containers under a water-tight roof or inside a building are examples of materials for which the discharger may have to implement sampling and analysis procedures. The goal of the sampling and analysis is to determine whether the BMPs employed and maintained on site are effective in preventing the potential pollutants from coming into contact with storm water and causing or contributing to an exceedance of water quality objectives in the receiving waters. Examples of construction sites that may require sampling and analysis include: sites that are known to have contaminants spilled or spread on the ground; sites where construction practices include the application of soil amendments, such as gypsum, which can increase the pH of the runoff; or sites having uncovered stockpiles of material exposed to storm water. Visual observations before, during, and after storm events may trigger the requirement to collect samples. Any breach, malfunction, leakage, or spill observed which could result in the discharge of pollutants to surface waters that would not be visually detectable in storm water shall trigger the collection of a sample of discharge. Samples shall be collected at all discharge locations which drain the areas identified by the visual observations and which can be safely accessed. For sites where sampling and analysis is required, personnel trained in water quality sampling procedures shall collect storm water samples. A sufficiently large sample of storm water that has not come into contact with the disturbed soil or the materials stored or used on-site (uncontaminated sample) shall be collected for comparison with the discharge sample. Samples shall be collected during the first two hours of discharge from rain events that occur during daylight hours and which generate runoff.

The uncontaminated sample shall be compared to the samples of discharge using field analysis or through laboratory analysis. Analyses may include, but are not limited to, indicator parameters such as: pH, specific conductance, dissolved oxygen, conductivity, salinity, and TDS.

For laboratory analysis, all sampling, sample preservation, and analyses must be conducted according to test procedures under 40 CFR Part 136. Field discharge samples shall be collected and analyzed according to the specifications of the manufacturer of the sampling devices employed. Portable meters shall be calibrated according to manufacturer's specification. All field and/or analytical data shall be kept in this SWPPP document, which is to remain at the construction site at all times until a Notice of Termination has been submitted and approved.

SECTION C - STANDARD PROVISIONS FOR CONSTRUCTION ACTIVITY

C.1.0 Duty to Comply

The discharger must comply with all of the conditions of the General Permit. Any permit noncompliance constitutes a violation of the Clean Water Act (CWA) and the Porter-Cologne Water Quality Control Act and is grounds for enforcement action and/or removal from General Permit coverage.

The discharger shall comply with effluent standards or prohibitions established under Section 307(a) of the CWA for toxic pollutants within the time provided in the regulations that establish these standards or prohibitions, even if the General Permit has not yet been modified to incorporate the requirement.

C.2.0 General Permit Actions

The General Permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the discharger for a General Permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not annul any General Permit condition.

If any toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is promulgated under Section 307(a) of the CWA for a toxic pollutant which is present in the discharge and that standard or prohibition is more stringent than any limitation on the pollutant in the General Permit, then the General Permit shall be modified or revoked and reissued to conform to the toxic effluent standard or prohibition and the dischargers so notified.

C.3.0 Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for a discharger in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of the General Permit.

C.4.0 Duty to Mitigate

The discharger shall take all responsible steps to minimize or prevent any discharge in violation of the General Permit that has a reasonable likelihood of adversely affecting human health or the environment.

C.5.0 Proper Operation and Maintenance

The discharger shall at all times properly operate and maintain any facilities and systems of treatment and control (and related appurtenances) which are installed or used by the discharger to achieve compliance with the conditions of the General Permit and with the requirements of this SWPPP. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. Proper operation and maintenance may require the operation of backup or

auxiliary facilities or similar systems installed by a discharger when necessary to achieve compliance with the conditions of the General Permit.

C.6.0 Property Rights

The General Permit does not convey any property rights of any sort or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor does it authorize any infringement of Federal, State, or local laws or regulations.

C.7.0 Duty to Provide Information

The discharger shall furnish the RWQCB, SWRCB, or USEPA, within a reasonable time, any requested information to determine compliance with the General Permit. The discharger shall also furnish, upon request, copies of records required to be kept by the General Permit.

C.8.0 Inspection and Entry

The discharger shall allow the RWQCB, SWRCB, USEPA, and/or, in the case of construction sites which discharge through a municipal separate storm sewer, an authorized representative of the municipal operator of the separate storm sewer system receiving the discharge, upon the presentation of credentials and other documents as may be required by law, to:

a. Enter upon the discharger's premises at reasonable times where a regulated construction activity is being conducted or where records must be kept under the conditions of the General Permit;
b. Access and copy at reasonable times any records that must be kept under the conditions of the General Permit;
c. Inspect at reasonable times the complete construction site, including any off-site staging areas or material storage areas, and the erosion/sediment controls; and
d. Sample or monitor at reasonable times for the purpose of ensuring General Permit compliance.

C.9.0 Signatory Requirements

a. All Notice of Constructions (NOCs), Notice of Terminations (NOTs), SWPPPs, certifications, and reports prepared in accordance with the General Permit that are submitted to the SWRCB shall be signed as follows:

    (1) For a corporation: by a responsible corporate officer. For the purpose of this Section, a responsible corporate officer means: (a) a president, secretary, treasurer, or vice president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation, or (b) the manager of the construction activity if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures;

    (2) For a partnership or sole proprietorship: by a general partner or the proprietor, respectively; or

(3) For a municipality, State, Federal, or other public agency: by either a principal executive officer, ranking elected official, or duly authorized representative. The principal executive officer of a Federal agency includes the chief executive officer of the agency or the senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrator of USEPA).

b. All SWPPPs, reports, certifications, or other information required by the General Permit and/or requested by the RWQCB, SWRCB, USEPA, or the local storm water management agency shall be signed by a person described above or by a duly authorized representative. A person is a duly authorized representative if:

(1) The authorization is made in writing by a person described above and retained as part of this SWPPP; or

(2) The authorization specifies either an individual or a position having responsibility for the overall operation of the construction activity, such as the position of manager, operator, superintendent, or position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position).

c. If an authorization is no longer accurate because a different individual or position has responsibility for the overall operation of the construction activity, a new authorization must be attached to this SWPPP prior to submittal of any reports, information, or certifications to be signed by the authorized representative.

C.10.0 Certification

Any person signing documents under Section C, Provision 9 above, shall make the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, to the best of my knowledge and belief, the information submitted is, true, accurate, and complete.

I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

C.11.0 Anticipated Noncompliance

The discharger will give advance notice to the RWQCB and local storm water management agency of any planned changes in the construction activity which may result in noncompliance with General Permit requirements.

C.12.0 Penalties for Falsification of Reports

Section 309(c)(4) of the CWA provides that any person who knowingly makes any false material statement, representation, or certification in any record or other document submitted or required to be maintained under the General Permit, including reports of compliance or noncompliance, shall upon conviction be punished by a fine of not more than $10,000 or by imprisonment for not more than two years or by both.

C.13.0 Oil and Hazardous Substance Liability

Nothing in the General Permit shall be construed to preclude the institution of any legal action or relieve the discharger from any responsibilities, liabilities, or penalties to which the discharger is or may be subject to under Section 311 of the CWA.

C.14.0 Severability

The provisions of the General Permit are severable; and, if any provision of the General Permit or the application of any provision of the General Permit to any circumstance is held invalid, the application of such provision to other circumstances and the remainder of the General Permit shall not be affected thereby.

C.15.0 Reopener Clause

The General Permit may be modified, revoked and reissued, or terminated for cause due to promulgation of amended regulations, receipt of USEPA guidance concerning regulated activities, judicial decision, or in accordance with 40 Code of Federal Regulations (CFR) 122.62, 122.63, 122.64, and 124.5.

C.16.0 Penalties for Violations of Permit Conditions

a. Section 309 of the CWA provides significant penalties for any person who violates a permit condition implementing Sections 301, 302, 306, 307, 308, 318, or 405 of the CWA or any permit condition or limitation implementing any such section in a permit issued under Section 402. Any person who violates any condition of the General Permit is subject to a civil penalty not to exceed $27,500 per calendar day of such violation, as well as any other appropriate sanction provided by Section 309 of the CWA.

b. The Porter-Cologne Water Quality Control Act also provides for civil and criminal penalties which in some cases are greater than those under the CWA.

C.17.0 Availability

A copy of the General Permit shall be maintained at the construction site during construction activity and be available to operating personnel.

C.18.0 Transfers

The General Permit is not transferable. A new owner of an ongoing construction activity must submit a NOC in accordance with the requirements of the General Permit to be authorized to discharge under the General Permit. An owner who sells property covered by the General Permit shall inform the new owner of the duty to file a NOC and shall provide the new owner with a copy of the General Permit.

C.19.0 Continuation of Expired Permit

The General Permit continues in force and effect until a new General Permit is issued or the SWRCB rescinds the General Permit. Only those dischargers authorized to discharge under the expiring General Permit are covered by the continued General Permit.

SECTION D - REFERENCES

San Bernardino County Department of Public Works, "Request for Proposal (RFP), EIR Supplemental and Federal Environmental Assessment for Construction of Cactus Basins," dated November 14, 2005.

San Bernardino County Flood Control District, "Plans for Construction of Cactus Basin No. 3 and 3A," Work Order No. F01666.

San Bernardino County Water Resources Division, Flood routing calculations prepared by WRD in Feb 2003, and revised in 2004.

SECTION E – MANAGEMENT APPROVAL

STORM WATER POLLUTION PREVENTION PLAN (SWPPP)

Name of Facility:	Cactus Basin #'s 3 and 3A
Type of Business:	Storm water detention basins
Location of Facility:	Northwest corner of Baseline Road and Cactus Avenue in Rialto, California
Facility Permit I.D. #	(To Be Determined)

MANAGEMENT APPROVAL

This SWPPP will be implemented as herein described.

Signature: _____

Name: _____

Title: _____

Date: _____

CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to ensure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitted false information, including the possibility of fine and imprisonment for knowing violations.

FIGURES

APPENDIX A

BMP DESCRIPTIONS

BMP #	BMP Name
EC-2	Preservation of Existing Vegetation
EC-4	Hydroseeding
EC-6	Straw Mulch
EC-7	Geotextiles and Mats
EC-10	Velocity Dissipation Devices
SE-1	Silt Fence
SE-4	Check Dams
SE-9	Straw Bale Barrier
WE-1	Wind Erosion Control
NS-5	Clear Water Diversion
NS-6	Illicit Connection/Discharge
NS-9	Vehicle and Equipment Fueling
NS-10	Vehicle and Equipment Maintenance
TC-1	Stabilized Construction Entrance/Exit
WM-4	Spill Prevention and Control

APPENDIX B

REQUIRED DOCUMENTATION

NOC and WDID

(TO BE PROVIDED BEFORE CONSTRUCTION)

INSPECTION RECORDS

(TO BE PROVIDED DURING CONSTRUCTION)

TRAINING DOCUMENTS

(TO BE PROVIDED BEFORE OR DURING CONSTRUCTION)

COMPLIANCE CERTIFICATIONS

(TO BE PROVIDED BEFORE OR DURING CONSTRUCTION)

CHAIN-OF-CUSTODY (COC) FORMS

(TO BE PROVIDED BEFORE OR DURING CONSTRUCTION)

OTHER DOCUMENTATION

(TO BE PROVIDED BEFORE OR DURING CONSTRUCTION)

APPENDIX C

CONSTRUCTION ACTIVITY COMPLETION SCHEDULE

(TO BE PROVIDED BEFORE CONSTRUCTION)

APPENDIX E
BIOLOGICAL TECHNICAL REPORT: CACTUS BASIN NO. 3 AND 3A

BIOLOGICAL TECHNICAL REPORT: CACTUS BASIN NO. 3 AND 3A

Prepared for:
LILBURN CORPORATION
1905 Business Center Drive
San Bernardino, CA 92408

Prepared by:
Scott D. White
SCOTT WHITE BIOLOGICAL CONSULTING
201 North First Ave., No. 102
Upland, CA 91786

31 August 2006

Scott D. White 31 Aug 2006

Scott D. White

INTRODUCTION

The County of San Bernardino Flood Control District (District) is proposing to amend planned improvements to the Rialto Channel / Cactus Basins flood control system. The proposed design differs from the planned improvements reviewed in a 1988 Environmental Impact Report (EIR), certified by the City of Rialto. In general, the improvements now proposed address additional storm flows resulting from the construction of State Route 30. This report addresses biological resources occurring, or potentially occurring, on the site.

The 1988 Cactus Basin EIR required revegetation on basin slopes and terraces to mitigate loss of native vegetation and habitat during basin construction. The District proposes the same measures to mitigate proposed new habitat loss: manufactured slopes adjacent to both basins would be revegetated with alluvial fan sage scrub species, according to specifications in a Draft Restoration / Revegetation Plan (LSA 2005). A separate riparian revegetation area is to be located just east of Basin 3A. Riparian revegetation planned for this area is intended to mitigate impacts of basin construction on existing wetlands or riparian habitat and function.

The project site is immediately north of Baseline Road just west of its intersection with Cactus Avenue, on the broad alluvial fan below Lytle Creek and Cajon Pass. The site has been mined for sand and gravel (USGS Fontana 7½' topographic map). Runoff water from the alluvial fan upslope is carried into the upper basin via Cactus Channel (maintained by the Flood Control District). Cactus Basin and Cactus Channel are not shown as blueline features on the USGS Fontana and Devore 7½'minute topographic maps.

METHODS

Scott D. White reviewed available literature to identify special status plants and animals known from the project site and vicinity. Literature sources included the California Natural Diversity Data Base (CNDDB 2005, 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* (2006, for the same quads) and compendia of special status species published by the US Fish and Wildlife Service (2004) and California Department of Fish and Game (CDFG; 2005a, 2005b). All species identified by this literature review, as well as others known from the general region, are included in attached appendices. Appendix 1 lists those species not considered for this report due to elevational or geographic ranges, or to specialized habitat requirements not found on the site. Appendix 2 lists special status species known from comparable habitats in the Fontana / Rialto area and summarizes their natural history, agency status, and occurrence probability on-site.

Scott D. White and Justin Wood (of Scott White Biological Consulting) visited the site on 6 February 2006 to document plants and animals on the site and describe vegetation and habitat. Wood visited the site again on 20 February to further document wildlife species and habitat. All accessible areas on the site were walked over. During both visits, weather was cool and clear. Winds were strong on 6 February, but much more calm on 20 February. A total of about 12 person-hours were spent on the site. All species seen were recorded in field notes. Plants of uncertain identity were collected and subsequently identified from keys, descriptions and illustrations in Abrams (1923-1960), Hickman (1993) and Munz (1974); voucher specimens of these species will be placed in the herbarium collection at Rancho Santa Ana Botanic Garden. A list of all species observed is attached.

We described vegetation types from our field notes, and mapped mapped them onto an aerial photograph (Fig. 3). San Bernardino County Flood Control District staff digitized the vegetation map and estimated acreages of each vegetation type (Table 1).

RESULTS

Vegetation and Habitat

The 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 site has been altered by other land uses, including former sand and gravel mining and the existing flood control basins.

There are scattered elements of alluvial fan sage scrub on the floor of the upper basin (Cactus Basin No. 3), but not in large enough patches to map for this report. Slopes on the west side of Cactus Basin No. 3 are dominated by native shrubs, but species diversity is very low, and the area may have been seeded following earlier construction work in the basin. The eastern slope of Basin No. 3 and adjacent alluvial bench at the top of the slope support a mix of native chaparral and coastal sage scrub shrubs, including California sagebrush (*Artemisia californica*), black sage (*Salvia mellifera*), California buckwheat (*Eriogonum fasciculatum*), chamise (*Adenostoma fasciculatum*), hollyleaf cherry (*Prunus ilicifolia*), prickly-pear cactus (*Opuntia littoralis* var. *vaseyi*) and several other shrubs. The shrubland structure is open, and areas between the native shrubs are heavily dominated by non-native weedy grasses and forbes including brome grasses, wild oats, and wild mustards. Both these areas are mapped as "degraded coastal sage scrub / chaparral (Fig. 3).

Much of the project area is an open flood channel, only sparsely vegetated with a mix of

native and non-native species characteristic of similar open washes throughout the region. This area does not matched written descriptions of alluvial fan sage scrub (Holland 1986) or saclebroom series (Sawyer & Keeler-Wolf 1995) due to very sparse plant cover.

There is a small (0.89 acres) stand of riparian woodland in the basin, just above the basin floor. Surface water was present within this woodland during our spring field visits. Dominant trees are Fremont cottonwood (*Populus fremontii*), red willow (*Salix laevigata*), and black willow (*S. gooddingii*). The shrubby understory is dominated by mulefat (*Baccharis salicifolia*). There is very little herbaceous vegetation due to shading.

The existing basin floors are maintained by the District for flood control purposes. They were covered with seedlings of herbaceous plants during our winter and spring field visits, but woody riparian vegetation cannot become established due to varying water levels, periodic brief inundation, and periodic debris and silt removal.

The slopes of the existing basins and access roads throughout the site make up the remaining land area. These areas are maintained for flood control and access purposes, and support only scattered weedy vegetation.

A vegetation map (Fig. 3) accompanies this report. We estimate vegetation and habitat acreages as follows:

Flood channel (open sand and gravel): 11.88 acres
Maintained flood basin: 9.23 acres
Maintained basin slopes and access roads: 12.20 acres
Riparian woodland: 0.89 acres
Degraded coastal sage scrub and chaparral: 12.04 acres

Riparian vegetation and degraded native shrublands on the site supports local wildlife species occurring in similar habitats shrublands 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 effects of habitat fragmentation were reviewed by Saunders et al. (1990) and Soule et al. (1992), among many others. In many regions, land development and linear structures (e.g., roadways) have converted once-contiguous habitat into scattered patches separated by barriers, so that individual animals and entire populations are now isolated in remnant habitat "fragments." Depending on their size and other characteristics, these fragments may not support viable populations of some animals. For example, certain bird populations (including California gnatcatcher) become extinct when their habitat is fragmented by urban development in San Diego (Soule et al. 1988).

The Cactus Basin site is partially isolated from other open space. It is bounded by Baseline Blvd. and adjacent development on the south and east, but much of the surrounding land to the north and west is open space (e.g., the Rialto Municipal Airport, Jerry Eaves Park, Cactus Basins Nos. 4 and 5, and vacant land to the immediate west). Cactus Basin is at the eastern end of about 2.5 square miles of mixed open space and low-density development between Baseline Blvd. and Highland Ave. (and the 210 Freeway now under construction). Major roads and other surrounding land uses tend to isolate or fragment natural habitat and wildlife populations within them. The result is that 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 patches tend to decline in numbers. Scattered development is ongoing throughout the area, and the 210 Freeway will create a complete barrier to movement for many species once completed.. Due to its increasing isolation from larger areas of natural open space, the project site will

support only remnant populations of many native wildlife species whose movement is interrupted 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 Acts. 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.

Special Status Plants

James Huelsman (of Leatherman BioConsulting Inc.) observed and photographed Plummer's mariposa lily (*Calochortus plummerae*) on the site during Spring 2006. Plummer's mariposa lily is on CNPS's 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 5600 feet. Its habitats include chaparral, coastal sage scrub, grassland, woodlands, and pine forests. It is not listed, proposed for listing, or a candidate for listing as threatened or endangered.

Based on habitat occurring on the project site, there is a low or moderate potential that several other special status plants could occur on the site (see Appendices 1 and 2). We did not observe any of these plants on the site, but we visited the property outside their flowering or growing seasons, and we therefore cannot make a conclusion of "absent" from the surveys.

Plants with a low or moderate probability of occurring on the site are: Parry's spineflower (*Chorizanthe parryi* var. *parryi*, low probability in remnant shrublands), white-bracted spineflower (*Chorizanthe xanti* var. *leucotheca*, low probability in remnant shrublands), Robinson's peppergrass (*Lepidium virginicum* var. *robinsonii*, moderate probability in remnant shrublands). None of these plants are listed as threatened or endangered under state or federal Endangered Species Acts or meets criteria for listing; instead, they are generally regarded as "special plants" by CDFG and are included in CNPS's Inventory (Appendix 2).

Special Status Wildlife

We observed three special status wildlife species on the site (San Diego black-tailed jackrabbit, horned lark, and Coopers hawk). James Huelsman (of Leatherman BioConsulting Inc.) also observed San Diego horned lizard, western whiptail, and Cooper's hawk on the site during Spring 2006. Biologists from Natural Resources Assessment, Inc. also reported San Bernardino kangaroo rat and San Diego pocket mouse on the site. Several other special status wildlife species could occur on the site or in the general area. All these species are addressed below and in Appendix 2.

San Diego black-tailed jackrabbit is the coastal subspecies of the common desert black-tailed jackrabbit. It is on CDFG's list of Species of Special Concern (CDFG 2005b) due to ongoing habitat loss and fragmentation. It is still relatively widespread in southern California. Its distribution, abundance and threat ranks do not meet criteria for state or federal listing., and adverse impacts would not meet CEQA standards for mandatory findings of significance.

California horned lark is the coastal California subspecies of the common and widespread horned lark. We observed horned larks in the basin area, but did not identify them as to subspecies. These birds could have been either the coastal California subspecies, or (more likely)

any of several other horned lark subspecies which spend winters in southern California. California horned lark is on CDFG's list of Species of Special Concern (CDFG 2005b) due to ongoing habitat loss and fragmentation, particularly in its breeding habitat (open fields and grasslands). The site would not provide suitable horned lark nesting habitat. Horned lark is still relatively widespread in southern California. Its distribution, abundance and threat ranks do not meet criteria for state or federal listing., and adverse impacts would not meet CEQA standards for mandatory findings of significance.

Cooper's hawk is a migratory hawk which nests in oak woodlands throughout much of southern California. Its nest sites are on CDFG's list of Species of Special Concern (CDFG 2005b) due to ongoing loss and fragmentation in woodlands. The Cooper's hawks observed at the site may have been migrant bird or seasonal visitors. There is no suitable oak woodland Cooper's hawk nesting habitat on the site, and Cooper's hawks would be unlikely to nest in the narrow strip of riparian woodland in the upper basin. Cooper's hawk is still relatively widespread in southern California. Its distribution, abundance and threat ranks do not meet criteria for state or federal listing., and adverse impacts would not meet CEQA standards for mandatory findings of significance.

Reptiles: San Diego horned lizard and coastal western whiptail occur on the site. Several other special status reptiles could also occur, with probabilities ranging from low to high. These include San Diego banded gecko, rosy boa, San Bernardino ringneck snake, red diamond rattlesnake, and coast patch-nosed snake. None of these species is listed as threatened or endangered under state or federal Endangered Species Acts or meets criteria for listing; instead, they are generally regarded as species of special concern by the California Department of Fish and Game (see Appendix 2). Adverse impacts to any of these reptiles would not meet CEQA standards for mandatory findings of significance.

Birds: Listed threatened or endangered birds known from the general area are generally limited to riparian habitats (e.g., southwestern willow flycatcher, least Bell's vireo) or coastal sage scrub (California gnatcatcher). There is a small patch of riparian habitat on the site (Figure 3) but it is not large enough to support breeding pairs of willow flycatchers or least Bell's vireos. Either of these listed threatened or endangered birds could visit the site briefly during migration, but would not breed there.

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. But there is a minimal probability that California gnatcatcher could occur on the Cactus Basin site due to isolation from larger tracts of undisturbed habitat and negative results of focused field surveys (Leatherman BioConsulting, Inc. 2006). The site is not within the area proposed as critical habitat by the US Fish and Wildlife Service (2003).

Other special status birds potentially occurring on the site, either to breed or to forage, include burrowing owl (low probability, open places) loggerhead shrike (high probability, throughout), Bell's sage sparrow (low probability, shrubland), southern California rufous-crowned sparrow (low probability, shrubland). None of these species is listed as threatened or endangered under state or federal Endangered Species Acts or meets criteria for listing; instead, they are generally regarded as species of special concern by the California Department of Fish and Game (see Appendix 2).

Many migratory birds, including some special status birds, might use the site briefly during spring or fall; these include southwestern willow flycatcher, least Bell's vireo, yellow warbler, and yellow-breasted chat. Several sensitive raptors might forage over the site, particularly during winter, but do not nest on the site. These include white-tailed kite, northern harrier, golden eagle,

ferruginous hawk, sharp-shinned hawk, Cooper's hawk (above), merlin, and prairie falcon.

Mammals: One federally listed small mammal, San Bernardino kangaroo rat (*Dipodomys meeriami parvus*), is known from similar habitats in the region. In a trapping study contracted by the Flood Control District, one individual San Bernardino kangaroo rat was found on the project site (Natural Resources Assessment, Inc. 2006).

Other special status mammals occurring on the site include are San Diego black-tailed jackrabbit (above) and San Diego pocket mouse (Natural Resources Assessment, Inc. 2006). Other special-status mammals potentially occurring on the site, but not found during trapping surveys, are (see Appendix 2): Los Angeles pocket mouse, southern grasshopper mouse, and San Diego desert woodrat. Also, several sensitive bats could use the site for foraging or roosting.

All of these species are California Species of Special Concern (CDFG 2005b). All except Los Angeles pocket mouse are relatively widespread in southern California and do not meet criteria for state or federal listing. Los Angeles pocket mouse is poorly known, but apparently is nearly restricted to shrublands with sandy soils in the Inland Empire region (reviewed by Patten et. al. 1993). The California Dept. of Fish and Game (2005b) indicates that it is known from fewer than 6 occurrences, but qualifies this ranking with a question mark. Its populations seem to fluctuate widely, and it probably spends winters in a state of torpor; thus, it may often go undetected even on sites where it occurs. Its limited geographic range, occurrence in habitats subject to extensive ongoing land use conversions, and poorly known ecology support its status as a Species of Special Concern. But the present state of knowledge does not meet criteria for state or federal listing. Los Angeles pocket mouse often overlaps in its distribution and habitat with the listed endangered San Bernardino kangaroo rat, and ongoing efforts to preserve this habitat will likely also favor long-term persistence of Los Angeles pocket mouse. While it may occur on the project site, the population would be isolated from other regional populations due to surrounding land uses and therefore would be unable to migrate into other habitat areas and unlikely to persist in the long term. Thus, if there is an on-site population, its loss would not be meaningful to conservation of the species and would not be significant in terms of CEQA.

PROJECT IMPACTS

Project approval and subsequent construction would result in removing almost all natural vegetation and converting the site to flood control uses. Vegetation would be replaced in part through the proposed on-site revegetation and by off-site preservation of 45 acres of similar upland habitat (Harmsworth and Associates 1988). Under CEQA Guidelines (California Code of Regulations 1999, sect.5065) a lead agency must conclude that a project would have a significant effect on the environment if any of the following would occur (italics added):

(a) The project has the potential to substantially degrade the quality of the environment, *substantially reduce the habitat of a fish and 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 or an endangered, rare, or threatened species*, or eliminate important examples of California history or prehistory.

(b) The project has the potential to achieve short-term environmental goals to the disadvantage of long-term environmental goals.

(c) The project has possible environmental effects which are individually limited but cumulatively considerable. "Cumulatively considerable" means that the incremental effects of an individual project are considerable when viewed in connection with the effects of probable future projects as defined in Section 15130 [of CEQA].

CEQA guidelines (section 15380) provide several definitions of endangered, rare, or threatened as they apply here, including listing as threatened or endangered under either state or federal Endangered Species Acts or meeting criteria for listing, quoted below:

(b) A species of animal or plant is:
(1) "Endangered" when its survival and reproduction in the wild are in immediate jeopardy from one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, disease, or other factors; or
(2) "Rare" when either:
(A) Although not presently threatened with extinction, the species is existing in such small numbers throughout all or a significant portion of its range that it may become endangered if its environment worsens; or
(B) The species is likely to become endangered within the foreseeable future throughout all or a significant portion of its range and may be considered "threatened" as that term is used in the Federal Endangered Species Act.
(c) A species of animal or plant shall be presumed to be endangered, rare or threatened, as it is listed in:
(1) Sections 670.2 or 670.5, Title 14, California Code of Regulations [i.e., state Endangered Species Act]; or
(2) Title 50, Code of Federal Regulations Section 17.11 or 17.12 pursuant to the Federal Endangered Species Act as rare, threatened, or endangered.
(d) A species not included in any listing identified in subsection (c) shall nevertheless be considered to be endangered, rare or threatened, if the species can be shown to meet the criteria in subsection (b).

Thus, a species need not be listed as rare, threatened, or endangered to meet mandatory criteria for significance in terms of CEQA, but its rarity or vulnerability to extinction must be similar to listing criteria under the state and federal Endangered Species Acts. These criteria are generally met for species included on the Fish and Wildlife Service's (2004) list of candidate species or in special cases where new information becomes available (e.g., when a previously unknown threat is identified or when a species formerly considered extinct is rediscovered). Adverse impacts to other special status plants and animals (e.g., the Department of Fish and Game's "species of special concern," or many of the California Native Plant Society's "List 1B" plants) generally do not meet these mandatory CEQA criteria for significance, though local agencies may apply less stringent criteria in judging significance. Thus, impacts to "species of special concern," or "List 1B" plants may be considered significant by local criteria.

Impacts to Special Status Vegetation and Habitat

Project development would eliminate 12.04 acres of degraded chaparral and coastal sage scrub on the slopes and alluvial bench around Cactus Basin No. 3. It also would eliminate less than one acre of riparian woodland on the floor of the basin. Project construction would also create new riparian vegetation in the proposed restoration area. Details of that created riparian vegetation have not yet been specified. Coastal sage scrub is considered a special status plant community, but we conclude that this local loss would not be significant in terms of CEQA because the site is small, isolated from surrounding open space, and largely degraded by heavy cover of weedy annual plants.

Impacts to Special Status Plants

Plummer's mariposa lily was observed during field surveys, and there is low to moderate probability that several other special status plants could occur on the site. None is listed, proposed for listing, or a candidate for listing as rare, threatened or endangered. Impacts to any of these plants, if they occur on the site, would not meet CEQA criteria for significance.

Impacts to Special Status Wildlife

Several special status vertebrates occur on the site, including the listed San Bernardino kangaroo rat. A focused field survey determined that California gnatcatchers do not occur on the site. Adverse impacts to San Bernardino kangaroo rat would meet CEQA criteria for mandatory findings of significance. None of the other special status animals occurring or potentially occurring have formal status under state or federal Endangered Species Acts and adverse impacts generally would not meet the CEQA criteria for mandatory findings of significance.

RECOMMENDED MITIGATION MEASURES AND MONITORING

Adverse impacts to California gnatcatcher or San Bernardino kangaroo rat, if either species occurs on the site, would be considered significant in terms of CEQA. Impacts to other special-status plants and animals would not meet CEQA significance criteria, but several measures might reasonably be taken to minimize or mitigate impacts. Measures to evaluate project impacts to either species and mitigate other impacts are listed below:

1. We recommend contacting the US Fish and Wildlife Service to arrange a mitigation plan for adverse project impacts to San Bernardino kangaroo rat. If necessary, the applicant should formally consult with the Service under Section 10(a) of the Federal Endangered Species Act and prepare a Habitat Conservation Plan to mitigate the impact.

2. To avoid incidental killing of birds protected under the Migratory Bird Treaty Act and the California Fish and Game Code, we recommend scheduling initial grading and brush removal of any previously undisturbred habitat outside the breeding season. We recommend that no vegetation removal should occur between early spring (15 March) and mid summer (15 July).

3. Burrowing owls take shelter in underground burrows, and would not fly off-site during initial grading and brush removal. While we did not observe burrowing owls on the site, they may occur in areas not covered by this field survey (particularly the disused sand and grave quarry). We recommend carrying out formal surveys to determine whether or not burrowing owls occur on the site and, if they occur, conducting "forced dispersal" at any occupied burrows prior to beginning brush removal or grading.

4. To the extent practicable, revegetate basin slopes with native shrubland species. We recommend revisions and additions to the Draft Revegetation Plan (LSA 2005) as follows:

   A. Provide a map indicating what areas are to be revegetated, distinguishing among dam embankments, other upland slopes and terraces, and riparian / wetland areas in the southeast corner of the project site.

   B. Provide separate seed mixes or plant palettes for revegetation on dam embankments, other upland slopes and terraces, and riparian / wetland areas. If needed, provide separate monitoring approaches and success criteria for these three revegetation areas.

Mitigation monitoring: California law requires monitoring for mitigation measures imposed under CEQA. Compliance with the wildlife surveys recommended above could be verified by supplying copies of the reports describing the surveys and results and copies of correspondence with CDFG or US Fish and Wildlife Service prior to initial site clearing. The dates of all initial clearing work should be recorded and kept in the project files to document compliance with recommendation number 2, above. Revegetation work can be monitored as recommended in the Draft Revegetation Plan (LSA 2005).

CONCLUSION

CEQA requires the lead agency to reach findings regarding potentially significant impacts to biological resources. CEQA guidelines recommend addressing the six questions quoted below.

Would the project:

a) 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?

Some loss of suitable habitat for special status species would occur. Adverse impacts to San Bernardino kangaroo rat would meet CEQA criteria for significance if not mitigated below a level of significance (e.g., through a habitat conservation plan). Anticipated loss of other special status plants or wildlife would not be substantial and would not be significant in terms of CEQA.

b) 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 U.S. Fish and Wildlife Service?

No. Some degraded coastal sage scrub and a small patch of riparian habitat occur on the site. Impacts to either area would not be substantial in terms of CEQA.

c) 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?

The bottoms of the existing flood control basins appear to meet criteria as jurisdictional wetlands. A separate wetland delineation report is in preparation. These basins provide only minimal habitat for native wildlife due to ongoing flood control maintenance work, and adverse impacts to them would not meet CEQA criteria as significant.

d) interfere substantially with the movement of 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?

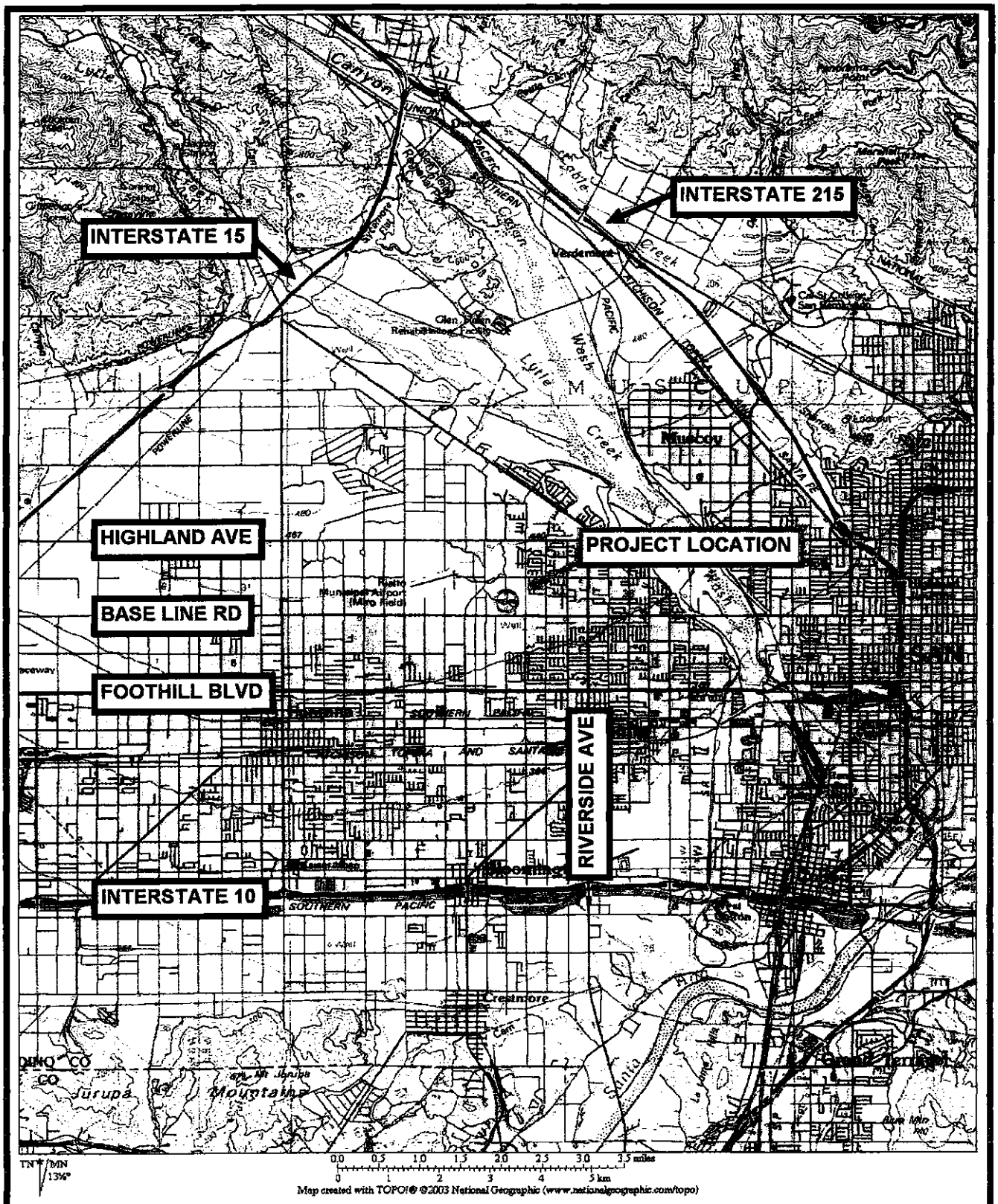
No.

e) conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

No known conflicts.

f) conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

No known conflicts.



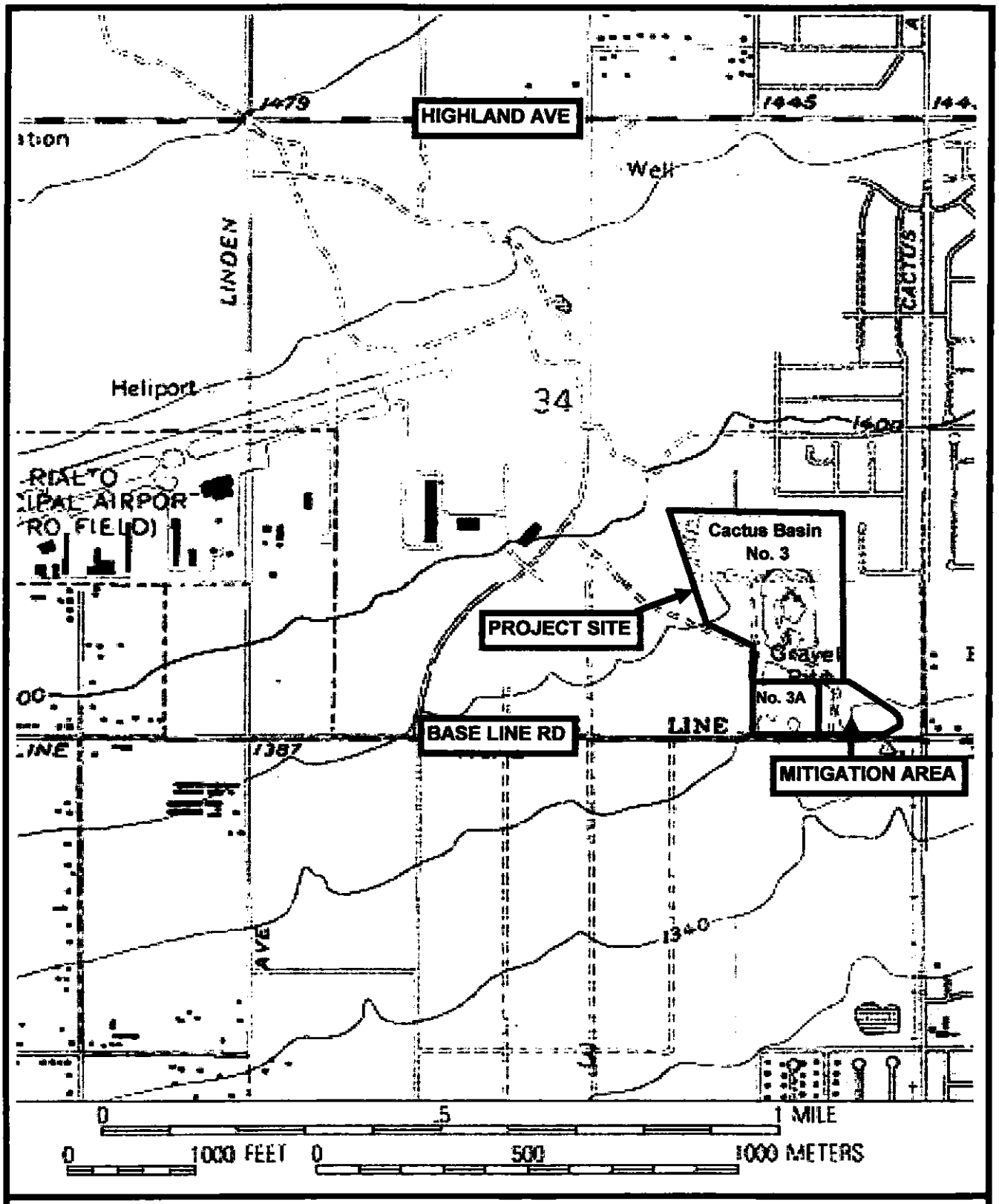
CACTUS BASIN

Figure 1: Vicinity Map

Scott White Biological Consulting

Map source: TOPO! 7½ minute topographic
JH: 16 Jan. 2006

NORTH



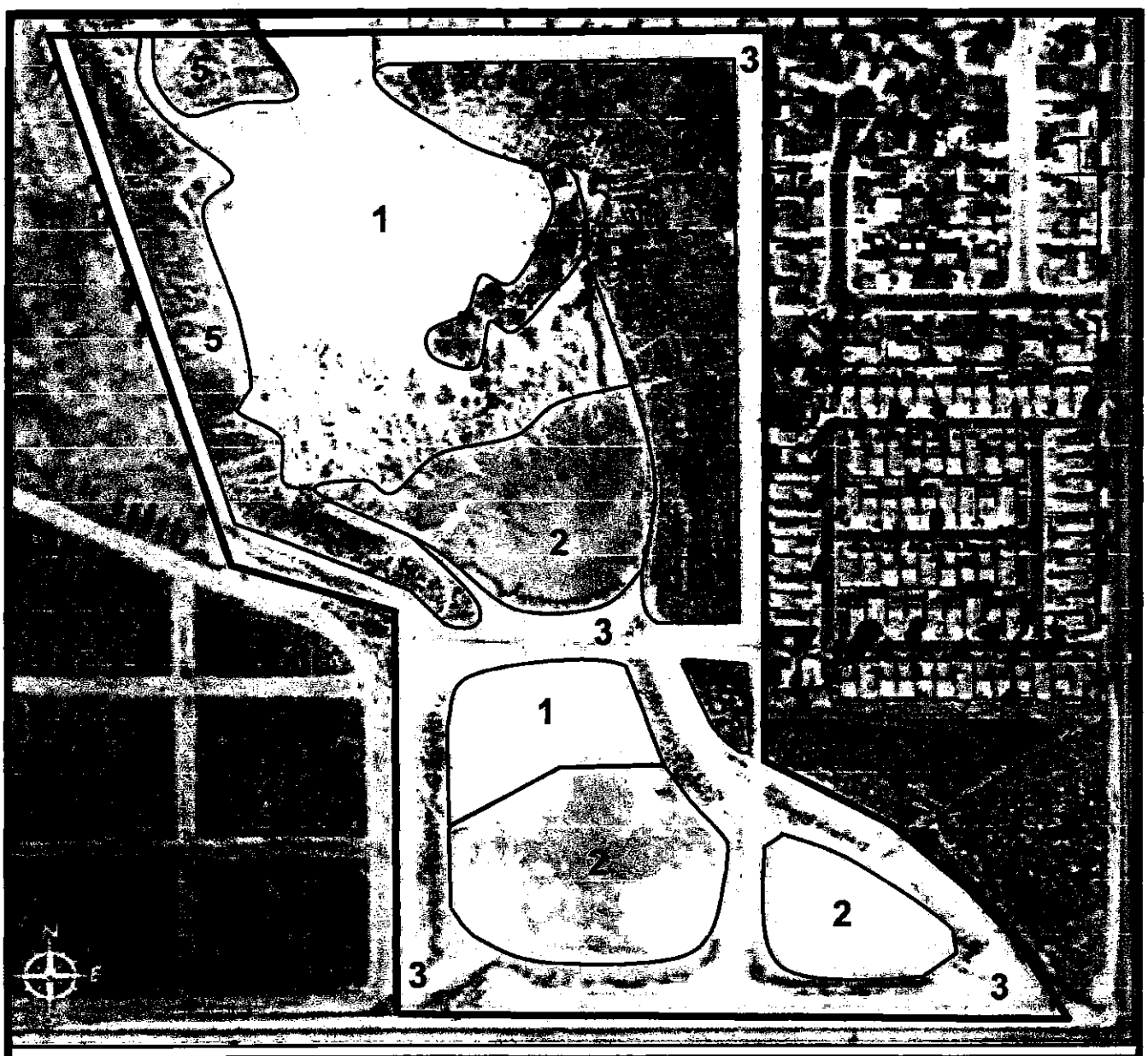
CACTUS BASIN

Figure 2: Topo Map with Project Boundary Overlay

Scott White Biological Consulting

Map source: TOPO!, 7½ minute topographic: Devore, Fontana CA.
JH: 16 Jan. 2006

NORTH



1. Flood channel (open sand and gravel)
2. Maintained flood basin
3. Maintained basin slopes and access roads
4. Riparian woodland
5. Degraded coastal sage scrub, chaparral

Cactus Basin

Figure 3: Vegetation Map

Scott White Biological Consulting

Map source: Google Earth
JW: 6 Apr. 2006

NORTH

Photo 1: Existing Basin

Photo 2: Basin No. 3, view from S.W. corner towards N.E.

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APPENDIX 1. Sensitive species reported from the Rialto / Fontana area but not addressed due to habitat or geographic range.

Latin name	Common name	Reason for exclusion
PLANTS		
Arenaria paludicola	Marsh sandwort	No habitat (marshes and bogs)
Brodiaea filifolia	Thread-leaved brodiaea	No suitable habitat (vernal pools, clay soil seeps)
Carex comosa	Bristly sedge	No habitat (marshes & lake margins)
Castilleja lasiorhyncha	San Bernardino Mtn. owl's clover	No habitat (streamsides), well below elev. range (above 4000 ft.)
Cordylanthus maritimus	Salt marsh bird's beak	No habitat (saline or alkaline wetlands)
Dudleya multicaulis	Many-stemmed dudleya	No suitable soil, probably outside geogr. range
Fimbristylis thermalis	Hot springs fimbristylis	Mo habitat (hot springs)
Lilium parryi	Lemon lily	No habitat (streamsides), well below elev. range (above 4000 ft.)
Navarretia prostrata	Prostrate navarretia	No suitable habitat (vernal pools, alkaline flats and seasonal wetlands)
Rorippa gambellii	Gambel's water cress	No habitat (marshes, stream banks, lakeshores; presumed extinct in So. Calif.)
Schoenus nigricans	Black sedge	No habitat (alkaline marshes, hot springs)
Sidalcea neomexicana	Salt spring checkerbloom	No suitable habitat (alkaline flats and wetlands)
Sphenopholis obtusata	Prairie wedge grass	No habitat (wet meadows, streambanks)
FISH		
Catostomus santaanae	Santa Ana sucker	No habitat (perennial streams)
Gila orcuttii	Arroyo chub	No habitat (perennial streams)
Rhinichthys osculus "ssp.3"	Santa Ana speckled dace	No habitat (perennial streams)
INVERTEBRATES		
Raphiomidas terminatus abdominalis	Delhi sands flower-loving fly	No habitat (dunes and stabilized fine sand)
Euchloe hyantis andrewsi	Andrew's marble butterfly	No habitat (chaparral, woodland), well below elev. range (above about 5000 ft.)
AMPHIBIANS		
Rana muscosa	Mountain yellow-legged frog	No habitat (aquatic)
Batracoseps gabrieli	San Gabriel Mts slender salamander	No habitat (talus slopes, seeps, etc.; steep mountain canyons, above ca. 3000 ft.)

APPENDIX 1. Sensitive species reported from the Rialto / Fontana area but not addressed due to habitat or geographic range.

Latin name	Common name	Reason for exclusion
REPTILES		
Charina umbricata	Southern rubber boa	No habitat (montane forest), well below elev. range (above about 5000 ft.)
BIRDS		
Agelaius tricolor	Tricolored blackbird	No habitat (nest in marshlands)
MAMMALS		
Glaucomys sabrinus californicus	San Bernardino flying squirrel	No habitat (montane forest), well below elev. range (above about 5000 ft.)

APPENDIX 2: Special status species of the Fontana / Rialto area.

Special Status Plants	Habitat and Distribution	Flower season	Status Designation	Occurrence Probability
Abronia villosa var. *aurita* Chaparral sand verbena	Perennial herb; sand, mostly broad alluvial fans and benches below about 5000 ft. elev.; Inland Empire, adj. Colorado Des., interior San Diego Co.	Feb. - July	Fed: none Calif: S 2.1 CNPS: List 1B R-E-D:2-3-3	Minimal (field survey)
Aster bernardinus (*A. defoliatus, Symphyotrichium defoliatum*) San Bernardino aster	Perennial herb; wetlands and margins, near sea level to about 6700 ft. elev.; formerly widespread from Kern Co south to San Diego Co, but most sites extirpated	July - Nov	Fed: none Calif: S 3.2 CNPS: List 1B R-E-D:2-2-3	Minimal (poor habitat, field survey, basin maintenance work)
Berberis nevinii (*Mahonia nevinii*) Nevin's barberry	Coastal sage scrub, chaparral, oak woodland, usually below 2000 ft.; scattered localities in LA, San Bernardino, Riverside, San Diego Cos.	Spring; (can be IDd all year)	Fed: **END** CA: S2.2 **END** CNPS: List 1B R-E-D:3-3-3	Minimal (field survey)
Calochortus plummerae Plummer's mariposa lily	Chaparral, alluvial fans, pine forest, below ±5600 ft. elev.; widespread but uncommon throughout S. Calif. mts., foothills & valleys	May - July	Fed: none Calif: S3.2 CNPS: List 1B R-E-D:2-2-3	Occurs (per communic. w/ Brian Leatherman)
Chorizanthe parryi var. *parryi* Parry's spineflower	Shrublands; open sandy places on alluvial slopes below about 5600 ft. elev.; Inland Empire and also coastal LA Co., Banning Pass, Cajon Pass	April - June	Fed: none Calif: S2.1 CNPS: List 3 R-E-D:?-2-3	Low (remnant shrubland is marginally suitable)
Chorizanthe xanti var. *leucotheca* White-bracted spineflower	Sandy washes, desert transition shrubland, pinyon-juniper woodland, about 1000-4000 ft. elev.; Banning Pass and Cajon Pass regions	April-June	Fed: none Calif: S1S2.2 CNPS: List 1B R-E-D:2-2-3	Low (remnant shrubland is marginally suitable)
Dodecahema leptoceras (*Chorizanthe leptocerus, Centrostegia leptocerus*) Slender-horned spineflower	Open, sandy alluvial benches in valleys and canyons; San Fernando Valley, Santa Ana River Valley, western Riverside Co.; about 600-2200 ft. elev.	April - June	Fed: **END** CA: S1.1 **END** CNPS: List 1B R-E-D:3-3-3	Minimal (poor habitat, far distant from known sites)
Eriastrum densifolium ssp. *sanctorum* Santa Ana River woollystar	Shrubland, alluvial fans and plains; endemic to Santa Ana River watershed, primarily in San Bern. Co.; below about 2000 ft. elev.	May - Sept.	Fed: **END** CA: S1.1 **END** CNPS: List 1B R-E-D:3-3-3	Minimal (maintenance, distant from known sites)
Galium californicum ssp. *primum* California bedstraw	No records or reports of "pure" populations; all supposed occurrences are "hybrids" with *G. porrigens*. Gen. mesic, shaded sites in lower montane forest; San Jacinto Mts., ±4400-5600 ft. and Reche Cyn (San Bern Co.)	May - July	Fed: none Calif: S1.1 CNPS: List 1B R-E-D:3-2-3	Minimal (distant from known sites)
Hemizonia laevis (*H. pungens* ssp. *laevis; Centromadia p.* ssp. *laevis*) Smooth tarplant	Seasonally wet low elev. grassland, also fallow fields, drainage ditches; primarily in SW Riv. Co. but a few sites in interior valleys of LA, San Bern., San Diego Cos.	April - Sept	Fed: none Calif: 2.1 CNPS: List 1B R-E-D:2-3-3	Minimal (poor habitat, margin of geogr. range)

APPENDIX 2: Special status species of the Fontana / Rialto area.

Special Status Plants	Habitat and Distribution	Flower season	Status Designation	Occurrence Probability
Horkelia cuneata ssp. *puberula* Mesa horkelia	Shrublands, woodlands, gen sandy alluvial plains; SLO to San Diego Co, away from immediate coast; rarely inland to San Bern. Co., about 200-2300 ft. elev.	April - Sep.	Fed: none Calif: S2.1 CNPS: List 1B R-E-D:2-3-3	Minimal (maintenance, distant from known sites)
Lepidium virginicum var. *robinsonii* Robinson's pepper-grass	Chaparral & coastal sage scrub below about 1700 ft. elev.; LA Co, inland to Riverside & San Bernardino Cos, and S to Baja Calif	Jan - July	Fed: none Calif: S 2.2 CNPS: List 1B R-E-D:3-2-2	Moderate (remnant shrubland is suitable)
Lycium parishii Parish's desert thorn	Arid slopes and sand flats, below about 3300 ft. elev.; low desert (Riv. and San Diego Cos., Ariz., Sonora) and interior valleys (Riv Co.); historic locations in San Bernardino Valley now extinct	March - April	Fed: none Calif: S2S3 CNPS: List 2 R-E-D:2-1-1	Minimal (field survey, basin maintenance, locally extinct)
Monardella pringlei Pringle's monardella	Only historical locations in Colton area, now presumed extinct; probably occurred on windblown sand	May - June	Fed: none Calif: SX CNPS: List 1A	Minimal (no dune habitat, presumed extinct)
Ribes divaricatum var. *parishii* Parish's gooseberry	Riparian woodland, historically from LA and San Bern. Cos., about 200-1000 ft. elev.; possibly extinct (most recent obs. at Whittier Narrows, 1980)	Feb. - April	Fed: none Calif: S1.1 CNPS: List 1B R-E-D:3-3-3	Minimal (field survey)

Special Status Wildlife	Habitat and Distribution	Activity season	Status Designation	Occurrence Probability
INVERTEBRATES				
Cicindela tranquebarica viridissima Greenest tiger beetle	Sandy streamsides; Santa Ana River watershed, mountain foothills to Orange Co.; perhaps indistinct from widespread subspecies *C. t. vibex*	Spring, fall	Fed: none Calif: S1	Low (marginal habitat, isolated from known occurrences)
Carolella busckana Busck's gallmoth	Habitat unknown but probably dunes or sand flats; only known from El Segundo, Hollywood, Riverside and Colton areas; all local occurrences presumed extirpated	Nov.?	Fed: none Calif: SH	Low (probably no habitat; species may be extinct)
REPTILES				
Coleonyx variegatus abbotti San Diego banded gecko	Rock outcrops in shrublands, to 5000 ft. elev.; SW Calif. through much of N Baja Calif.	Spring - summer	Fed: none Calif: S4	Low (poorly suitable, isolated habitat)
Phrynosoma coronatum blainvillei San Diego horned lizard	Forest, shrubland or grassland with sandy areas; W Calif. from LA Co. S through Baja Calif., below ±6000 ft. elev.	Spring - summer	Fed: none Calif: CSC S2S3	Occurs (per communic. w/ Brian Leatherman)

APPENDIX 2: Special status species of the Fontana / Rialto area.

Special Status Wildlife	Habitat and Distribution	Activity season	Status Designation	Occurrence Probability
Aspidoscelis hyperthyra beldingi (*Cnemidophorus hyperythrus beldingi*) Orange-throated whiptail	Coastal sage scrub, chaparral; Orange Co., extreme SE LA Co., W Riv. Co., through Baja Calif.	Spring - summer	Fed: none Calif: CSC S2	Minimal (margin of geogr. range; isolated locn.)
Aspidoscelis tigris stejnegeri (*Cnemidophorus tigris multiscutatus*) Coastal western whiptail	Woodlands, shrublands; SW Calif. through much of Baja Calif. , below ±7500 ft. elev.	Spring - summer	Fed: none Calif: S2S3	Occurs (per communic. w/ Brian Leatherman)
Charina trivirgata (*Lichanura trivirgata*) Rosy boa	Rocky, chaparral-covered hillsides; LA Co. through nw Baja Calif.	Spring - summer	Fed: none Calif: S3S4	Moderate - high (suitable habitat throughout)
Crotalus exsul (*Crotalus. ruber ruber*) Red diamond rattlesnake	Coastal sage scrub, chaparral, desert scrub; SW Calif. (gen. Peninsular Ranges and west), Baja Calif.; sea level to about 5000 ft. elev.	Spring - summer	Fed: none USFS: none Calif: CSC, S2?	Low (margin of geogr. range; isolated locn.)
Diadophis punctatus modestus San Bernardino ringneck snake	Open rocky areas in woodlands, chaparral and grasslands habitats; W San Diego and Riv. Cos., SW San Bern. Co., Vent. and LA Co., NW Baja Calif.	Spring - summer	Fed: none Calif: S2?	Moderate - high (suitable habitat ±throughout)
Salvadora hexalepis virgultea Coast patch-nosed snake	Shrublands, usually with open sand; Sta. Barb. Co. through SW Calif., to NW Baja Calif.	Spring - summer	Fed: none Calif: CSC S2S3	Low (habitat suitable but site isolated
BIRDS				
Elanus leucerus White-tailed kite	Breeds in woodlands and riparian forests, forages over open terrain; Pacific Coast (Calif., N Baja, Oregon), other scattered localities worldwide	Spring - summer	Fed: none Calif: S3	Nesting: Absent Foraging: High
Circus cyaneus Northern harrier	Breeds colonially in grasslands and wetlands; forages over open terrain; N America and Eurasia	Winter; rare in summer	Fed: none Calif: CSC S3 (nesting only)	Nesting: Absent Foraging: High
Aquila chrysaetos Golden eagle	Nests in remote trees and cliffs; forages over shrublands and grasslands; breeds throughout W N America, winters to E coast	Year-around	Fed: none Calif: CSC S3 (year-around)	Nesting: Absent Winter: High (rare)
Buteo regalis Ferruginous hawk	Forages over grassland and shrubland; winters in W and SW N Amer. (breeds in Great Basin and N plains)	Winter	Fed: former C2 Calif: CSC S3S4 (wintering)	Nesting: Absent Winter: High (rare)
Accipiter striatus Sharp-shinned hawk	Nests and hunts in forests and woodlands, also forages in open areas; throughout N America, parts of S America	Spring - early summer	Fed: none Calif: CSC S3 (nesting only)	Nesting: Absent Winter: High

APPENDIX 2: Special status species of the Fontana / Rialto area.

Special Status Wildlife	Habitat and Distribution	Activity season	Status Designation	Occurrence Probability
Accipiter cooperii Cooper's hawk	Nests and hunts in forests and woodlands occasionally forages in open areas; most of US, Central and S America	Year-around	Fed: none Calif: CSC S3 (nesting only)	Occurs; activity unknown (per communic. w/ Leatherman)
Falco columbaris Merlin	Uncommon wintering species in S Calif. desert and valleys (breeds in northern N America and Eurasia)	Winter	Fed: none Calif: CSC S3 (wintering)	Nesting: Absent Winter: High (rare)
Coccyzus americanus occidentalis California yellow-billed cuckoo	Nests in dense riparian forest; rare and local in Calif.; subspecies not recognized as distinct by some authors	Summer	Fed: Candidate Calif: **END** S1	Absent (no suitable habitat, local occurrences extinct)
Speotyto cunicularia (*Athene cunicularia hypugea*) Burrowing owl	Nests in rodent burrows, usually in grasslands; forages in open habitat; increasingly uncommon in S Calif.; occurs through W US and Mexico	Year-around	Fed: none Calif: CSC S2 (burrow sites)	Breeding: Minimal Winter: Low
Empidonax traillii extimus Southwestern willow flycatcher	Rare and local is S Calif.; breeds in willow riparian forests; SW US and N Baja	Summer	Fed: **END** Calif: **END** S1	Nesting: Absent Migration: Low
Campytorhynchus bruneicapillus couesi San Diego (coastal population) cactus wren	Coastal sage scrub with cactus patches; S Calif. and NW Baja Calif.	Year-around	Fed: none Calif: CSC S3	Minimal (no suitable cactus thickets)
Lanius ludovicianus Loggerhead shrike	Woodlands, shrublands, open areas with scattered perch sites; widespread in N America	Year-around	Fed: none Calif: CSC S4	High
Polioptila californica California gnatcatcher	Coastal sage scrub; scattered in Ven and LA Cos; regular in Riv and San Diego Cos. and N Baja Calif; evidently extirpated in San Bern. Mtn. foothills	Year-around	Fed: **THR** Calif: CSC S2	Low (habitat marginal)
Vireo bellii ssp. *pusillus* Least Bell's vireo	Riparian forests and willow scrub; breeds in S Calif. and N Baja, winters in Baja; endangered by habitat loss and cowbird parasitism	Spring - summer	Fed: **END** Calif: **END** S2	Nesting: Absent Migration: Low
Dendroica petechia Yellow warbler	Breeds in riparian habitat; much of N Amer. but increasingly rare in S Calif. (habitat loss, cowbird parasitism); winters Mex. to S Amer.	Spring - summer	Fed: none Calif: CSC S2 (nesting only)	Nesting: Minimal Migration: Low
Icteria virens Yellow-breasted chat	Breeds in dense riparian habitat, low elev., much of US, winters S to Cent. Amer.; becoming rare in Calif. (cowbirds & habitat loss)	Spring - summer	Fed: none Calif: CSC S3 (nesting only)	Nesting: Minimal Migration: Low

APPENDIX 2: Special status species of the Fontana / Rialto area.

Special Status Wildlife	Habitat and Distribution	Activity season	Status Designation	Occurrence Probability
Aimophila ruficeps canescens Southern California rufous-crowned sparrow	Coastal sage scrub, open chaparral; S Calif. and NW Baja Calif.	Year - around	Fed: none Calif: CSC S2S3	Low (habitat marginal)
Amphispiza belli belli Bell's sage sparrow	Coastal sage scrub, chaparral, saltbush scrub, cismontane cent. and S Calif., NW Baja Calif.	Year - around	Fed: none Calif: CSC S2? (nesting only)	Low (habitat marginal)
MAMMALS				
Lepus californicus bennettii San Diego black-tailed jackrabbit	Most habitat types, especially shrublands; W Calif. and NW Baja Calif.	Year-around	Fed: none Calif: CSC S3?	Occurs
Chaetodipus fallax fallax (*Perognathus fallax fallax*) Northwestern San Diego pocket mouse	Open shrublands and sandy areas; coastal and interior valleys of SW Calif. (E LA Co., Orange, Riverside, San Bern., San Diego Cos.) and NW Baja Calif.	Year-around (?)	Fed: none Calif: CSC S2S3	High
Chaetodipus fallax pallidus (Perognathus f. pallidus) Pallid San Diego pocket mouse	Open shrublands and sandy areas; deserts and desert-facing foothills, LA Co. south to N Baja Calif.	Year-around (?)	Fed: none Calif: CSC S3	Minimal (outside geographic range)
Perognathus longimembris brevinasus Los Angeles pocket mouse	Open shrublands, grasslands; S Calif. valleys, LA, SW San Bernardino and W Riverside Cos.	Year-around (?)	Fed: none Calif: CSC S1?	Low (isolated habitat)
Dipodomys merriami parvus San Bernardino Merriam's kangaroo rat	Alluvial scrub; interior valleys of S Calif., Cajon Pass and San Gorgonio Pass south to Aguanga	Year-around	Fed: **END** Calif: CSC S1	Low (isolated habitat)
Dipodomys stephensi Stephens kangaroo rat	Sparse grassland, gentle slopes, gen. heavy soils; sometimes margins of disturbed land; W Riverside Co. and adjacent San Diego Co.	Year-around	Fed: **END** Calif: **THR** S2	Miimal (unsuitable soils, outside geogr. range)
Onychomys torridus ramona Southern grasshopper mouse	Arid cismontane lowlands, LA through San Diego Cos. and NW Baja Calif.	Year-around	Fed: none Calif: CSC S3?	Unknown
Neotoma lepida intermedia San Diego desert woodrat	Chaparral and other shrublands, W Calif., Point Conception south, through NW Baja Calif.	Year-around	Fed: none Calif: CSC S3?	High
Taxidea taxus American badger	Mountains, deserts, interior valleys where burrowing animals are avail as prey and soil permits digging; throughout cent and W N Amer	Year-around	Fed: none Calif: CSC S4	Minimal (isolated habitat)
Lasiurus xanthinus (*Nycteris ega xanthina*) Western (Southern) yellow bat	Mexico and Cent. Amer., north to S AZ; Riv., Imperial and San Diego Cos.; riparian and wash habitats; roosts in trees; evidently migrates from Calif. during winter	Spring-summer?	Fed: none Calif: S3	Roosting: Low (poor habitat) Foraging: Moderate

APPENDIX 2: Special status species of the Fontana / Rialto area.

Special Status Wildlife	Habitat and Distribution	Activity season	Status Designation	Occurrence Probability
Macrotus californicus (*M. waterhousii*) California leaf-nosed bat	Arid lowlands, S Calif., S and W Ariz., Baja Calif. and Sonora, Mexico; roost in mineshafts, forage over open shrublands	Year-around	Fed: none Calif: CSC S2S3	Roosting: Absent Foraging: Moderate
Myotis lucifugus occultus Occult little brown bat (*M. occultus,* Arizona brown bat)	Mostly pine forests, 6000-9000 ft. elev. (also lower elev. riparian habitat); roost in buildings, trees, rocks, etc.; feed over water or open land; hibernates in winter; SE Calif thr AZ & NM	warm season	FWS: none Calif: CSC S2S3	Roosting: Absent Foraging: Moderate
Eumops perotis californicus California mastiff bat	Lowlands (with rare exceptions); cent. and S Calif., S Ariz., NM, SW Tex., N Mexico; roost in deep rock crevices, forage over wide area	Unkn.	Fed: none Calif: CSC S3?	Roosting: Absent Foraging: Unknown
Nyctinomops macrotis (*Tadarida molossa*) Big free-tailed bat	Rocky cliffs, scattered localities in W N. Amer. through Cent. Amer.	Year-around (?)	Fed: none Calif: CSC S2	Roosting: Absent Foraging: Unknown
Nyctinomops femorosaccus (*Tadarida femorosaccus*) Pocketed free-tailed bat	Deserts and arid lowlands, SW US, Baja Calif., mainland Mexico; Roost mainly in crevices of high cliffs	Year-around	Fed: none Calif: CSC S2S3	Roosting: Absent Foraging: Unknown

References and notes

Barbour & Davis 1969 (bats); Calif. Dept. of Fish & Game 2005a, 2005b; California Natural Diversity Data Base 2005; Garrett & Dunn 1981; Grinell and Miller 1943; Hall and Kelson 1959; Hickman 1993; Ingles 1965; Jennings and Hayes 1994; McKernan 1997 (San Bernardino kangaroo rat); Munz 1974; Remsen 1978; Stebbins 2003; Tibor 2001; US Fish and Wildlife Service 2004; Williams 1976; Zeiner et al. 1988-1990.

Status Designations

Federal designations (US Fish and Wildlife Service). Note that some agencies, but not FWS, continue to use "SOC" as a federal status designation. Until 1996, FWS maintained a list of "category 2 candidates," described as species of concern, but for which insufficient data were available to support listing. This list is no longer maintained and FWS has no "SOC" category.

- **END: Federally listed, endangered.**
- **THR: Federally listed, threatened.**
- PROP: Proposed for the federal status shown.
- CAND: Candidate for federal listing; sufficient data are available to support listing, but not yet listed.
- None: Not designated.

State designations (California Dept. of Fish and Game):

- **END: State listed, endangered.**
- **THR: State listed, threatened.**
- **RARE: State listed as rare** (plants only)
- PROP: Proposed for the state status shown.
- None: Not designated.

CDFG Natural Diversity Data Base Designations: Applied to special status species and sensitive plant communities; where correct category is uncertain, CDFG uses two categories or question marks.

- S1: Fewer than 6 occurrences or fewer than 1000 individuals or less than 2000 acres.
  - S1.1: Very threatened
  - S1.2: Threatened
  - S1.3: No current threats known

S2: 6-20 occurrences or 1000-3000 individuals or 2000-10,000 acres (decimal suffixes same as above).
S3: 21-100 occurrences or 3000-10,000 individuals or 10,000-50,000 acres (decimal suffixes same as above).
S4: Apparently secure in California; clearly lower than S3 but factors exist to cause some concern, i.e., some threat or somewhat narrow habitat. No threat rank.
S5: Demonstrably secure or ineradicable in California. No threat rank.
SH: All California sites are historical (i.e., no known extant occurrences; generally presumed extinct)

California Native Plant Society (CNPS) designations: (Note: According to CNPS (Tibor 2001), plants on Lists 1B and 2 meet definitions for listing as threatened or endangered under Section 1901, Chapter 10 of the California Fish and Game Code.)

List 1A: Plants presumed extinct in California.
List lB: Plants rare and endangered in California and throughout their range.
List 2: Plants rare, threatened or endangered in California but more common elsewhere in their range.
List 3: Plants about which we need more information; a review list.
List 4: Plants of limited distribution; a watch list.

CNPS R-E-D Code:

Rarity

l: Rare, but found in sufficient numbers and distributed widely enough that the potential for extinction or extirpation is low.
2: Occurrence confined to several populations or one extended population.
3: Occurrence limited to few highly restricted populations, or present in such small numbers that it is seldom reported.

Endangerment

1: Not endangered.
2: Endangered in a portion of its range.
3: Endangered throughout its range.

Distribution

1: More or less widespread outside California.
2: Rare outside California.
3: Endemic to California (i.e., does not occur outside California).

Occurrence Probabilities

Occurrence probabilities are determined from field surveys and habitat analyses reported here, plus information in the references cited earlier.

Present: Observed on the site during this study, or recorded on-site by other qualified biologists.
Expected: Not observed or recorded on the site, but very likely present during at least a portion of the year.
High: Reported sighting(s) in similar habitat in region by qualified biologists, or habitat on the site is a type often utilized by the species and the site is within the known range of the species.
Moderate: Reported sighting(s) in surrounding region, or site is within the known range of the species and habitat on the site is marginally suitable or of a type occasionally used by the species.
Low: Site is within the known range of the species but habitat on the site is rarely used by the species, and there are no reported sighting(s) of the species in the vicinity. It is unlikely that the species exists in substantial numbers if present.
Minimal: Not found during a focused survey, outside known geographic range, or no suitable habitat is present.
Unknown: Insufficient data from the region, and the species distribution and habitat are poorly known.

Latin Name	**Common Name**	**Abundance / habitat**
VASCULAR PLANTS		
ANACARDIACEAE	CASHEW FAMILY	
Rhus trilobata	Basketbush	Uncomm. / CSS
ASTERACEAE	ASTER FAMILY	
Ambrosia acanthicarpa	Annual sandbur	Comm. / throughout
Artemisia californica	California sagebrush	Occas. / CSS
Baccharis salicifolia (B. glutinosa)	Mulefat	Occas. / wash
* *Centaurea melitensis*	Tocalote	Comm. / throughout
Chrysothamnus nauseosus	Common rabbitbrush	Uncomm. / wash
Encelia farinosa	Brittlebush	Occas. / CSS
Gnaphalium californicum	California everlasting	Occas. / throughout
Gutierrezia californica (G. bracteata)	Calif. matchweed	Occas. / CSS
Helianthus annuus	Annual sunflower	Occas. / basins, margins
Heterotheca grandiflora	Telegraph weed	Occas. / throughout
Lepidospartum squamatum	Scalebroom	Occas. / wash
Senecio flaccidus (S. douglasii)	Sand-wash butterweed	Uncomm. / wash
* *Sonchus asper*	Prickly sow-thistle	Occas. / basin margins
* *Taraxacum officinale*	Common dandelion	Uncomm. / basins
* *Verbesina encelioides*	Crownbeard	Uncomm. / basin margins
BORAGINACEAE	BORAGE FAMILY	
Amsinckia menziesii	Rancher's fiddleneck	Occas.-comm. / mostly CSS
BRASSICACEAE	MUSTARD FAMILY	
* *Brassica geniculata (Hirschfeldia incana)*	Short-pod mustard	Occas.-comm. / thorughout
* *Brassica nigra*	Black mustard	Occas. / throughout
* *Lobularia maritima*	Sweet alyssum	Occas. / basin margins
CACTACEAE	CACTUS FAMILY	
Opuntia littoralis ssp. vaseyi (O. vaseyi; O. littoralis x phaecantha)	Mesa prickly pear	Uncomm. / CSS
Opuntia parryi	Valley cholla	Uncomm. / CSS
CHENOPODIACEAE	GOOSEFOOT FAMILY	
* *Salsola tragus*	Russian thistle, tumbleweed	Occas. / throughout
CUCURBITACEAE	CUCUMBER FAMILY	
Marah macrocarpa	Wild cucumber	Occas. / CSS
EUPHORBIACEAE	SPURGE FAMILY	
Croton californicus	California croton	Occas. / throughout
Eremocarpus setiger (E. setigerus, Croton setigerus)	Doveweed	Occas. / roadsides, etc.
* *Ricinus communis*	Castor bean	Occas. / mostly basins
FABACEAE	PEA FAMILY	
* *Melilotus indica*	Yellow sweet clover	Occas. / basins, margins
GERANIACEAE	GERANIUM FAMILY	
* *Erodium cicutarium*	Red-stemmed filaree	Comm. / throughout

Alien species indicated by asterisk, special status species indicated by two asterisks. This list includes only species observed on the site. Others may have been overlooked or unidentifiable due to season. Plants were identified using keys, descriptions, and illustrations in Abrams (1923-1951), Hickman (1993), and Munz (1974). Taxonomy and nomenclature generally follow Hickman. Vouchers, indicated by Scott White's collection numbers, will be deposited at Rancho Santa Ana Botanic Garden.

LAMIACEAE	MINT FAMILY	
Salvia apiana	White sage	Uncomm. / CSS
Salvia columbariae	Chia	Occas. / throughout
Salvia mellifera	Black sage	Occas. / CSS
PAPAVERACEAE	POPPY FAMILY	
Eschscholzia californica	Calif. poppy	Uncomm. / CSS
PLATANACEAE	SYCAMORE FAMILY	
Platanus racemosa	California sycamore	Occas. / riparian
POLYGONACEAE	BUCKWHEAT FAMILY	
Eriogonum fasciculatum	California buckwheat	Comm. / CSS
Eriogonum gracile (?)	Slender buckwheat	Occas. / open sand
RHAMNACEAE	BUCKTHORN FAMILY	
Ceanothus crassifolius	Thick-leaf ceanothus	Occas. / CSS
Ceanothus cuneatus	Wedge-leaf ceanothus	Occas. / CSS
ROSACEAE	ROSE FAMILY	
Adenostoma fasciculatum	Chamise	Occas. / CSS
Prunus ilicifolia	Holly-leaved cherry	Occas. / CSS
SALICACEAE	WILLOW FAMILY	
Populus fremontii	Fremont cottonwood	Locally comm. / riparian
Salix goodingii	Black willow	Occas. / riparian
Salix laevigata	Red willow	Occas. / riparian
SCROPHULARIACEAE	SNAPDRAGON FAMILY	
Penstemon spectabilis	Royal penstemon	Occas. / CSS
SOLANACEAE	NIGHTSHADE FAMILY	
Datura wrightii (D. meteloides)	Jimsonweed	Uncomm. / throughout
* *Nicotiana glauca*	Tree tobacco	Occas. / wash, basins
Solanum xanti	Chaparral nightshade	Uncomm. / CSS
ARECACEAE	PALM FAMILY	
* *Washingtonia robusta*	Fan palm	Uncomm. (seedlings) / basin
CYPERACEAE	SEDGE FAMILY	
Cyperus sp.	Unid. sedge	Locally comm. / basin
POACEAE	GRASS FAMILY	
* *Avena barbata*	Wild oat	Abund.
* *Bromus diandrus (B. rigidus)*	Ripgut brome	Abund.
* *Bromus madritensis ssp. rubens (B. rubens)*	Red brome	Abund.
* *Stenotaphrum secundatum*	St. Augustine grass	Localized / basin

WILDLIFE

REPTILIA	Reptiles
Phrynosomatidae	Phrynosomatids
Sceloporus occidentalis biseriatus	Western fence lizard
Uta stansburiana	Side-blotched lizard

Alien species indicated by asterisk, special status species indicated by two asterisks. This list includes only species observed on the site. See also lists prepared for special status species surveys (Leatherman BioConsulting, 2006; Natural Resources Assessment 2006). Other species may have been overlooked or inactive/absent because of the season (amphibians are active during rains, reptiles during summer, some animals hibernate or migrate from the area seasonally, etc.). Taxonomy and nomenclature generally follow NABA (2002) for butterflies, Stebbins (2003) for amphibians and reptiles, AOU (1998) for birds, and Jones et al. (1992) for mammals.

AVES	Birds
Anatidae	Geese and ducks
Anas platyrhynchos	Mallard
Accipitridae	Raptors
** *Accipiter cooperii*	Cooper's hawk
Buteo jamaicensis	Red-tailed hawk
Falconidae	Falcons
Falco sparverius	American kestrel
Odontophoridae	Quail
Callipepla californica	California quail
Charadriidae	Plovers
Charadrius vociferus	Killdeer
Laridae	Gulls and terns
** *Larus californicus*	California gull
Columbidae	Pidgeons and doves
* *Columba livia*	Rock dove
Zenaida macroura	Mourning dove
Trochilidae	Hummingbirds
Calypte anna	Anna's hummingbird
Tyrannidae	Tyrant flycatchers
Sayornis saya	Say's phoebe
Corvidae	Jays and crows
Corvus brachyrhynchos	American crow
Corvus corax	Common raven
Alaudidae	Larks
** *Eremophila alpestris*	Horned lark
Hirundinidae	Swallows
Tachycineta thalassina	Violet-green swallow
Aegithalidae	Bushtits
Psaltriparus minimus	Bushtit
Regulidae	Kinglets
Regulus calendula	Ruby-crowned kinglet
Silviidae	Gnatcatchers
Polioptila caerula	Blue-gray gnatcatcher
Turdidae	Bluebirds and thrushes
Sialia mexicana	Western bluebird
Mimidae	Mockingbirds and thrashers
Mimus polyglottis	Northern mockingbird
Toxostoma redivivum	California thrasher
Sturnidae	Starlings
* *Sturnus vulgaris*	European starling
Parulidae	Wood warblers
Dendroica coronata	Yellow-rumped warbler
Emberizidae	Towhees and sparrows
Pipilo crissalis	California towhee
Chondestes grammacus	Lark sparrow
Zonotrichia leucophrys	White-crowned sparrow
Icteridae	Blackbirds and orioles
Sturnella neglecta	Western meadowlark
Fringillidae	Finches
Carpodacus mexicanus	House finch
Carduelis psaltria	Lesser goldfinch

MAMMALIA	Mammals
Leporidae	Hares and rabbits
Sylvilagus sp.	Cottontail
** *Lepus californicus*	Black-tailed jackrabbit
Sciuridae	Squirrels
Spermophilus beecheyi	California ground squirrel
Canidae	Dogs/wolves/foxes
* *Canis familiarus*	Domestic dog
Canis latrans	Coyote (scat, tracks)
Felidae	Cats
* *Felis catus*	Feral cat

APPENDIX F
JURISDICTIONAL AREAS

JURISDICTIONAL WETLANDS, STREAMBEDS, AND WATERS OF THE UNITED STATES: CACTUS BASIN NO. 3 AND 3A

Prepared for:
LILBURN CORPORATION
1905 Business Center Drive
San Bernardino, CA 92408

Prepared by:
Scott D. White
SCOTT WHITE BIOLOGICAL CONSULTING
201 North First Ave., No. 102
Upland, CA 91786

19 September 2006

INTRODUCTION

The County of San Bernardino Flood Control District (District) proposes to amend planned improvements to the Rialto Channel / Cactus Basins flood control system to address additional storm flows resulting from the construction of State Route 30. This report was prepared to serve as a basis for permit applications to the US Army Corps of Engineers (Corps) and the California Department of Fish and Game (CDF&G) to alter hydrologic features at the site. The Cactus Basin project site is immediately north of Baseline Road just west of its intersection with Cactus Avenue, on the broad alluvial fan below Lytle Creek and Cajon Pass (USGS Fontana 7½-minute topographic map, Township 1N Range 2 West, southeast corner of Section 34). The site has been mined for sand and gravel, as shown on the topographic map. Runoff water from the alluvial fan upslope is carried into the upper basin via Cactus Channel (maintained by the Flood Control District). Cactus Basin and Cactus Channel are not shown as blueline features on the USGS Fontana and Devore 7½'minute topographic maps.

The project site is subdivided into three basin areas now in use for flood control. Under the proposed project, the upper basin and lower western basin would be recontoured to accommodate additional flood flows. The lower eastern basin would be revegetated to replace habitat values lost during construction in the two other basins.

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 1603 of the California Fish and Game code requires a Streambed Alteration Agreement for projects which would alter a stream channel. The proposed project would alter the existing Cactus Basin facility by recontouring the slopes, embankment, and basin, and would remove existing riparian vegetation. Therefore, it comes under the jurisdiction of the two agencies.

This report identifies state-jurisdictional streambeds and federally-jurisdictional waters of the United States and determines their wetland status, based on the *Corps of Engineers Wetlands Delineation Manual* (Department of the Army Environmental Laboratory 1987) for the purpose of permit application under the California Fish and Game Code and Federal Clean Water Act.

JURISDICTIONAL CRITERIA

Section 404 of the federal Clean Water Act applies to waters of the United States. By definition, these include waterways, streams and intermittent streams which could be used for interstate commerce (as broadly interpreted by courts), and their tributaries. Section 1603 of the state Fish and Game Code is applied to stream channels, defined elsewhere in the Code as follows:

> A stream is a body of water that flows at least periodically . . . through a bed or channel having banks and supports fish or other aquatic life. This includes watercourses having a surface or subsurface flow that supports or has supported riparian vegetation.

The state definition does not specify a flow rate or inundation frequency, and provides no clear distinction between jurisdictional and non-jurisdictional lands. In practice, California Department of Fish and Game (CDFG) biologists generally claim jurisdiction to the tops of channel banks.

EVALUATION CRITERIA

According to the Clean Water Act and the *Delineation Manual*, a wetland is a site that is "inundated or saturated . . . at a frequency and duration sufficient to support ... vegetation typically adapted for life in saturated soil conditions. . . ." Soil saturation deprives plant roots of oxygen, limiting the types of plants which can grow. Absence of oxygen leads to reducing chemical conditions (rather than oxidizing conditions) and development of characteristic soil types, called hydric soils. The Corps evaluates wetlands by three criteria: hydrology, soils, and vegetation. Under the federal delineation procedure, a site must normally satisfy all three criteria to be classified as a wetland. At its discretion, CDFG may regard a site as a wetland based on only one of the three criteria.

The hydrology criterion evaluates the presence of water based on simple observation or on indirect evidence such as high water marks, drift lines or sediment deposits. The soils criterion is based on certain colors and mottling which develop under wetlands conditions. The vegetation criterion evaluates plant species growing on a site. Most plants cannot survive extended periods of root saturation, and are called "obligate upland" species. Others grow almost exclusively in wetlands habitats, or on both wetlands and uplands. These are called "obligate wetlands" or "facultative wetlands" species, respectively.

METHODS

Scott D. White and Justin Wood (of Scott White Biological Consulting) evaluated jurisdiction on 17 September 2006 by walking over the three existing basins at the site, noting vegetation, soils, and hydrology characteristics. Dominant plant species and any potential indicators of wetland conditions were recorded in field notes. The lists of dominant plant species were compared against Appendix 0 of the *Delineation Manual* which lists wetland plants of California. The vegetation criterion for wetlands is satisfied if half or more of the dominant plant species on a site are ranked as "obligate wetland," "facultative wetland," or "facultative" species (OBL, FACW, or FAC, respectively).

RESULTS

Hydrology: The channel was not running water during the field visit and soil was not moist. The two lower basins had been disced or dredged sometime after the Spring 2006 rainy season. Most ordinary high water marks were not visible due to soil disturbance. But silt deposits and water marks, as well as the site's function and topography, indicated occasional running or standing water.

Soils: Soil in all three basins was sandy and silty. No evidence of hydric soil coloration or mottling was seen, though sandy soils often do not develop these hydric soil indicators (Corps *Delineation Manual*, 1987). And regular basin maintenance would presumably remove silt deposits before chemical reduction could cause hydric soil color indicators to appear.

Vegetation: The upper basin supports mulefat scrub and a small stand of riparian woodland. Dominant plants in both these areas are hydrophytic species (mulefat, black willow, red willow, and Fremont cottonwood). Upstream from the mulefat scrub, the channel is essentially unvegetated due to occasional scouring during heavy rains.

The lower basin on the west supports a mix of native and non-native species, including mulefat, black willow, castor bean, jimsonweed, and annual sunflower. Most of the basin has been disced or dredged, and the plants are growing in and around furrows left by heavy equipment. The vegetation meets criteria as hydrophytic vegetation, though several of the common species are primarily upland plants. Presumably, in the absence of maintenance work, hydrophytic species would be more prevalent. Upstream from the vegetated area, the lower western basin is similar to the scoured unvegetated area in the upper basin.

The lower eastern basin has been disced or dredged since it last was inundated, and there was essentially no vegetation there. Due to topography and evidence of periodic inundation, we presume that it would support hydrophytic vegetation in the absence of maintenance work.

CONCLUSIONS

Based on hydrology and vegetation indicators (where available) I conclude that the lower eastern basin and part of the lower western basin, mapped as maintained flood basin (Fig. 1), meet state and federal criteria as wetlands. The southern portion of the upper basin, mapped as mulefat scrub and riparian woodland also meets state and federal wetland criteria. The northern portions of the upper basin and lower eastern basin, mapped as flood channel, meet criteria as jurisdictional waters of the United States and as a streambed but does not meet criteria as a wetland. Thus, all areas mapped earlier as riparian woodland, flood channel, and maintained flood basins (Scott White Biological Consulting 2006) meet jurisdictional criteria.

San Bernardino County Flood Control District staff digitized and earlier vegetation map (Scott White Biological Consulting 2006) and estimated acreages of each vegetation type. These estimates were used to estimate acreages of jurisdictional areas in Table 1 (following page).

We recommend that the District notify the Army Corps of Engineers and Department of Fish and Game and apply for permits as needed.

Table 1. Cactus Basin jurisdictional area.

Area (from Fig. 1)	Jurisdictional area	State category	Federal category
1. Flood channels	8.32 ac.	Streambed	Waters of US
2. Riparian woodland	0.89 ac.	Wetland	Wetland
3. Mulefat scrub	7.12 ac.	Wetland	Wetland
4. Maintained basin, lower west basin	3.91 ac.	Wetland	Wetland
5. Maintained basin, lower east basin revegetation area	1.67 ac.	Wetland	Wetland
TOTAL JURISDICTIONAL AREA, EXCLUDING REVEGETATION AREA	20.24 ac.		

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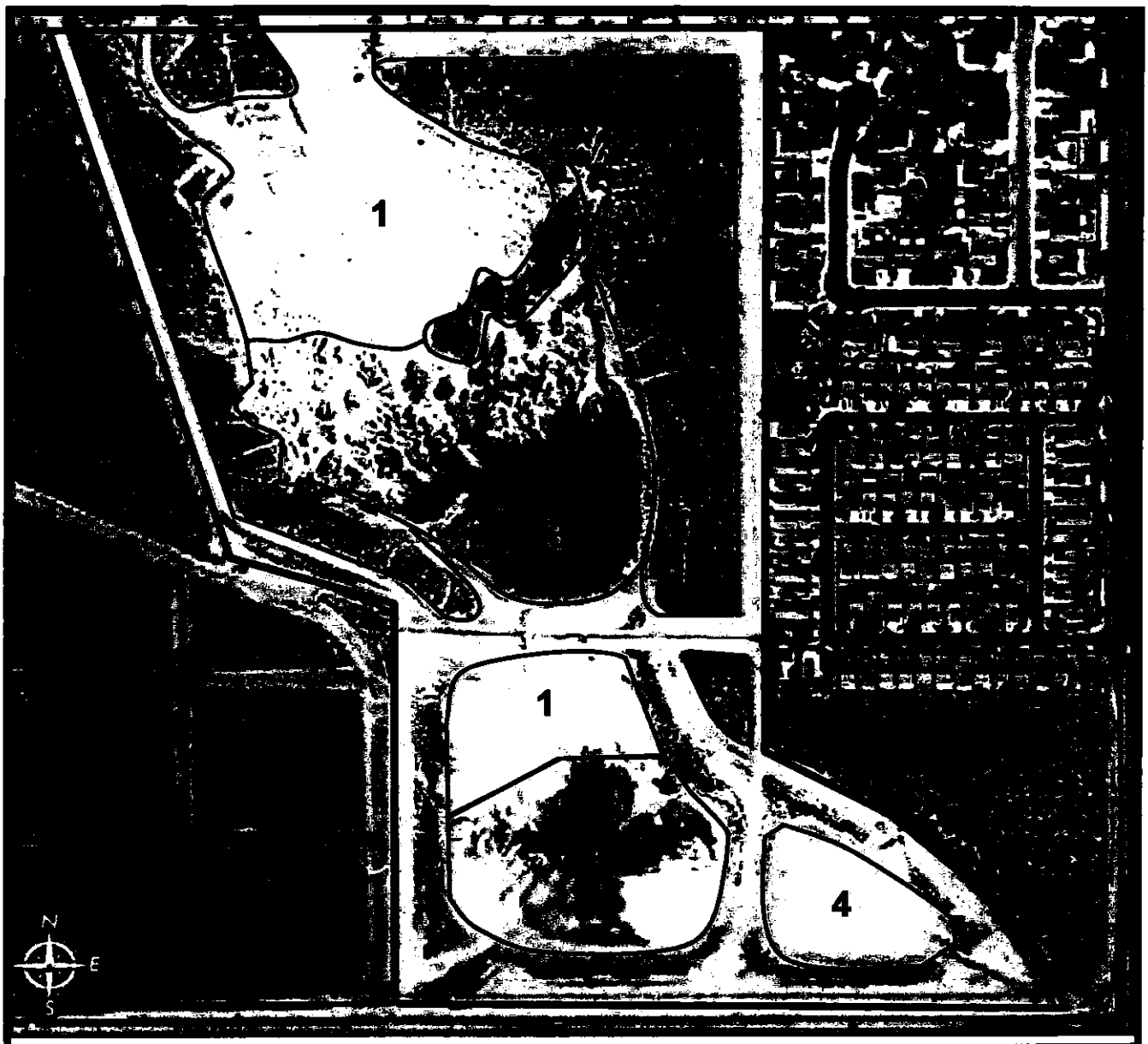

Jurisdictional areas:
1. Flood channel (open sand and gravel)
2. Riparian woodland
3. Mulefat scrub
4. Maintained flood basin

Cactus Basin

Figure 1: Jurisdictional areas

Scott White Biological Consulting

Map source: Google Earth
JW: 7 Sept. 2006

NORTH

APPENDIX G
PRESENCE/ABSENCE TRAPPING STUDIES
FOR THE
SAN BERNARDINO KANGAROO RAT
CACTUS BASIN NUMBER 3 PROJECT

Natural Resources Assessment, Inc.

Presence/Absence Trapping Studies for the San Bernardino Kangaroo Rat Cactus Basin Number 3 Project Riverside, California

prepared for:

Lilburn Corporation
1905 Business Center Drive
San Bernardino, CA 92408
909 890 1818

prepared by:

Natural Resources Assessment, Inc.
3415 Valencia Hill Drive
Riverside, CA 92507
951 686 1141

July 12, 2006

Project Number: LIL06-101

3415 Valencia Hill Drive, Riverside, California 92507
Telephone 951 686 1141 Fax 951 686 8418 E-mail nrainc@earthlink.net

CERTIFICATION

I hereby certify that the statements furnished above and in the attached exhibits present data and information required for this biological evaluation, and that the facts, statements, and information presented are true and correct to the best of my knowledge and belief.

Karen Kirtland
Natural Resources Assessment, Inc.

July 12, 2006
Date

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Appendix A - Flora and Fauna Compendium

Executive Summary

Natural Resources Assessment, Inc. (NRA, Inc.) was contracted by Lilburn Corporation. to conduct a San Bernardino kangaroo rat trapping survey for the Cactus Basin Number 3 improvement project located along Baseline Road between Cactus and Cedar Avenues in Rialto. The assessment was required to determine the presence or absence of SBKR in the alluvial fan scrub and upland habitat located on the property.

One San Bernardino kangaroo rat was captured during the trapping surveys. One other sensitive species, the San Diego pocket mouse was also captured on the site.

Improvement of the basin may have an impact on the local population, and will require mitigation. The proposed mitigation is to replace the loss of habitat in the improved area with suitable habitat in flood control district properties proposed for set aside as mitigation lands. The details of the mitigation (acreage of replacement, etc.) will be developed as part of the USFWS permit process.

1.0 Introduction

Natural Resources Assessment, Inc. (NRA, Inc.) was contracted by Lilburn Corporation. to conduct a San Bernardino kangaroo rat (*Dipodomys merriami parvus*) trapping survey for Cactus Basin Number 3 in Rialto. The assessment was required to determine the presence or absence of this species in the alluvial fan scrub and upland habitat located in the basin.

2.0 Site Description and Location

The San Bernardino Flood Control District is proposing improvements for Cactus Basin Number 3 in San Bernardino County. The basin is located north of Baseline Road between Cactus and Cedar Avenues (Figure 1). It lies in the southeast quarter of Section 34, Township 1 north, Range 5 west of the Devore and Fontana 7.5' USGS quadrangles, San Bernardino base and meridian (Figure 1).

3.0 Methods

3.1 Data Search

NRA, Inc. reviewed available information on the known sensitive resources in the area. The literature review included a review of standard field guides and texts on sensitive and non sensitive biological resources, as well as the following sources:

- *The Status and Known Distribution of the San Bernardino Kangaroo Rat (Dipodomys merriami parvus)*: Field surveys conducted between 1987 and 1996. McKernan 1997.

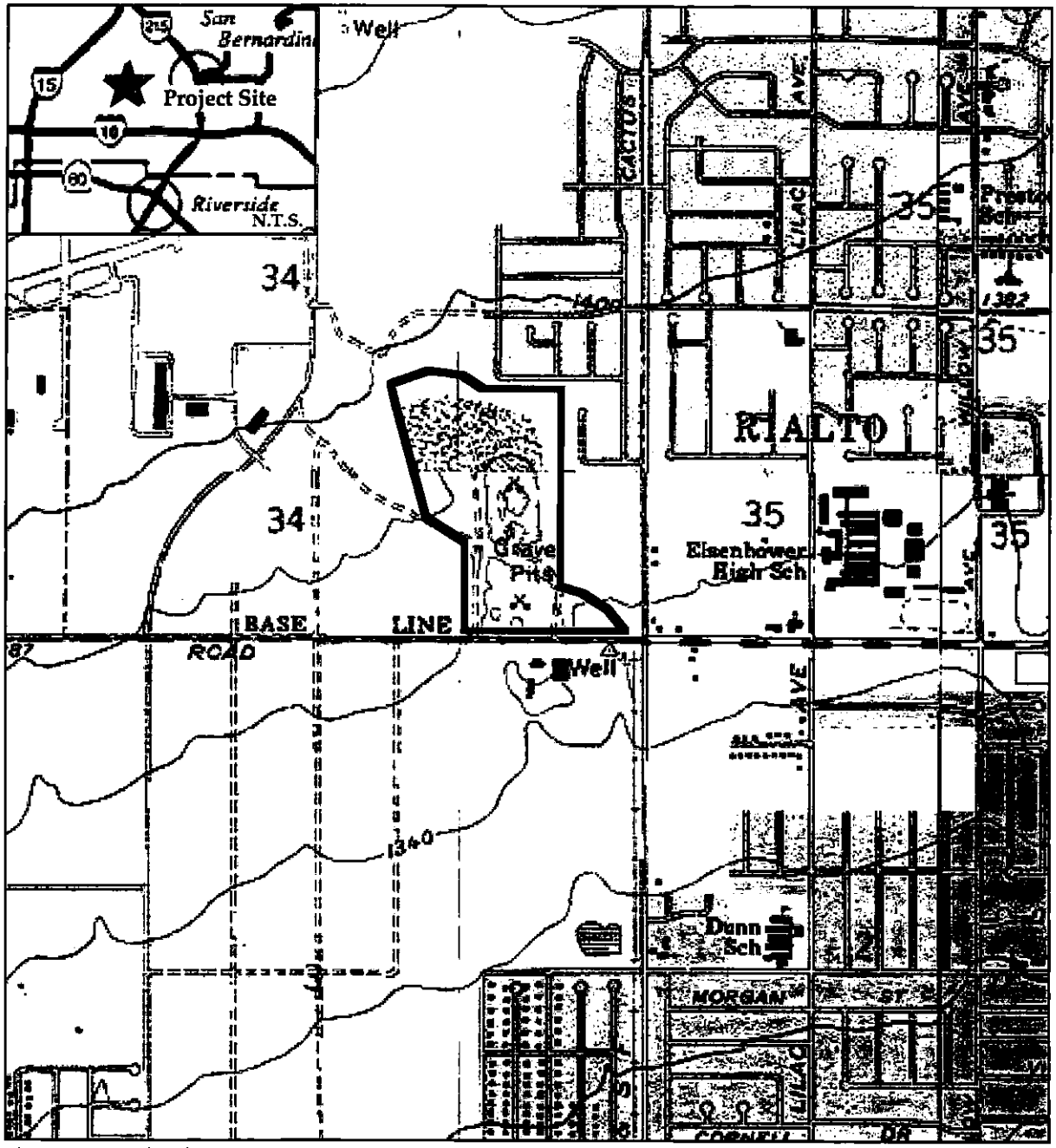
- *Endangered and Threatened Wildlife and Plants; Final Rule to List the San Bernardino Kangaroo Rat as Endangered.* U.S. Fish and Wildlife Service, 1998.

We also reviewed other available technical information on the biological resources of the site, and discussed recent findings with researchers in the field.

3.2 Habitat Evaluation Surveys

Philippe Vergne of ENVIRA had previously trapped this property in 2001. He did not capture any San Bernardino kangaroo rat (SBKR) during that survey. For this work. Mr. Vergne conducted a preliminary walkover survey of the site on January 31, 2006 to assess the current habitat quality on site and to determine suitable sites for trapping of the SBKR on the property.

Mr. Vergne also conducted a general biological assessment of the plant and wildlife species on site. In addition, Mr. Vergne noted site characteristics such as soils, topography, the condition of the plant communities, and evidence of human use of the site.



Source: Fontana (1980) 7.5' USGS topographic quadrangle

Figure 1. Regional Location and Site Vicinity

N

Feet (approximate)

0 635 1270

Cactus Basin No. 3 Improvement Project
Small Mammal Trapping
Rialto, California

3.3 Trapping Surveys

Trapping was conducted according to protocols established for the Stephens kangaroo rat (SKR) and used for the SBKR. The protocol calls for five nights of trapping, conducted when the animal is active aboveground at night and preferably during a new moon phase.

Our initial trapping began on January 31, with the last pickup conducted on the morning of Sunday February 5, 2006.

Six trap-lines of 20 traps each were set at Trapping Areas A through F (Figure 2). Traps were placed in suitable habitat areas within and adjacent to the basin, concentrating on locating traps in areas containing sandy soils and suitable vegetation.

Each trap was baited, with the bait placed at the back of the trap. The traps were set at dusk each night and inspected once during the night and at dawn each morning. All animals were identified and released at the point of capture.

Notes and photographs were taken on the habitat conditions where the traps were placed. The weather conditions at the time of the trapping studies were also noted.

4.0 Results

4.1 Research Findings

Five sensitive mammal species were identified as potentially present in the vicinity of the project. These species are the San Bernardino kangaroo rat, the San Diego desert woodrat (*Neotoma lepida intermedia*), San Diego pocket mouse (*Chaetodipus fallax fallax*) and Los Angeles pocket mouse (*Perognathus longimembris brevinasus*).

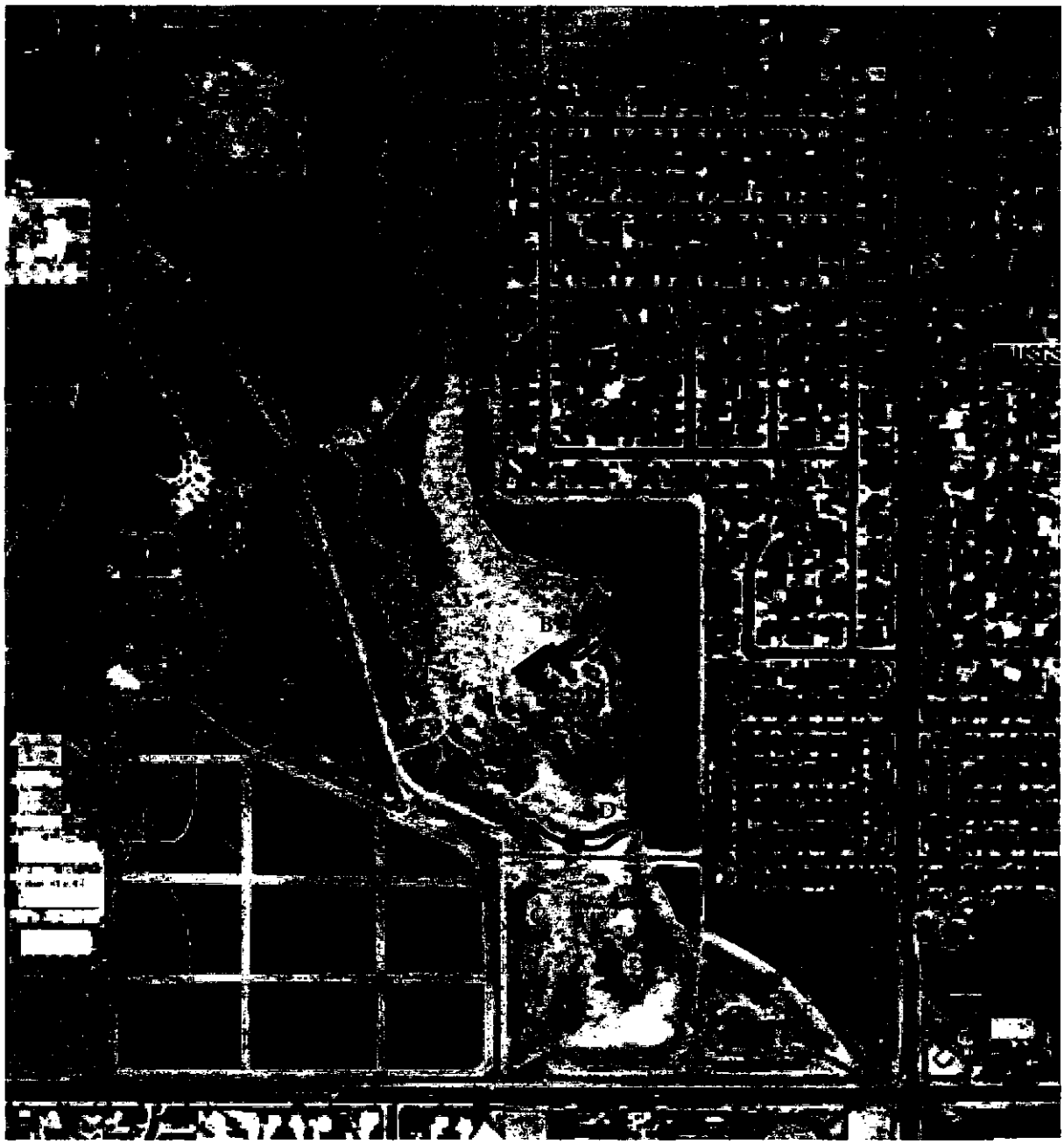
Of the animal species potentially present, only the San Bernardino kangaroo rat requires specific survey protocols to establish presence or absence. These specific survey protocols are required for areas where impacts may occur to the sensitive species or their occupied habitat. The remaining species are usually identified as part of the trapping for the SBKR.

The proposed project site is not located within a proposed Critical Habitat area for the SBKR.

4.2 Sensitive Biological Resources

4.2.1 San Bernardino Kangaroo Rat

The San Bernardino kangaroo rat is one of several kangaroo rat species in its range. The Dulzura (*Dipodomys simulans*), the Pacific kangaroo rat (*Dipodomys agilis*) and the Stephens kangaroo rat (*Dipodomys stephensi*) occur in areas occupied by the San Bernardino kangaroo rat, but these other species have a wider habitat range. The habitat of the San Bernardino kangaroo rat is described as



Source: Fontana (1980) 7.5' USGS topographic quadrangle

Figure 2. Aerial Photo of Trap Locations

Legend

A Trapline

SBKR capture

N

Feet (approximate)

0 635 1270

Cactus Basin No. 3 Improvement Project
Small Mammal Trapping
Rialto, California

being confined to primary and secondary alluvial fan scrub habitats, with sandy soils deposited by fluvial (water) rather than aeolian (wind) processes. Burrows are dug in loose soil, usually near or beneath shrubs.

The San Bernardino kangaroo rat (*Dipodomys merriami parvus*) is one of three subspecies of the Merriam's kangaroo rat. The Merriam's kangaroo rat is a widespread species that can be found from the inland valleys to the deserts. The subspecies known as the San Bernardino kangaroo, however, is confined to inland valley scrub communities, and more particularly, to scrub communities occurring along rivers, streams and drainage. Most of these drainage have been historically altered as a result of flood control efforts and the resulting increased use of river resources, including mining, off-road vehicle use and road and housing development.

The increased use of river resources has resulted in a reduction in both the amount and quality of habitat available for the San Bernardino kangaroo rat. The past habitat losses and potential future losses prompted the emergency listing of the San Bernardino kangaroo rat as an endangered species (U.S. Fish and Wildlife Service, 1998a).

4.2.2 San Diego Desert Woodrat

The desert woodrat (*Neotoma lepida*) is a relatively wide ranging species extending along the coast of California from south of San Francisco through to the border with Baja California. This species also occurs in the Central Valley and the deserts of southern California and extends along the desert side of the Sierra Nevada into southeastern Oregon.

The coastal race of the desert woodrat, the San Diego desert woodrat (*Neotoma lepida intermedia*), prefers scrub habitats such as coastal sage scrub, chaparral and alluvial fan scrub. It is more common in areas with rock piles and coarse sandy to rocky soils throughout coastal southern California.

The range of this species extends from just south of Sacramento and the San Francisco area to the border with Baja California. The coastal subspecies of the widespread *Neotoma lepida, N. lepida intermedia*, is listed as a California Species of Special Concern (CSC) whose historical range has been impacted by the conversion of scrub habitats into residential, commercial and industrial use.

4.2.3 Northwestern San Diego Pocket Mouse

The northwestern San Diego pocket mouse (*Chaetodipus fallax fallax*) is one of five subspecies of the San Diego pocket mouse. The San Diego pocket mouse is a large species of pocket mouse, and is characterized by long spine-like hairs on rump and hips. This characteristic differentiates this species from the silky pocket mice of the genus *Perognathus*.

The San Diego pocket mouse is a common resident of open, sandy herbaceous areas, usually in association with rocks or course gravel in southwestern California. It occurs mainly in arid coastal and desert border areas in San Diego Co., Riverside Co., and San Bernardino Co. The subspecies designated as the northwestern San Diego pocket mouse occurs in open scrub, chamise-redshank chaparral, mixed

chaparral, sagebrush, desert wash, desert scrub, desert succulent shrub, pinyon-juniper, and annual grassland in the valleys and foothills of southwestern California (Hall 1981; Lackey 1996). This species is reported in high numbers in rocky and gravely areas (Zeiner, et al 1990). Burrows can be found in sandy or gravely soils. Higher densities in rocky and graveled areas are attributed to the greater availability of cover from visually oriented predators (Lackey 1996).

The northwestern San Diego pocket mouse primarily is a granivore (seed eater). Like other pocket mice, this species possess external, fur-lined cheek pouches for collecting and caching seeds. They eat grass seeds from summer to early winter, switching to shrub seeds and annual weed seeds for the rest of the year. They are nocturnal, active all year round (although surface activity is reduced during cold spells) and tend to forage under shrub and tree canopies, or around rock crevices (Lackey 1996).

The range of the species extends from Orange County to San Diego County, and includes Riverside and San Bernardino counties out into the desert border areas. The northwestern San Diego pocket mouse subspecies is confined to Orange County and the coastal habitats of San Diego, Riverside and San Bernardino counties.

The northwestern San Diego pocket mouse appears to be sensitive to habitat fragmentation and degradation, and its historical range has been reduced by urban development and agriculture (California Department of Fish and Game 2004). As a result, the subspecies has been designated as a California Species of Special Concern by the California Department of Fish and Game (CDFG 2004; Lackey 1996).

DUDEK and Associates stated that the conservation of large blocks of connected habitat should provide adequate habitat for the persistence of this species (DUDEK & Associates 2004).

4.2.4 Los Angeles Pocket Mouse

The Los Angeles pocket mouse (*Perognathus longimembris brevinasus*) is one of two pocket mice found in San Bernardino and Riverside counties (Williams 1986). Both the Los Angeles pocket mouse and the northwestern San Diego pocket mouse (*Chaetodipus fallax fallax*) occupy similar habitats, but the northwestern San Diego pocket mouse has a wider range extending south into San Diego County. The habitat of the Los Angeles pocket mouse is described as being confined to lower elevation grasslands and coastal sage scrub habitats, in areas with soils composed of fine sands (Williams 1986). This species prefers habitat similar to that of the SKR and SBKR. It occurs in open sandy areas in the valley and foothills of southwestern California (Hall 1981).

Los Angeles pocket mouse, like other subspecies of *Perognathus longimembris*, are granivorous rodents and specialize on grass and scrub seeds, but will take insects when available (French 1999; Meserve 1976). Pocket mice possess external, fur-lined cheek pouches used in collecting and caching of seeds. Seeds are cached for use during the colder months of the year.

They spend most of their foraging time in or near bushes, scrubs, rock crevices, or other sources of cover. The Los Angeles pocket mouse is primarily nocturnal and exhibits a distinct seasonal pattern in surface

activity. During colder months the pocket mouse may enter into torpor (dormancy) and not engage in surface activity. This species may enter torpor as early as the end of September; the exact date may depend on the nightly low temperatures, and the availability of food.

At some point when surface conditions are very cold and food is scarce, the animal cannot meet its energy needs by foraging and thus must shut down surface activity to survive the winter. Los Angeles pocket mouse must then survive on the food they have cached (Richman and Price 1993). Los Angeles pocket mice emerge in the spring when the surface ground temperatures are higher than the surrounding ground temperature in their burrows (French 1999).

The present known distribution of this species in Riverside and San Bernardino counties extends from the San Gabriel and San Bernardino mountains south to the Temecula and Aguanga areas, and from the east side of the Santa Ana Mountains east to Cabazon (Hall 1981).

The actual distribution and population status of the Los Angeles pocket mouse is not well understood. While it is widespread in the area, only scattered records exist and most of the records are vague regarding location. The lack of information for the Los Angeles pocket mouse may reflect several factors. Some biologists believe that this subspecies is in serious decline within western Riverside and San Bernardino counties because it is seldom trapped and much of its potential habitat has been lost.

The LA pocket mouse is listed as a California Species of Special Concern by the California Department of Fish and Game (California Department of Fish and Game 2004).

4.3 Weather Conditions, Topography, and Soils

Weather conditions did not vary much during the course of the trapping survey (Table 1). Morning temperatures were in the low fifties degrees Fahrenheit. Skies were clear with winds varying from 3 to 15 miles per hour. The moon was new during the trapping survey.

Table 1. Weather Conditions

Date	Cloud Cover	Temperatures (°F)	Wind Speed (miles per hour)	Moon
February 1, 2006	Clear	low 50s	3-15	New
February 2, 2006	Clear	low 50s	3-15	New
February 3, 2006	Clear	low 50s	3-15	Crescent
February 4, 2006	Clear	low 50s	3-15	Crescent
February 5, 2006	Clear	low 50s	3-15	Crescent

Topography on the property varied from the flat bottom of the basin to steep sides mounds and hills along the perimeter of the basin.

Along the bottom of the upper drainage and basin, surface soils are cobbly to rocky, the lower basins are sandier and with a thin layer of silt (Photos 1 and 2). Along the slopes of the basin, the soils are a hard packed sandy loam.

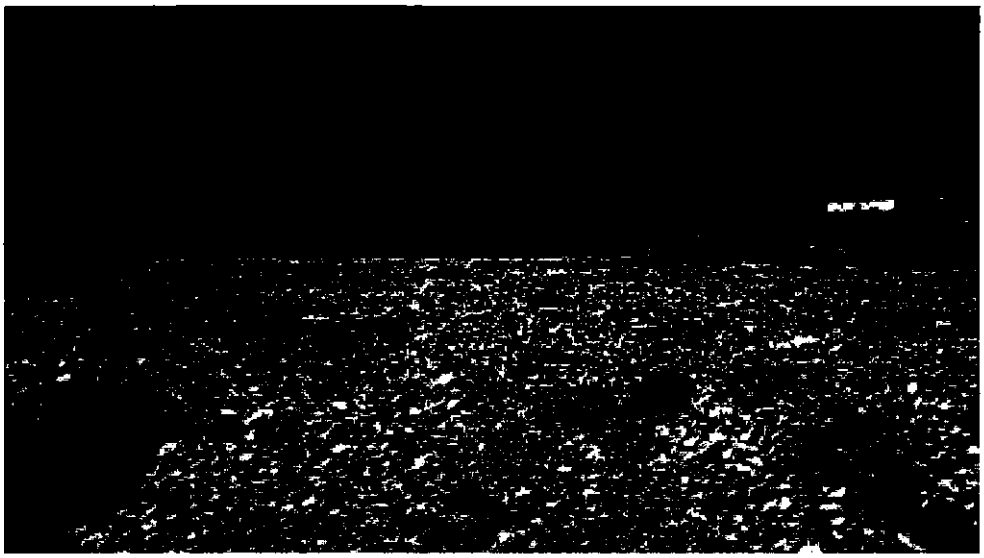


Photo 1. Main drainage, looking north.

Photo 2. North of retention basins. Looking north across the site.

4.4 Surrounding Land Uses

Jerry Eaves Park is to the northwest and open space to the southwest. Residential development is on the east and south. Other detention basins form the northern boundary.

4.5 Plant Communities

There are two plant communities on the property. The primary plant community is an upland sage scrub on the sides and less disturbed areas of the basin, and small stands of riparian trees along the main northern drainage area of the basin.

4.5.1 Upland Sage Scrub

Upland scrub components include California buckwheat (*Eriogonum fasciculatum*) as the dominant species. Subdominant shrubs include scale-broom (*Lepidospartum squamatum*), chamise (*Adenostoma fasciculatum*), deer weed (*Lotus scoparius*) and cudweed aster (*Lessingia filaginifolia*).

Species richness is less and herbaceous species and weedy forbs are more numerous in this plant community than in undisturbed alluvial fan scrub. This plant community is found throughout the project site on slopes and the sides of the basin.

4.5.2 Cottonwood Willow Riparian

Small stands of cottonwood (*Populus fremontii*) mixed in with stands of arroyo willow (*Salix lasiolepis*) and mulefat (*Baccharis salicifolia*) are found within the main drainage area of the northernmost basin.

A detailed list of plant species observed is provided in Appendix A.

4.6 Disturbances

Trails and dirt roads dissect the basin. The bottom of the basin has been disturbed by ongoing maintenance activity, as well as dike construction, material extraction and stockpiling for flood control management.

4.7 Wildlife

Wildlife activity was low, with most of the wildlife represented by bird species. Reptiles were observed mainly in the open scrub habitat. No amphibians were observed on the property although habitat for amphibians occurs on site.

Wildlife observations were based on calls, songs, scat, tracks, burrows and sightings of animals.

A list of wildlife species observed is found in Appendix A.

4.8 San Bernardino Kangaroo Rat Studies

Trap lines were set in suitable habitat on site, in areas containing sandy soils, sparse vegetation and small mammal sign (Photo 3).

Photo 3. Location where the San Bernardino kangaroo rat was captured.

Five different species of small mammal were trapped during the survey period. Trapping success for the SBKR was low. Table 2 provides summary information on the species trapped per night. Figure 2 gives the location of the trap lines.

One male San Bernardino kangaroo rat was captured during the current trapping surveys. No SBKR were captured in 2001.

The San Diego desert wood rat and the Los Angeles pocket mouse were not captured in the current survey. They were not captured in the 2001 survey, and are assumed to be absent on site. The northwestern San Diego pocket mouse was captured in the 2001 survey and during the current survey.

5.0 Discussion

One San Bernardino kangaroo rat was captured during the current trapping studies. No SBKR were captured during the 2001 survey. Overall, the small mammal population on site appears low.

Table 2. Trapping Results for the Cactus Basin No. 3 Improvement Project

Trap Site	Number of Trap Nights	San Bernardino Kangaroo Rat *Dipodomys merriami parvus*	Dulzura Kangaroo Rat *Dipodomys simulans*	Deer Mouse *Peromyscus maniculatus*	Northwestern San Diego Pocket Mouse *Chaetodipus fallax fallax*	Cactus Mouse *Peromyscus eremicus*
A	150			9	2	1
B	150		3	6		
C	150		2	11	1	
D	150	1		5		
E	150		2	8	2	1
F	150			7		
Totals	900	1	7	46	5	2

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Appendix A - Flora and Fauna Compendium

Flora

*denotes non-native plants

ANGIOSPERMAE: DICOTYLEDONES	DICOT FLOWERING PLANTS
Amaranthaceae	**Amaranthus family**
Amaranthus albus	White tumbleweed
Anacardiaceae	**Sumac family**
Rhus trilobata	Skunk bush
Asteraceae	**Sunflower family**
Ambrosia acanthicarpa	Annual bur-sage
Ambrosia psilostachya	Western ragweed
Artemisia californica	California sagebrush
Baccharis salicifolia	Mulefat
**Centaurea solstitialis*	Star-thistle
**Conyza canadensis*	Mare's tails
Helianthus annuus	Annual sunflower
Lepidospartum squamatum	Scale-broom
Lessingia filaginifolia	Cudweed aster
Brassicaceae	**Mustard family**
**Hirschfeldia incana*	Short-podded mustard
Cactaceae	**Cactus family**
Opuntia littoralis	Coastal cholla
Chenopodiaceae	**Saltbush family**
**Salsola tragus*	Russian thistle
Euphorbiaceae	**Spurge family**
Croton californica	Croton
Chamaesyce albomarginata	Rattlesnake weed
Eremocarpus setigerus	Dove weed
Fabaceae	**Pea family**
Lotus scoparius	Deerweed
Lamiaceae	**Mint family**
Salvia apiana	White sage

Salvia columbariae	Chia
Polygonaceae	Buckwheat family
Eriogonum fasciculatum	California buckwheat
Eriogonum gracile	Graceful buckwheat
Rhamnaceae	**Buckthorn family**
Rhamnus crocea	Spiny redberry
Rosaceae	**Rose family**
Adenostoma fasciculatum	Chamise
Cercocarpus betuloides	Mountain mahogany
Salicaceae	**Willow family**
Populus fremontii	Cottonwood
Salix lasiolepis	Arroyo willow
Solanaceae	**Nightshade family**
**Datura stramonium*	Jimson weed
Nicotiana glauca	Indian tobacco
ANGIOSPERMAE: MONOCOTYLEDONAE	**MONOCOT FLOWERING PLANTS**
Poaceae	**Grass family**
**Avena barbata*	Slender wild oats
**Bromus diandrus*	Ripgut brome
**Bromus madritensis*	Red brome
**Schismus barbatus*	Mediterranean grass

Taxonomy and nomenclature follow Hickman 1993 and Munz 1974.

Fauna

REPTILIA	**REPTILES**
Iguanidae	**Iguanas and their allies**
Sceloporus occidentalis	Western fence lizard
Uta stansburiana	Side-blotched lizard
Anguidae	**Alligator lizards**
Gerrhonotus multicarinatus	Southern alligator lizard

AVES	**BIRDS**
Ardeidae *Ardea herodias*	**Herons and bitterns** Great blue heron
Charadriidae *Charadrius vociferus*	**Plovers and relatives** Killdeer
Cathartidae *Cathartes aura*	**Vultures** Turkey vulture
Falconidae *Falco sparverius*	**Caracaras and falcons** American kestrel
Columbidae *Zenaida macroura*	**Pigeons and doves** Mourning dove
Camprimulgidae *Chordeiles acutipennis*	**Goatsuckers** Lesser nighthawk
Trochlidae *Calypte anna*	**Hummingbirds** Anna's hummingbird
Tyrannidae *Tyrannus verticaulis*	**Tyrant flycatchers** Western kingbird
Corvidae *Corvus corax*	**Crows and ravens** Common raven
MAMMALIA	**MAMMALS**
Leporidae *Sylvilagus audubonii* *Lepus californicus*	**Rabbits and hares** Audubon's cottontail Black-tailed jackrabbit
Sciuridae *Spermophilus beecheyi*	**Squirrels, chipmunks and marmots** California ground squirrel
Geomyidae *Thomomys bottae*	**Pocket gophers** Botta's pocket gopher
Heteromyidae *Chaetodipus fallax fallax* *Dipodomys simulans*	**Pocket mice and kangaroo rats** Northwestern San Diego pocket mouse Dulzura kangaroo rat

Dipodomys merriami parvus	San Bernardino kangaroo rat
Cricetidae	**Cricetine mice and rats**
Peromyscus eremicus	Cactus mouse
Peromyscus maniculatus	Deer mouse
Canidae	**Foxes, wolves and relatives**
Canis latrans	Coyote
Procyonidae	**Raccoons and relatives**
Procyon lotor	Raccoon
Mustelidae	**Weasels and relatives**
Mephitis mephitis	Striped skunk

Nomenclature follows Grenfell, 2003 Hall 1981, and Stebbins 1966.

APPENDIX H
FOCUSED SURVEY
FOR
CALIFORNIA GNATCATCHER

LEATHERMAN BIOCONSULTING, INC.
4848 Lakeview Avenue, Suite 100E • Yorba Linda, California 92886
(714) 701-0863 • (714) 701-0869 (fax)

July 18, 2006

Ms. Cheryl Tubbs
LILBURN CORPORATION
1905 Business Center Drive
San Bernardino, California 92408

Re: Results of Focused Surveys for the California Gnatcatcher in the Cactus Basins 3 and 3A Project Site, City of Rialto, San Bernardino County

Dear Ms. Tubbs:

This letter reports the results of focused surveys to evaluate the presence or absence of the federally listed threatened California gnatcatcher (*Polioptila californica californica*) on the Cactus Basin project site in the City of Rialto, San Bernardino County, California. The Cactus Basins (Basins 3, 3A, 4, and 5) are located between Highland Avenue and Baseline Road, west of Cactus Avenue, and east of Ayala Drive. The Rialto Municipal Airport lies further to the west of the project and residential development is adjacent to the east of the basins. To the north is vacant land that is planned for the future development of Cactus Basins 4 and 5. This survey and report pertain only to the construction of Basins 3 and 3A. The project site is located in the eastern half of Township 1 North, Range 5 West, Section 34 on the Fontana USGS quadrangle map (Figure 1).

Existing Cactus Basins 1 and 2 provide temporary stormwater retention. Cactus Basin 3 will be enlarged, mostly via excavation, to detain and convey the additional storm water flows. To create additional storm water detention capacity, Cactus Basin 3A (which includes a Mitigation Area over its eastern portion) will be constructed adjacent to and south (downstream) of Cactus Basin 3. The Mitigation Area of Basin 3A will receive storm water flows from two inlets on its east side and the western portion of Basin 3A will receive surface water from Basin 3 from the low level outlet and the spillway as well as surface water from the Mitigation Area.

SPECIES' BACKGROUND

California Gnatcatcher

The California gnatcatcher was listed by the USFWS as a threatened species in 1993 (USFWS 1993). Historically it occurred in California from the Santa Clara River valley and northern

San Fernando Valley south through the coastal foothills of San Diego County (Garrett and Dunn 1981). Habitat loss and fragmentation from expanding development and agriculture has been a major factor in the decline of this species in southern California (Atwood 1993). The USFWS originally designated critical habitat for the California gnatcatcher in 2000 (USFWS 2000); however, a proposal to revise the critical habitat was published in 2003 (USFWS 2003). The original critical habitat designation remains in effect until a final rule on the revised critical habitat designation is published. The USFWS has not developed a recovery plan for the California gnatcatcher. The California gnatcatcher inhabits moderately dense stands of coastal sage scrub occurring on arid hillsides, mesas, and washes. Coastal sage scrub communities dominated by California sagebrush, California buckwheat, and white sage seem to be preferred by this species, but shrub composition in occupied areas across the species' range varies, as does shrub community structure (height, density, etc.). Chaparral, riparian, and ruderal habitats may be used occasionally for dispersal and foraging, especially when these habitats are adjacent to occupied stands of coastal sage scrub. California gnatcatcher populations in inland areas usually occur in lower densities than in coastal sites, and generally occur in more open scrub habitats; as such, inland populations tend to have larger home ranges than coastal populations. California gnatcatcher elevational limit is as high as 2,640 ft., but most occurrences are well below that, with populations generally below 1,800 ft. in inland areas and below 1,350 in coastal habitats (Atwood and Bontrager 2001).

The California gnatcatcher is a resident (non-migratory) songbird that nests and forages in coastal sage scrub vegetation in southern California year-around. Territory size varies with season and locale. Territory size may increase by as much as 80% during the non-breeding season as pairs and individuals tend to wander more widely, and inland populations tend to have larger home ranges than coastal populations, as noted above. The breeding season generally occurs from March through July. Juvenile dispersal distances average less than 1.2 miles from natal territories, but have been documented up to nearly 6 miles.

EXISTING HABITAT

The 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 site has been altered by other land uses, including the former sand and gravel quarry and existing flood control basins.

Several vegetation associations and open space habitats occur on the project site. The following descriptions are based on the habitat types identified and described by Scott White (2006) and on observations made during the surveys for this report. Nomenclature follows Hickman (1993).

Riversidian sage scrub is the most common scrub type throughout the region. On the project site, sage scrub is dominated by California sagebrush (*Artemisia californica*),

California buckwheat (*Eriogonum fasciculatum*), black sage (*Salvia mellifera*), chamise (*Adenostoma fasciculatum*), deerweed (*Lotus scoparius*), and prickly-pear cactus (*Opuntia littoralis* var. *vaseyi*). The shrubland structure is open, and areas between the native shrubs are heavily dominated by non-native weedy grasses and forbes including brome grasses, wild oats, and wild mustards.

Most of the sage scrub habitat occurs on the benches and slopes surrounding the wash south of Basin 3, and on the field west of Basin 3a. The sage scrub communities on this site differ distinctly in height, density and composition. The scrub habitat located on the west slope of the wash is open and is composed almost entirely of California buckwheat. The scrub habitat located on the slopes and bench to the east of the wash has a dense structure with a composition of roughly equal parts California sagebrush and California buckwheat. The field west of Basin 3a has a dense structure composed mostly of California sagebrush with pockets of California buckwheat.

METHODS

Prior to conducting the focused survey, a search was conducted of the California Natural Diversity Data Base (CDFG 2006, Devore, Fontana, San Bernardino North, San Bernardino South USGS 7.5 minute quadrangles), and other relevant available documents to determine the extent of California gnatcatcher occurrence in the study area and vicinity.

Focused surveys were conducted by James Huelsman (USFWS permit # TE 827493-4). Survey methods followed the guidelines developed by the U. S. Fish and Wildlife Service as described below. Surveys were aided in the field by the use of topographic maps, aerial photographs, and vegetation maps of the survey area. The survey area included Cactus Basins 3 and 3A plus suitable coastal sage habitat adjacent to the project site (Figure 2). Locations of special status species observed incidentally were recorded as waypoints using GPS technology (Garmin Foretrex 101, NAD83 UTM). The focus of the surveys was on the detection and identification of the California gnatcatcher, but all wildlife incidentally observed or detected on the project site was documented. A list of the species observed during the surveys is attached.

Surveys for the California gnatcatcher followed the current presence/absence protocol (USFWS 1997). The protocol call for six surveys in all suitable habitat at least seven days apart between March 15 and June 30. However, because of the late start of these surveys, only four could be conducted prior to June 30; the last two were conducted in the first two weeks of July. Surveys were conducted between dawn and 1200 hours under suitable weather conditions. The protocol allows coverage of 80 acres of suitable habitat per survey day, or a maximum rate of approximately 17 acres per hour, so the entire 41 acres (30.9 acre Basin 3 and 10.4 acre Basin 3A) was surveyed in one day. Surveys were conducted by walking slowly within and along the perimeter of coastal sage scrub stands while watching and listening for California gnatcatcher activity. Taped vocalizations were used conservatively to solicit a response from any gnatcatchers potentially present. The

frequency of taped playback use varied with site conditions including habitat patch size, topography, and ambient noise levels. Survey dates, times and weather data for the focused California gnatcatcher surveys are shown in Table 1.

RESULTS

No California gnatcatchers were observed or heard during the surveys. All suitable coastal sage scrub habitat on the project site was surveyed.

Eleven occurrences for California gnatcatcher were reported on the California Natural Diversity Data Base search for the four quadrangles searched. The nearest record is from the vicinity of the confluence of Cajon Wash and Lytle Creek Wash, about 2 miles to the northeast. This record is from a single female observed in 1990. The next nearest record is from the vicinity of the northern end of Lytle Creek Wash, about 4 miles to the northwest. This record indicates that one individual was observed in 1993. The nearest recent sighting was recorded in 2000, when a lone male and one pair were observed at Glen Helen Regional Park, 5 miles to the north. Other sightings in this area are from the Jurupa Mountains about 5.5 miles to the south and Blue Mountain 9 miles to the south-east (CDFG 2006).

CONCLUSION

Based on the negative results of the California gnatcatcher surveys, the lack of recent records from the project area, the distance to extant populations, the fragmented nature of the surrounding habitat, and professional judgment and experience, the California gnatcatcher is likely absent from the project site at this time.

* * *

A copy of this letter report will be sent to the USFWS per the conditions of my 10(a)(1)(A) permit. Figures 1 and 2, the references cited, and a list of the wildlife observed are enclosed. It has been a pleasure to conduct this survey effort for Lilburn Corporation. If you have any comments or questions regarding the information provided in this report you can reach me by phone at (714) 701-0863, or by email at bleathermanwlb@aol.com.

Sincerely,

LEATHERMAN BIOCONSULTING, INC.

Brian Leatherman
President, Wildlife Biologist

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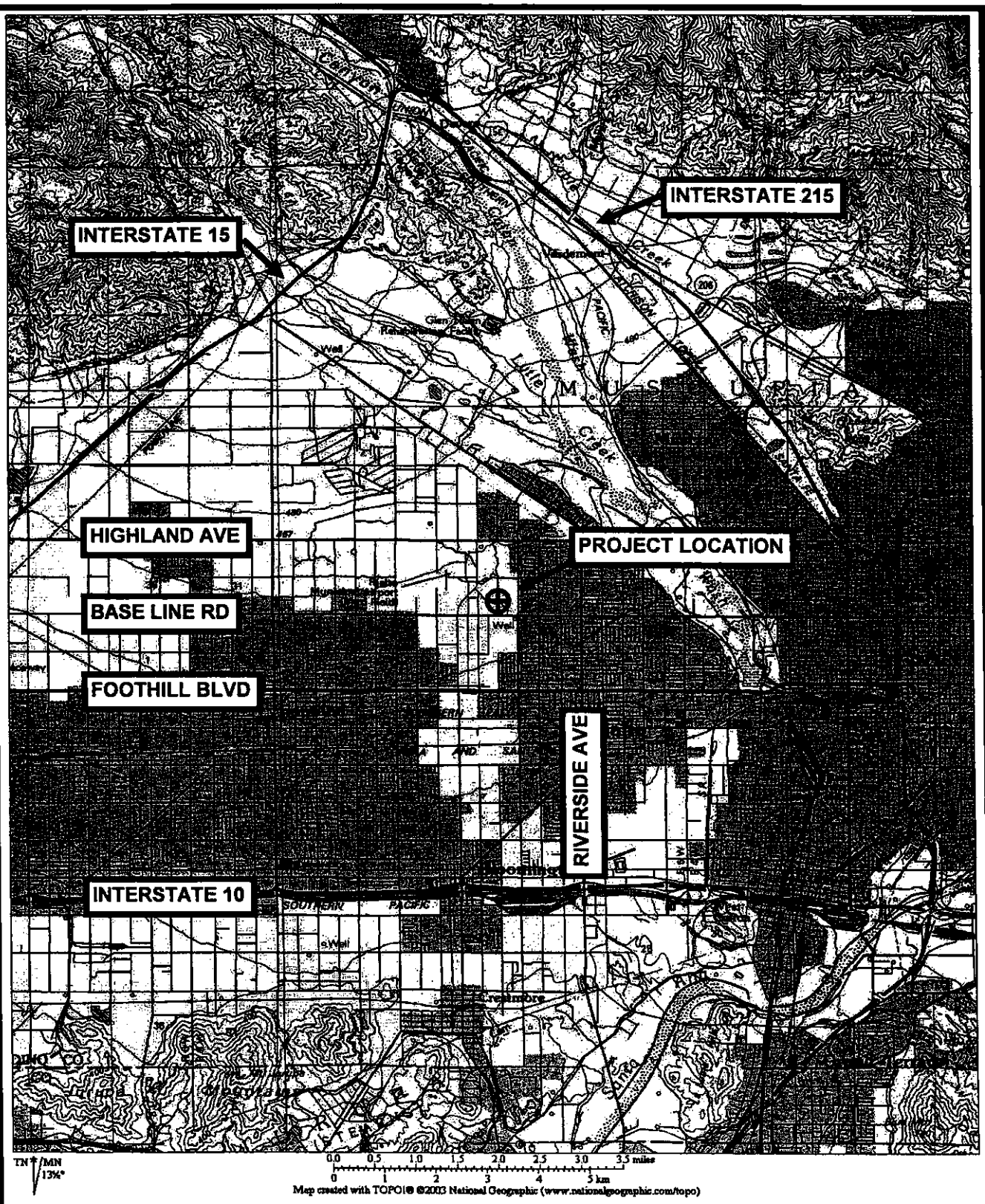
Table 1. Dates, Times and Weather Conditions for California Gnatcatcher Surveys

DATE	SURVEY DATA				
	TIME		WEATHER CONDITIONS		
	Start	Finish	Temperature (°F)	*Wind (mph)	Cloud Conditions
6-Jun-06	0700		65	0-1	overcast
		0930	80	1-2	hazy
13-Jun-06	0620		60	1-2	75%
		1020	75	1-2	clear
21-Jun-06	0700		65	0-1	overcast
		1100	75	2-4	clear
29-Jun-06	0630		70	0-1	15% High clouds
		1030	85	2-3	5% High clouds
6-Jul-06	0600		65	0-1	clear
		1045	85	1-2	clear
13-Jul-06	0615		70	0-1	clear
		1045	85	2-3	clear

*Wind estimated using Beaufort Scale



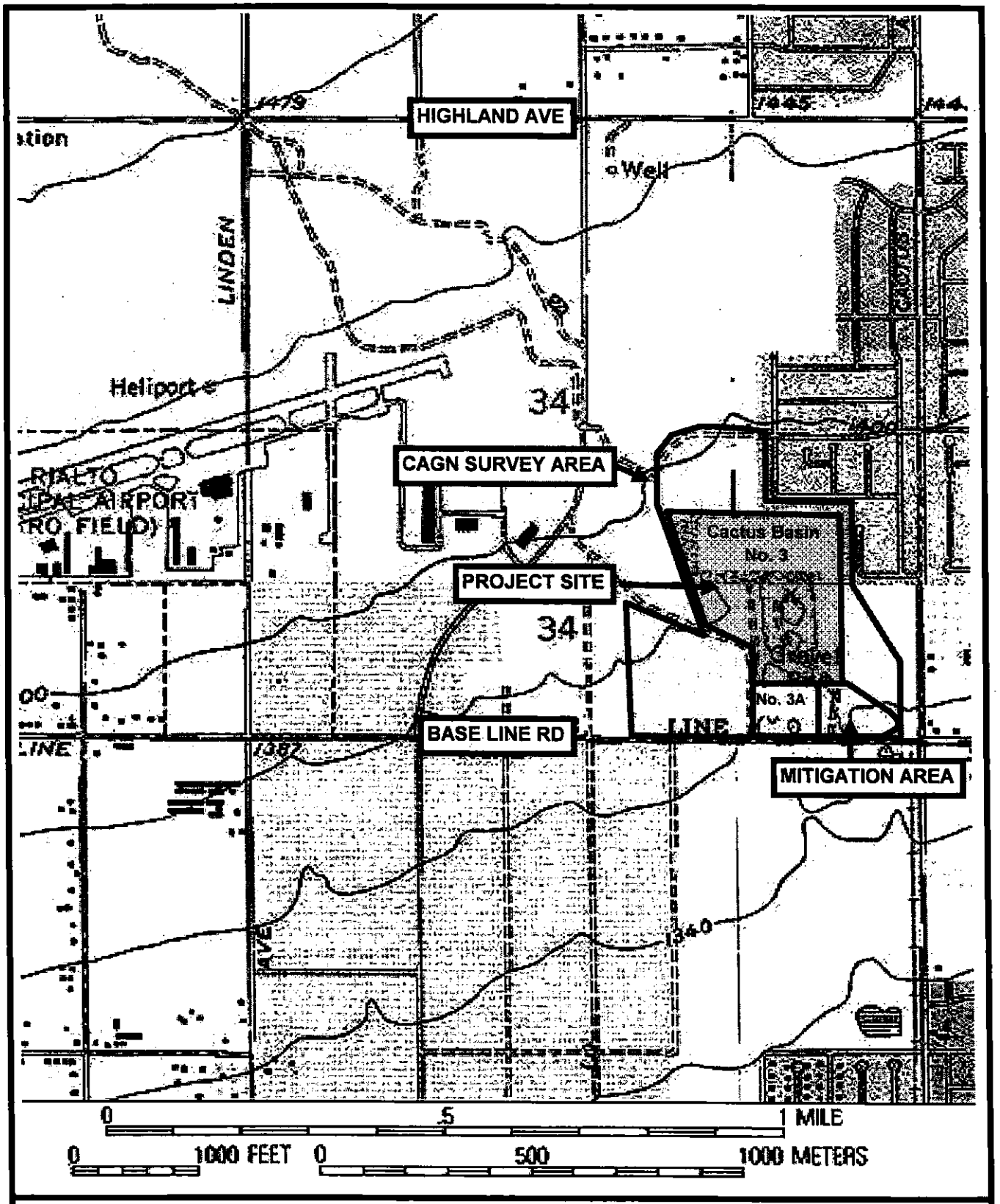
CACTUS BASIN

Figure 1: Vicinity Map

LEATHERMAN BIOCONSULTING, INC.

Map source: TOPO! 7½ minute topographic:
Devore, Fontana, San Bernardino North, San Bernardino South
JH: 16 Jan. 2006

NORTH



CACTUS BASIN

Figure 2: Topo Map with CAGN Survey Overlay

LEATHERMAN BIOCONSULTING, INC.

Map source: TOPO!, 7½ minute topographic: Devore, Fontana CA.
JH: 18 July. 2006

NORTH

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The following is a list of species observed or detected on the project site. Non-native species are indicated by an asterisk. Species on CDFG's Special Animals list are indicated by two asterisks. Other species may have been overlooked or inactive/absent because of the season (amphibians are active during rains, reptiles during summer, some birds (and bats) migrate out of the area for summer or winter, some mammals hibernate etc.). Taxonomy and nomenclature generally follow NABA (2002) for butterflies, Stebbins (2003) for amphibians and reptiles, AOU (1998) for birds, and Jones et al. (1992) for mammals.

SCIENTIFIC NAME	COMMON NAME
REPTILIA	**Reptiles**
Phrynosomatidae	**Phrynosomatids**
** *Phrynosoma coronatum*	Coast horned lizard
Sceloporus occidentalis biseriatus	Western fence lizard
Uta stansburiana	Side-blotched lizard
Teiidae	**Whiptail lizards**
** *Cnemidophorus tigris*	Western whiptail
Colubridae	**Colubrids**
Masticophus flagellum	Coachwhip
AVES	**Birds**
Accipitridae	**Raptors**
** *Accipiter cooperii*	Cooper's hawk
Buteo jamaicensis	Red-tailed hawk
Falconidae	**Falcons**
Falco sparverius	American kestrel
Odontophoridae	**Quail**
Callipepla californica	California quail
Charadriidae	**Plovers**
Charadrius vociferus	Killdeer
Columbidae	**Pidgeons and doves**
* *Columba livia*	Rock dove
Zenaida macroura	Mourning dove
Trochilidae	**Hummingbirds**
Calypte anna	Anna's hummingbird
Calypte costae	Costa's hummingbird
Picidae	**Woodpeckers**
Picoides nuttallii	Nuttall's woodpecker
Tyrannidae	**Tyrant flycatchers**
Sayornis nigricans	Black phoebe
Sayornis saya	Say's phoebe
Myiarchus cinerascens	Ash-throated flycatcher
Tyrannus vociferans	Cassin's kingbird
Tyrannus verticalis	Western kingbird
Corvidae	**Jays and crows**
Corvus brachyrhynchos	American crow
Corvus corax	Common raven
Hirundinidae	**Swallows**
Petrochelidon pyrrhonota	Cliff swallow
Hirundo rustica	Barn swallow

Aegithalidae	**Bushtits**
Psaltriparus minimus	Bushtit
Turdidae	**Bluebirds and thrushes**
Sialia mexicana	Western bluebird
Mimidae	**Mockingbirds and thrashers**
Mimus polyglottis	Northern mockingbird
Sturnidae	**Starlings**
* *Sturnus vulgaris*	European starling
Emberizidae	**Towhees and sparrows**
Pipilo crissalis	California towhee
Chondestes grammacus	Lark sparrow
Cardinalidae	**Grosbeaks and buntings**
Pheucticus melanocephalus	Black-headed grosbeak
Guiraca caerulea	Blue grosbeak
Icteridae	**Blackbirds and orioles**
Sturnella neglecta	Western meadowlark
Euphagus cyanocephalus	Brewer's blackbird
Icterus bullockii	Bullock's oriole
Fringillidae	**Finches**
Carpodacus mexicanus	House finch
Carduelis psaltria	Lesser goldfinch
Passeridae	**Old world sparrows**
* *Passer domesticus*	House sparrow
MAMMALIA	**Mammals**
Leporidae	**Hares and rabbits**
Sylvilagus audubonii	Desert cottontail
** *Lepus californicus*	Black-tailed jackrabbit
Sciuridae	**Squirrels**
Spermophilus beecheyi	California ground squirrel
Geomyidae	**Pocket gophers**
Thomomys bottae	Botta's pocket gopher (burrows)
Canidae	**Dogs/wolves/foxes**
* *Canis familiarus*	Domestic dog
Canis latrans	Coyote (scat, tracks)
Felidae	**Cats**
* *Felis catus*	Feral cat

APPENDIX I
HISTORICAL, ARCHITECTURAL, AND ARCHAEOLOGICAL SURVEY OF UPPER CACTUS BASINS 3 & 3A

CULTURAL RESOURCE MANAGEMENT REPORT
Historical, Architectural, and Archaeological Survey of Upper Cactus Basins 3 & 3A

DATE: June 9, 2006
TO: Frank Molina, Supervising Planner, Department of Public Works
FROM: Roger Hatheway, Department of Public Works
RE: Transmittal of Final CRM Report for Upper Cactus Basins 3 & 3A

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APPENDIX A: Historical Resources Records Search
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INTRODUCTION

During the period extending from January 11, 2006 to June 9, 2006 the following Determination of Eligibility Report (DOE), and Cultural Resource Management Report (CRM) was prepared to determine, in accordance with federal guidelines, potential impacts to Cultural Resources (historical, architectural, and archaeological) in association with planned improvements at Upper Cactus Basins 3 & 3A, City of Rialto, San Bernardino County, California.

This study is compatible with federal cultural resource management and planning guidelines. Specifically, concerns set forth in *The National Environmental Policy Act (NEPA) of* 1969, including *Section 106(4)*, are addressed herein. Finally, the findings and conclusions of this report are based upon the assessment of National Register eligibility as outlined in 36 CFR 60.4, and on the application of the *Criteria Of Effect* (36 CFR 800.9).

As noted in the draft Environmental Assessment for Upper Cactus basins 3 & 3A, as prepared by Lilburn Corporation for the U.S. Army Corps of Engineers (ACOE), Los Angeles District Office, "portions of the description [and all quoted text] are obtained directly from previous sections of the Environmental Impact Report (EIR) that was completed and finalized for this project in September of 1988. 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. For a more thorough analysis of the overall project, refer to *Final Environmental Impact Report, Upper Cactus Basin Flood Control Facility,* Harmsworth Associates, September, 1988."

PROPOSED PROJECT LOCATION AND DESCRIPTION

Project Identifier: Upper Cactus Basins 3 & 3A Flood Control Improvement Project.

Project Location and Description:
According to the draft Environmental Assessment for Upper Cactus basins 3 & 3A, as prepared by Lilburn Corporation for the U.S. Army Corps of Engineers (ACOE), Los Angeles District Office:

> The proposed project 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. The property in question is owned by the County and includes upwards of 140 acres. The Cactus Basins (Basins 3, 3A, 4, and 5) are located between Highland Avenue and Baseline Road, west of Cactus Avenue, and east of Ayala Drive. The Jerry Eaves Park lies west of the project site and adjacent to Basin 3 and the lower portions of Basin 4. The Rialto Municipal Airport lies further to the west of the project, opposite Ayala Drive. Residential communities are adjacent to the east of the basins.
>
> Basins 1 and 2 are located south of the other basins, below Baseline Road. Basins 1 and 2 have already been completed while Basins 4 and 5 are planned for construction at a future date. The basin improvements scheduled at this time will be to Basin 3 and 3A, located just north of Baseline Road and west of Cactus Avenue.
>
> Basin 3 has been previously mined for gravel starting in June of 1984. The current design is to continue to grade this basin to an average depth of elevation of 1,345' above sea level (asl). Basin 3A's depth of elevation will be at 1,340' asl. The top of the slopes for both basins will range between 1,360' to 1,390' asl with slopes measuring anywhere from 20' to 46' in height. Typical slopes for the basins will be a 3(horizontal):1(vertical) ratio. The top of the slopes, called the Dam Axis, will be level and measures 20' in width. The Dam Axis will encircle all of Basin 3 and 3A expect for the northern portion of Basin 3. Aggregate resources (i.e. sand and gravel) removed during the excavation of the proposed basins that is not utilized during basin construction will continue to be used to meet a strong market demand resulting from the proposed local growth and associated construction.
>
> A dam embankment will separate Basin 3 and 3A. The top of the embankment, called the Dam Crest, is level and will measure 40' in width at the top of the slope. Water will flow into Basin 3 from the existing Cactus Channel located to the north of the basin, and from Basin 3 to 3A from a proposed 96" reinforced concrete pipe. Water will then flow from Basin 3A via an existing reinforced concrete box and pipe structure in the southwest

corner of the basin, under Baseline Road, to the existing Rialto Channel and Basin 1 and 2. A backup spillway measuring 120' in width separates Basin 3 and 3A and can handle additional water flows if needed.

Each basin will include access ramps to the floor of the basin. A typical access ramp will be 15' wide and will include access for required construction or basin improvements as needed.

Please also refer to:

Figure #1: Vicinity Map
Figure #2: U.S.G.S. Location APE Map (1980, 7.5 Minute, Fontana and Devore Quadrangles Composite)
Figure #3: County of San Bernardino Assessor Parcel APE Map

Note: The area surveyed (APE) is identified on Figures #2 and #3 (APE maps) as Cactus Basin #3. These Figures were transmitted to Mr. Hatheway, County of San Bernardino CRM Team Project Manager, by Frank Molina, County of San Bernardino Project Supervising Planner. It is assumed by the CRM team that Cactus Basin 3, as identified on Figures #2 and #3, also contains the area designated for planning purposes as Cactus Basin 3A.

PURPOSE AND NEED FOR PROPOSED PROJECT

According to the draft Environmental Assessment for Upper Cactus basins 3 & 3A, as prepared by Lilburn Corporation for the U.S. Army Corps of Engineers (ACOE), Los Angeles District Office:

> The San Bernardino County Flood Control District (County FCD) proposed 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. The main objective of the proposed project was to eliminate any potential increase in flood hazard due to planned development in the northern portions of the City of Rialto (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 increased runoff entering the channel would exceed its capacity at the Interstate 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 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 by the SBVMWD at the Linden facility.
>
> The need for additional flood protection arises because development will continue to increase the amount of impervious area thereby increasing the magnitude of flood peak flows and the volume of storm runoff. The Rialto Channel receives most of the storm

runoff within the City of Rialto and is currently unable to handle the peak flow from a 100-year flood even under existing conditions. Completion of the Upper Cactus Basins has been determined by the County FCD 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 demand resulting from new growth. Additional artificial groundwater recharge of the Rialto aquifer is necessary to meet future increases in water demand. 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.

AREA OF POTENTIAL EFFECTS

The Area of Potential Effects (APE) was established in consultation with County of San Bernardino, Department of Transportation and Flood Control, staff. The proposed limits of construction are:

1.) For practical purposed the APE is here defined as the existing Upper Cactus Basins 3 & 3A (See Figures #2 and #3) within fenced boundaries.

QUALIFICATIONS

Principals, specialists, and/or professionals were utilized throughout. Roger G. Hatheway served as the Project Manager and Primary Principal Investigator. Mr. Hatheway has over 30 years of qualifying experience as a Cultural Resource Management (CRM) specialist and Principal Investigator, having actively worked in the field of historic preservation for the entire period of time extending from 1976 to the present. He has prepared studies, extending nationwide, for a wide variety of federal, state, county, city and private clients, and is currently employed by the County of San Bernardino, Department of Public Works. Roger Hatheway served as the Principal Investigator for History and Architecture. All archaeological work was conducted under the supervision of Principal Investigator, John Romani, RPA, Compass Rose Archaeological, Inc.

APPLICABLE HISTORIC PRESERVATION LAWS (NEPA)

Federal

The National Register of Historic Places (National Register) - is the Nation's official list of cultural resources worthy of preservation. Authorized under the National Historic Preservation Act of 1966, the National Register is part of a national program to coordinate and support public and private efforts to identify, evaluate, and protect the country's historic and archaeological resources.

Application of National Register Guidelines

The findings and conclusions of this report are based upon the following general guidelines. In particular, the assessment of National Register eligibility is based primarily on federal guidelines contained in 36 CFR 60.4. Specifically:

The quality of significance in American history, architecture, archaeology, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling and association, and:

> (a) that are associated with events that have made a significant contribution to the broad patterns of our history; or,
> (b) that are associated with the lives of persons significant in our past; or,
> (c) that embody distinctive characteristics of a type, period, or method of construction or,
> (d) that have yielded or may be likely to yield, information important in prehistory or history.

Proper consideration of the above noted criterion provides sufficient information for the application of survey results to almost any cultural resource environmental document related to Section 106 compliance. However, the following "characterization elements" have also been incorporated into the architectural evaluation process.

Characterization Elements

Integrity

Under National Register eligibility criteria, a potentially eligible property must possess integrity. This is the most important "characterization element" used to define the significance of an historic resource.

Evaluation of Integrity

Integrity is the ability of a property to convey its significance. To be listed in the National Register of Historic Places, a property must be shown to be significant under the National Register criteria, but it also must have integrity. The evaluation of integrity is sometimes a subjective judgment, but it must always be grounded in an understanding of a property's physical features and how they relate to its significance.

Historic properties either retain integrity (that is, convey their significance) or they do not. Within the concept of integrity, National Register criteria recognize seven aspects or qualities that, in various combinations, define integrity. The seven aspects of integrity are: Location, Design, Setting, Materials, Workmanship, Feeling, and Association.

Age: Date of Construction

Age is considered under the period of construction element of National Register criterion (c). In general, structures less than 45 years old are not considered to be eligible.

Historical Associations

This variable measures significance in relation to specific historical information and a broader contextual whole.

The National Environmental Policy Act (NEPA)

The National Environmental Policy Act (NEPA) of 1969, provides that Federal agencies are required to identify cultural resources within a project's potential environmental impact area. *Section 106(4)* provides for the continuing Federal responsibility to preserve historic, cultural and natural aspects of the environment. The Act states that "it is the continuing responsibility of the Federal Government to use all practical means, consistent with other essential consideration of national policy, to improve and coordinate Federal plans, functions, programs, and resources to the end that the Nation may preserve important historic, cultural, and natural aspects of our national heritage." The law requires Federal agencies to consider the impact of their proposed activities upon the environment, including historic and cultural resources.

District Evaluation

National Register Bulletin 15 provides general guidelines for determining whether a district retains its integrity. According to the Bulletin:

> For a district to retain integrity as a whole, the majority of the components that make up the district's historic character must possess integrity even if they are individually undistinguished. In addition, the relationship among the district's components must be substantially unchanged since the period of significance.
>
> When evaluating the impact of intrusions upon the district's integrity, take into consideration the relative number, size, scale, design, and location of the components that do not contribute to the significance. A district is not eligible if it contains so many alterations or new intrusions that it no longer conveys the sense of a historic environment.

Definitions

District: A district is a geographically definable area, urban or rural, possessing a significant concentration, linkage, or continuity of sites, buildings, structures, or objects united by past events or aesthetically by plan or physical development. A district may also comprise individual elements separated geographically but linked by association or history.

Thematic Group Format submission: A Thematic Group Format submission for nominating properties to the National Register is one which includes a finite group of resources related to one another in a clearly distinguishable way. They may be related to a single historic person, event, or developmental force; of one building type or use, or designed by a single architect; of a single archeological site form, or related to a particular set of archaeological research problems.

Guidelines for Evaluating Properties Less Than Fifty Years Old

Properties that have achieved significance within the past 50 years may be listed in the National Register of Historic Places, according to the National Register Criteria for Evaluation, only if they are of "exceptional importance," or if they are integral parts of districts that are eligible for listing in the National Register. This principle safeguards against listing properties which are of only contemporary, faddish value and ensures that the National Register is a register of historic places.

Scholarly Evaluation

A case can more readily be presented and accepted for a property that has achieved significance within the past 50 years if the type of architecture or the historic circumstances with which the property is associated have been the object of scholarly evaluation.

Summary

The National Register Criteria for Evaluation encourage the listing of a property that has achieved significance within the past 50 years only if it is of exceptional importance or if it is a contributing part of a National Register eligible district. However, the criteria and National Register program require that nominations for such properties demonstrate that sufficient historical perspective and scholarly, comparative analysis exist to justify the claim of exceptional importance.

METHODOLOGIES

The preparation of this report was part of a fully coordinated, step-by-step effort, designed to maximize the level of information gathered. Principals, specialists, and/or professionals were utilized throughout. Roger Hatheway served as the Principal Investigator for History and Architecture. All archaeological work was conducted under the supervision of Principal Investigator, John Romani, RPA, Compass Rose Archaeological, Inc.

Field Investigations

The field survey was conducted on June 5, 2006. The area was surveyed by Mr. Hatheway under the direction of Mr. Romani. The project area was photographed and field notes were taken for use in preparing the final report.

Archival Research

Limited 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:

1. San Bernardino County Archaeological Information Center
2. County Flood Control Files and Archives
3. Historic Maps
4. Interviews/Respondents

The following San Bernardino County public records were consulted:
1. County Assessor Maps and Records
2. Flood Control Files and Archives

Respondents included:
1. Robin Laska, San Bernardino County Archaeological Information Center

RESULTS OF HISTORICAL RESOURCES RECORDS SEARCH: PREVIOUS STUDY AREA FINDINGS OF SIGNIFICANCE

A records search was prepared by Robin Laska on January 11, 2006, at the Archaeological Information Center, San Bernardino County Museum, Redlands, California.

Summary Results of Historical Resources Records Search

The results of the Records Search included the following:

11 January 2006
Roger Hatheway
Public Works
825 E. Third St
San Bernardino, CA 92415-0835

HISTORICAL RESOURCES RECORD SEARCH: Cactus Basin #3

In response to your request for information dated 22 December 2005, a record search has been conducted for the above project on USGS Devore & Fontana 7.5' quads.

Historical Resources:

Prehistoric Archaeological Resources:
- 0 prehistoric archaeological sites
- 0 pending prehistoric archaeological sites
- 0 prehistoric isolates

Historic Archaeological Resources (sites older than 50 years of age):
- 0 historic archaeological sites
- 1 pending historic archaeological sites
- 0 historic isolates
- 0 historic structures

4+ possible historic structure/archaeological site locations determined from historic maps (maps checked):: Thompson, 1917/20; Beasley, 1892; Blackburn, 1932; Hall, 1888; Lippencott, 1898; AAA-various; GLO Plat, 1874; USGS Devore, 1936; USGS San Bernardino, 1893/4 US Army San Bernardino, 1940/1.

Cultural Landscapes:
- 0 cultural Landscapes

Ethnic Resources:
- 0 ethnic resources

Heritage Properties (designated by State and Federal commissions):
- 0 National Register Listed Properties
- 0 National Register Eligible Properties
- 0 California Historic Landmarks

1 California Points of Historic Interest

PREVIOUS HISTORICAL RESOURCE INVESTIGATIONS:

Historical resource reports for the project area include:

4 Area-specific survey reports
7 General area overviews

In addition to the Center's historical resources files, the following publications, manuscripts or correspondence also were consulted:

American Association for State and Local History
1989 National Register of Historic Places, 1966-1988. Nashville, TN.

California Office of Historic Preservation
1986 Survey of Surveys: A Summary of California's Historical and Architectural Resource Surveys.

1988 Five Views: An Ethnic Sites Survey for California.

1997 California Historical Landmarks.

1992 California Points of Historical Interest.

2005 Listing of National Register Properties--Records entered into the OHP computer file--received quarterly.

2005 Inventory of Historic Structures--Records entered into the OHP computer file of historic resources-received quarterly.

San Bernardino County Museum

1980 Historical Landmarks of San Bernardino County. Quarterly of the San Bernardino County Museum Association 28(1-2).

SENSITIVITY OF PROJECT AREA FOR HISTORICAL RESOURCES:

Based upon the above information, available historical records and maps, and comparisons with similar environmental localities, the sensitivity assessment for this project area is:

Prehistoric Archaeological Resources	High
Historic Archaeological Resources	High
Historic Resources	High
Cultural Landscapes	Unknown
Ethnic Resources	Unknown

Comments: Potential for all types of resources based on sites found in and surrounding the APE & the streets, structures & railroad shown on historic maps.

RECOMMENDATION:

1. A field survey should be conducted by a qualified professional for historical resources within portions of the project area not previously surveyed for such resources.

THIS PROFESSIONAL ARCHAEOLOGIST/ARCHITECT WILL:

1. Contact the San Bernardino County Archives for information on historical property records. Contact them at 777 E. Rialto Ave., San Bernardino, CA 92415-0795, or call for an appointment (909) 387-2030.

2. Contact the Native American Heritage Commission for information regarding sacred lands. Contact the Commission at 915 Capitol Mall, Room 364, Sacramento, CA 95814 or (916) 653-4082.

3. Inventory all historical resources, including archaeological and historic resources older than 50 years, using appropriate State record forms, following guidelines in the California Office of Historic Preservation's handbook "Instructions for Recording Historical Resources". Submit two (2) copies of the completed forms to the San Bernardino County Archaeological Information Center for the assignment of trinomials.

4. Evaluate the significance and integrity of all historical resources within the project area, using criteria established in Appendix K of the CEQA Guidelines for important archaeological resources and/or 36 CFR 60.4 for eligibility for listing on the National Register of Historic Places.

5. Propose mitigation measures, and recommend condition of approval (if a local government action), to eliminate adverse project effects to significant, important and unique historical resources, following appropriate CEQA and/or National Historic Preservation Act--Section 106 guidelines.

6. Prepare a technical resources management report, documenting the inventory, evaluation and proposed mitigation of resources within the project area (following guidelines for Archaeological Resource Management Reports prepared by the California Office of Historic Preservation, Preservation Planning Bulletin 4(a), December 1989). Submit one copy of the completed report (with original illustrations) to the San Bernardino County Archaeological Information Center for permanent archiving.

A CEQA Initial Study of **"MAYBE"** for potential adverse environmental impact to historical resources is warranted unless it can be documented by a qualified professional that NO resources older than 45 years in age exist on the property. Implementation of the above recommendations will ensure that existing historical resources will be inventoried and evaluated, and that appropriate mitigation measures will be recommended to avoid adverse impacts.

If appropriate mitigation measures are not proposed for significant historical resources within the project area, then subsequent destruction of these resources may violated the California Environmental Quality Act, Nation Environmental Policy Act, National Historic Preservation Act, California codes or various local government ordinances.

If prehistoric or historic artifacts over 50 years in age area encountered during land modification, than activities in the immediate area of the finds should be halted and an on-site inspection should be performed immediately by a qualified archaeologist. This professional will be able to assess the find, determine its significance, and make recommendations for appropriate mitigation measures within the guidelines of the California Environmental Quality Act and/or the Federal National Environmental Policy Act.

If human remains are encountered on the property, then the San Bernardino County Coroner's Office **MUST** be contacted within 24 hours of the find, and all work should be halted until a clearance is given by that office and any other involved agencies. Contact the County Coroner at 175 South Lena Road, San Bernardino, CA 92415-0037 or (909) 387-2543, (760) 955-8535 in Victorville, (760) 365-1668 in Yucca Valley or (760) 326-4825 in Needles.

The County of San Bernardino requests that historical resource data and artifacts collected within this project area be permanently curated at a repository within the County. Per a State Historical Resources Commission motion dated 7 Feb 1992, the repository selected should consider 36 CFR 79, Curation of Federally-owned and Administered Archaeological Collection; Final Rule, as published Federal Register, 12 Sept 1990, or a later amended, for archival collection standards.

If you have any further questions, please, contact me at (909) 307-2669 x 255, Monday through Friday between 8 AM and 4 PM.

Robin E. Laska
Assistant Center Coordinator

Previous Findings in Vicinity of Project Area (APE)
No sites are recorded within the APE of the proposed project.

One site is recorded adjacent to the APE.

This site is identified as Baseline Road, P36-0154497, CHHI-12. Baseline Road is a listed California Point of Historical Interest, having been approved on January 26, 1973. Baseline Road is outside of the APE (fenced boundary is located to the north of roadway alignment) and no impacts are anticipated to this site.

ETHNOGRAPHIC AND HISTORICAL BACKGROUND

Prehistory

In late prehistoric times, the area was occupied by either the Gabrielino or Serrano Indian peoples. It is also possible that the general region was jointly occupied by both groups.

The Serrano and Gabrielino jointly interacted with each other, and with other such groups as the Luiseno, Cahuilla, and the Chemehuevi (Kroeber 1925: 617, and Strong 1929: 8). The Serranos were exogamous, patrilineal village dwellers, occupying locations throughout the San Bernardino area. Ethnographic descriptions of the Gabrielino appear in numerous volumes. Some of the most widely regarded are those by Kroeber (1925), Johnston (1962), Hudson (1969, 1971), and Bean and Smith (1978).

The Gabrielino appear to have entered the Los Angeles Basin around 500 B.C. They eventually occupied many of the Channel Islands, and the watersheds of the Los Angeles, San Gabriel, and Santa Ana Rivers. They were hunters and gatherers who spoke the Cupan language. The social system was probably organized as a moiety system, and may have consisted of elite, middle and common classes. Their seasonal rounds would have taken them to marine and terrestrial resource areas, with primary and secondary villages located near water sources.

European contact occurred as early as 1542, when Juan Rodriquez Cabrillo landed at Santa Catalina Island. Spanish colonization began in earnest in the late 1700's with the establishment of Mission San Gabriel in 1771. The aboriginal lifestyle rapidly deteriorated. By 1900, as a result of introduced disease, relocation, and general hardship, the aboriginal way of life had virtually disappeared.

History of Rialto

NOTE: The following history is quoted directly from the "History of Rialto," as prepared by the 1997-98 GATE students of Eisenhower High School with contributions by the Rialto Historical Society. This information was contained on the Internet Web site located at:

http://www.rialto.k12.ca.us/curriculum/RialtoHistory/EHSRRialto/welcome.html

The County of San Bernardino gratefully acknowledges the contributions of the Rialto Historical Society and of Rialto's Eisenhower High School student's, and has included this history as an acknowledgement of the tremendous interest in local history that abounds in the City of Rialto. Please note that the original Internet text has been reformatted, and minor errors in spelling have been corrected. Grammatical errors and "creative" spelling contributions have not been corrected.

Rialto's Beginnings

Rialto stands on a "bench" formed by the debris of glacial actions, storms, and floods pouring from Lytle Creek Canyon. The bench creates the eastern boundary of a plateau enriched with the vegetation typical to any non-irrigated, non-cultivated semi-desert land. The bench is an outline of the Bunker Hill-San Jacinto Fault, which branches from the San Andreas Fault.

Today, the bench goes unnoticed due to paved highways and suburban homes. During Rialto's settling period around the 1850's, however, settlers built their homes below the bench, known as the second bench, where soil was ideally suited for growing vines and fruit trees as it was composed of a sandy loam. The rising waters below the bench took the form of springs, which seeped out over the land making it swampy. These incentives led the white settlers to begin settling land on where today's Frisbie Park is located.

Along this second bench was featured a stream, which, until the 1920's, flowed year round through the wash between San Bernardino and Rialto. The stream, Lytle Creek, had two branches with one large island between them. On this island settled several Mormon families, who had found it ideal for farming and raising fruit trees. After the flood of 1862, which washed away homes and granary, the island slowly washed away with other heavy floods and no longer exists.

Rialto's benches hold great importance as it was the place and reason pioneers settled into the area. The destruction that followed the benches caused numerous accounts of agricultural and political debate. After the local Indians, in 1851 Mormons began to travel to the Rialto area under the leadership of Captain Andrew Lytle. Further down the historical road, Lytle's significance in the Mormons life was illustrated when a creek was dedicated to him, now known as Lytle Creek. The Mormons of Rialto dedicated a vast amount of their farming talents to Rialto's soil. In an estimated time period of two to three years Rialto was covered with crops such as: sycamores, cottonwoods, alders, and wild grape vines. Sadly, in 1862 Rialto experienced a tragic event in their lives. A mammoth storm had crumbled all of Rialto's farming land and homes, as a result, of an overflow of neighboring streams and creeks. The Mormon settlement at San Bernardino had little effect upon the brush lands west of Lytle Creek except for one thing. In 1853, the Mormons cleared a road through these brush lands to create a economical access to neighboring cities in the San Bernardino County.

In the mid 1800's Rialto and other cities were affected by governmental control. In 1852, the California legislature fixed conditions under which squatters on government land might obtain standing in California courts and establish priority of claims. Ten years later, in 1862, Rialto was affected when Congress passed the Homestead Act. It was not until, the essence of the Mormons and the contributions government laws entitled to Rialto, that Rialto started to become a city of great possibilities.

Early Settlers

Between 1500 and 1998 there have been many different settlers in Rialto. Each ethnic group left behind its own legacy and ideas that have all had a great effect on the people, and even on the way the city of Rialto is governed. Rialto's small beginnings have blossomed into a great city that is constantly growing.

The first settlers of our city were the Serrano Indians. Thousands of artifacts have been found along the Rialto bench, which stretches from Etiwanda Avenue north to Walnut. This was the location of the most important and largest of the Indian villages. A study of the different artifacts has shown that these people were in the area for a long time. The Serrano Indians were a peaceful people. They ate mush made from acorns, jack rabbits, and other wild food that was easily accessible along Lytle Creek. By the time the Spanish arrived, there were only six Indian villages left in this area, and there was no mention, in the Spaniards early accounts, of the large village on the west bank of Lytle Creek. It is reasoned that this village disappeared before 1776, when the Spanish arrived. No one knows how long the village lasted or why it was abandoned. Many of these remaining artifacts have been collected and can be viewed at the San Bernardino County Museum.

After the Indians, came the Spanish and Mexican period. First the California Missions were made, but had no effect on Rialto. Later came the great Spanish ranchos. Six ranchos surrounded the plateau, which is now the city limits of Rialto.

The Mormons are another group of early settlers. One of the more well known groups is the one led by Captain Andrew Lytle. After traveling through the desert areas, like the Cajon Pass, these pilgrims were ecstatic when they finally came to a swift-flowing stream that they named for their leader.

The Old Adobe, built in 1853 or 1854, was Rialto's first house. The true origin and builder was not known until the Rialto Junior Chamber of Commerce and the Rialto Historical Society began to do research in 1962. Within the past 36 years much has been learned about Rialto's oldest building still standing.

Michael White was an English seamen who owned the Muscupiabe Rancho, in San Gabriel, where he and his family lived. He also owned the Cajon Pass where the adobe was located before it's move to Lilac Park for preservation. Out of a need to protect his land, and make sure his property rights weren't being violated, White moved back to the Cajon pass where his family had been robbed of all of their horses and cattle ten years earlier. Even though some people have questioned his right to build a shelter on government property since he had his own, one can see his reasons. There is a better view of the Cajon Pass area from where the building was built. From that perspective, White's motives were justified.

Boom Town

The coming of the railroads to California started the great land boom of the 1880s. The boom did not affect the area west of Lytle Creek, however, until early in 1887 when the Santa Fe Railroad made plans to build a line connecting San Bernardino and Los Angeles by way of Pasadena. The Semi-Tropic Land and Water Co. was organized early in 1887. The company laid out the townsite of Rialto on the line of the new railroad which was soon to be completed.

In early 1887, a group of Kansas Methodists, headed by the Reverend T. C. Miller, arrived in the area looking for a site for a Methodist College. They were attracted to the area of Rialto because of the flood-free land, plenty of water from Lytle Creek, and the railroad line. In effect, this group really started the town of Rialto. Even after the plans for the college fell through, many of the families stayed.

The water company continued to improve the land by building a canal which provided the town with plenty of water. This canal was a cement-lined ditch about five feet across and four feet deep. The old canal can still be seen today.

The history of citrus in Rialto dates back almost as far back as the history of Rialto itself. It all began when Rialto was young, and the price of land was low. Farmers took advantage of this great opportunity, and decided to grow oranges, as did other surrounding areas at the time. The soil of Rialto wasn't quite as good for citrus growth as some other surrounding areas, but it fit a farmer's needs and was in some ways better than other areas. One factor that contributed to the planting of oranges was the easy access to water. Another factor that contributed to the growth of oranges was the frequent winds. During the severe freeze of 1913, the winds kept the trees in Rialto groves from being damaged. Other surrounding areas were not so fortunate.

Bridge to Progress

Around the world, people recognize a city from a landmark which symbolizes the residents' struggles for progress, and moments of glory for future generations to cherish and appreciate. The city of Rialto provides a distinction in it's name among the various other Spanish-inspired names of neighboring cities. Rialto sounds Latin, French, Spanish, Italian...but not English. That may be due to the unknown origin of the city's name. There are those citizens who insist that Rialto is taken from the Spanish "Ri" derived from rio (which means river) and "alto" meaning high. Yet, there are those who assert that Rialto is named after one of the famous bridges from the romantic city of Venice, Italy. No matter which interpretation one may like better, the city's emblem is a bridge. Hence, both the city of Rialto and the Rialto School District have adopted the symbol by saying Rialto is the "Bridge to Progress."

On the grounds of the boom hotel built on Riverside Avenue in the late 1880's, a replica of the Rialto Bridge was built over a pool, and this bridge remained for a number of years after the hotel burned in 1907. The lampposts installed on Riverside Avenue when the town was incorporated in 1911, each had a replica of the Rialto Bridge suspended from it. Eventually, two small lights were soon replaced by one large globe. And today, there no longer exists any of the replicas of the bridge, only mere photographs of the bridge remain from the time the classy structure gave vibrant life to Rialto.

After incorporation, the new city grew steadily although rather slowly. Beginning in 1913, the improvement of Foothill Boulevard was begun as a state highway and as part of the trans-continental highway system from Los Angeles east by way of Cajon Pass. This put Rialto on the main route of tourist travel. In 1914, the Pacific Electric Railway completed its line through Rialto, and its "big red cars" offered speedy passenger service to San Bernardino and Los Angeles.

Route 66: Cars & Culture

Route 66 has become known to many Americans as the "Mother Road" described by John Steinbeck in his brilliant novel, *The Grapes of Wrath*. Not until 1937 did the entire length become paved, but by that time it was the popular East to West route. From Chicago, Illinois to Santa Monica, California, the highway stretched over 2,400 miles, traveled through eight states, and hundreds of cities and towns. About 82% of the original road remains today, surviving the construction of interstates and freeways that cut new straight paths in portions of Route 66.

The major contributions that Route 66 has given to the city of Rialto is of prestige and recognition. Not every city in America is blessed with the "Historical 66" signs posted around town. Such a road in our country displays the intense patriotism and lifestyles that have affected not only the country but Rialto as well. A minor note on the historical value of the "Mother Road" is Rialto's neighbor, the city of Fontana--the birthplace of Hell's Angels Motorcycle Club.

Others in the past referred to the cafe and motel lined stretch as the "Main Street of America." Although it is no longer a main road, the long winding route from Los Angeles to Chicago still stands as an important piece of Americana, and retains the reputation of being the main thoroughfare. After all, one cannot abandon life without having seen the west in America as it was, for it takes some time, it takes fortitude, it takes a trip on Route 66. Like the song says, "It stretches from Chicago to L.A. with stops in St. Louis, Joplin, Missouri, Oklahoma City, Gallup, New Mexico, Flagstaff, Arizona, can't forget Winona, Kingman, Barstow, and San Bernardino, get your "Kicks on Route 66."

Rialto: Today & Tomorrow

The small town of Rialto, California has a reputation of being small and urban; however, over the years, this small and urban town has gone through drastic transformations. Rialto had been a home of farmers and of small families since the mid-1800s. Now towards the end of the 1900s, Rialto has transformed to suit various types of residential, business, and farming families. What is left of "old" Rialto is still seen in downtown Rialto, located on Riverside Avenue. Nevertheless, there are still particular structures from the mid-1900s that have been relocated to be preserved. Currently, Rialto has saved an old adobe home which is located in a local park. Churches, homes, and schools are a few other edifices, which Rialto thrives to keep coexistent with the rapidly developing world of reality. A significant structure that has gone through dramatic transitions is Rialto's respected and nationally recognized "Blue Ribbon School", Eisenhower High School. In 1958, the San Bernardino School District built Eisenhower High School. Unfortunately, in 1978 an administration building of the school was burned down and replaced in 1979. Then in the summer of 1997, Eisenhower High School began its remodelization process...

Meat markets, blacksmiths' shops, banks, drugstores, are a few buildings in Rialto that continue to exist with the preservation process being established. Riverside Avenue is a long strip of Rialto that still maintains and thrives to keep its appearance and structures. All along this strip of respected road, one can observe churches, drug and thrift stores, banks, and most importantly, homes that have been able to remain in Rialto through many years of productive remodelization. Specifically, Rialto maintains historical respect by having sporadic events ranging from old car shows to various parades including during Halloween and Christmas. While traveling on Riverside Avenue, one can ponder on the existence and the history which this courageous and concrete city has gone through. One can infer that Rialto's Riverside Avenue is culturally significant due to the fact that the residents are able to view, admire, and respect the historical value that this street maintains.

The train system is an important factor to the city of Rialto, both in the past and present. Recently, the Metrolink company constructed a replica of Rialto's original wood and glass train depot built in 1889, which cost $1 million to construct. After its completion in 1887, the Santa Fe Railroad brought a population growth to the city of Rialto. Today, the Metrolink provides means of transportation for commuters to Los Angeles, which the city planners hope will institute another boom in population.

FIELD SURVEY FINDINGS

No significant historical, architectural, and/or archaeological (prehistoric or historic) resources were identified during the field study.

Ground visibility was excellent (90-100%). Only 1-3% of the entire project area (APE) appears as unaltered. By far the majority of the APE has been utilized as a gravel pit at least as early as the 1980s.

The areas appearing as undisturbed were systematically surveyed using 15 meter transects in north-south, east-west sweeps. Rodent holes were inspected for cultural remains.

The only resources identified consist of an extensive set of gravel pits reportedly constructed, according to a United States Army Corps of Engineers (ACOE) report, beginning in the 1980s.

SURVEY RESULTS AND CONCLUSIONS

Criteria (a-d) Eligibility Statement

Please refer to the **Guidelines for Assessment** section of this report for a detailed discussion of the criteria for evaluation utilized below.

(a) that are associated with events that have made a significant contribution to the broad patterns of our history; or,

No historic or prehistoric cultural resources were identified within the APE. Building features associated with this project area (circa 1984 gravel pits) **do not appear to qualify as potentially eligible** for listing in the National Register of Historic Places in relation to this Criterion. There are many examples of complete gravel pit mining systems remaining from much earlier periods in time, and gravel pit mining cannot be regarded in this instance and location as a significant contribution to the broad patterns of our history. **As such, NO Project Area cultural resources were identified that appear to qualify as potentially eligible for listing in the National Register of Historic Places in relation to this criterion.**

(b) that are associated with the lives of persons significant in our past; or,

No historic or prehistoric cultural resources were identified within the APE. Building features associated with this project area (circa 1980s gravel pits) **do not appear to qualify as potentially eligible** for listing in the National Register of Historic Places in relation to this Criterion. **As such, NO Project Area cultural resources were identified that appear to qualify as potentially eligible for listing in the National Register of Historic Places in relation to this criterion.**

(c) that embody distinctive characteristics of a type, period, or method of construction or,

No historic or prehistoric cultural resources were identified within the APE. Building features associated with this project area (circa 1980s gravel pits) **do not appear to**

qualify as potentially eligible for listing in the National Register of Historic Places in relation to this Criterion. The gravel pits identified are less than fifty years in age, are not of unusual design, and exhibit no unusual construction features. **As such, NO Project Area cultural resources were identified that appear to qualify as potentially eligible for listing in the National Register of Historic Places in relation to this criterion.**

(d) that have yielded or may be likely to yield, information important in prehistory or history.
No historic or prehistoric cultural resources were identified within the APE. Building features associated with this project area (circa 1980s gravel pits) **do not appear to qualify as potentially eligible** for listing in the National Register of Historic Places in relation to this Criterion. It is unlikely that listing will preserve or be likely to yield additional information important in prehistory or history. **As such, NO Project Area cultural resources were identified that appear to qualify as potentially eligible for listing in the National Register of Historic Places in relation to this criterion.**

District Evaluation

There are, in fact, no historical, architectural, and/or archaeological features within the APE, and no district or district component features are evident.

Buildings/Features Less Than Fifty Years Old

No building features less than 50 years in age (1984 Gravel Pits) were identified as having any architectural, design, or historical significance. None of the building features (less than 50 years in age) associated with the project appear to qualify as having achieved a level of significance that would qualify them as being of "exceptional importance." More specifically, project area improvements have not been the subject of extensive scholarly recognition and/or evaluation, they have no unique design features, and were not designed by architects of recognized significance. In other words, the existing gravel pits and drainage system is not a property whose "unusual contribution to the development of American history, architecture, archeology, engineering, and culture can clearly be demonstrated" with regards to any built feature less than 50 years in age.

Summary of Findings: Determination of Eligibility

No historical, architectural, or archaeological resources were identified qualifying as potentially eligible to the National Register of Historic Places in association with the Upper Cactus Basins 3 and 3A property.

In summary:

1. **The following properties within the APE are listed in the National Register of Historic Places:**

   NONE: No Features Identified

2. **The following properties within the APE were previously determined eligible for the NRHP:**

NONE: No Features Identified

3. **The following identified 50+ year old properties DO NOT appear to be potentially eligible to the NRHP within the proposed project APE:**

NONE: No Features Identified

3. **The following LESS THAN 50 year old properties DO NOT appear to be potentially eligible to the NRHP within the proposed project APE:**

NONE: 1984 Gravel Pits

5. **The following properties within the APE appear eligible for the NRHP**

NONE

MITIGATION RECOMMENDATIONS

It is felt that there is minimal to no potential for discovery of buried or subsurface archaeological and/or cultural materials, and a minimal monitoring program is here suggested in areas that have previously been undisturbed (primarily in the "corners" of the APE near intersections of fencing).

Monitoring

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 APE. The monitor should 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 NEPA guidelines.

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."

APPLICATION OF THE CRITERIA OF EFFECT (36 CFR 800.9)

Upon applying the Criterion of *No Adverse Effect* in 36 CFR 800.9(c), it is suggested that the proposed project involving Upper Cactus Basins 3 and 3A, **WILL HAVE NO ADVERSE EFFECT** should the above noted Mitigation Recommendations be implemented.

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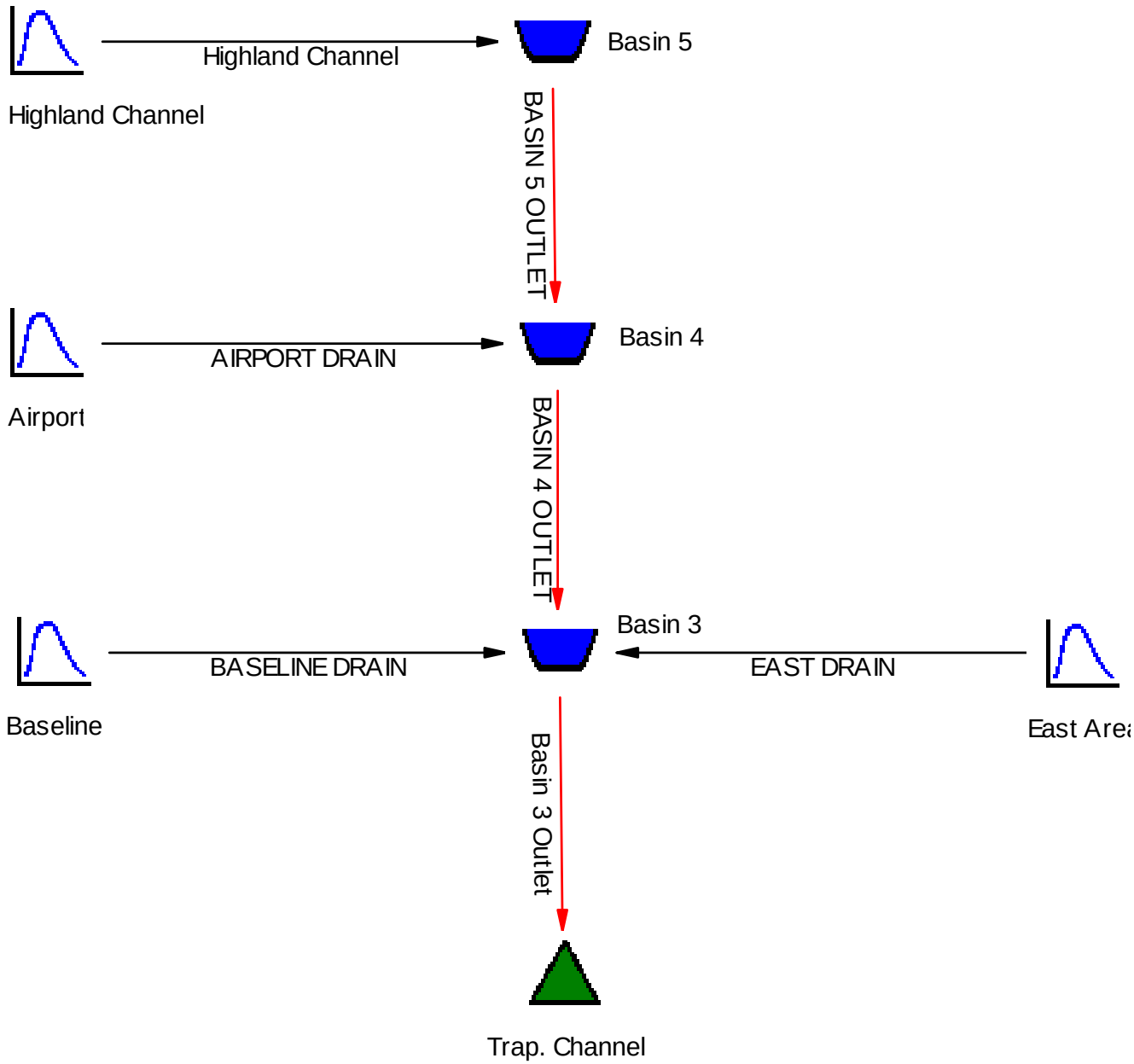
Highland Channel
Basin 5
Highland Channel
BASIN 5 OUTLET
AIRPORT DRAIN
Basin 4
Airport
BASIN 4 OUTLET
Basin 3
BASELINE DRAIN
EAST DRAIN
Baseline
East Area
Basin 3 Outlet
Trap. Channel

SAN BERNARDINO COUNTY FLOOD CONTROL DISTRICT
PRELIMINARY BUDGET STUDY FY 2010/11
REVENUE AND SPENDING AUTHORITY
ZONE 2

DESCRIPTION	Proposed Budget FY 09/10	Final Budget FY 09/10	Projected Revenue FY 09/10	Proposed Budget FY 10/11	REMARKS
PROPERTY TAX RECEIPTS	$ 7,598,000	7,598,000	7,829,800	7,466,200	FY 08/09 actual = $8,138,666. Includes RDA pass-thru. Budgeting a 4.5% decrease in property tax revenue from 09/10 projections.
USE OF MONEY AND PROPERTY					
Interest	200,000	200,000	100,300	100,300	Interest earned on Fund cash balances. FY 08/09 actual = $150,150.
License, Permits and Inspection	90,000	90,000	48,320	50,000	Permit related activities and inspection. FY 08/09 actual = $90,746.
Rents and Leases	250,000	250,000	247,200	250,000	FY 08/09 actual = $244,654.
Royalties	150,000	150,000	72,500	75,000	FY 08/09 actual = $86,705.
GOVERNMENT AGENCIES					
Reimbursement from Orange and Riverside Counties	585,000	585,000	772,100	1,032,000	Expenses on Seven Oaks Dam project over our required share and share on Woolly Star Mitigation - refer to Page 4. Orange County's share = 87.7% and Riverside County's share = 5.27%.
State of California Department of Water Resources			0	644,500	Levee Certification grant from State of California, Department of Water Resources ($1 million received, zone 2 share is 64.45%)
Rialto RDA	3,500,000	3,500,000	0	3,500,000	Rialto RDA to loan for construction $3.5 million to Cactus Basin #3. Amount to be repaid by District within five years. Agreement pending.
City of Rialto	0	0	0	166,125	City of Rialto contribution towards street improvements to be constructed as part of Cactus Basin No. 3
Various Gov't Agencies	3,977,200	3,977,200	183,600	3,914,400	Reimbursement by Highland, San Bernardino, Redlands and IVDA for Alabama Street @ City Creek project including design, environmental processing and construction. Based on equal share by 5 parties, including the District. Amount includes reimbursement from FHWA (88.53%) and the State OES (8.6%). Funds recieved in 09/10 are for design phase only.
OTHER REVENUE					
Sale of Land	1,899,000	1,899,000	1,989,340	*43,000*	Pending sale for portion of land to expand the 215 FWY by Caltrans. Real Estate Services has completed an Appraisal for the Warm Basin land for redevelopment; proejct to preapre an RFP is on hold
Litigation Settlement (Oakridge)	0	0	121,390	0	Settlement money from Oakridge billboard suit
Other Sales	4,000	4,000	2,700	2,500	Fees for aerials, maps and documents.
TOTAL REVENUE	**$ 18,253,200**	**$ 18,253,200**	**$ 11,367,250**	**$ 17,244,025**	
BEGINNING FUND BALANCE	6,400,124	5,742,888	5,742,888	9,888,438	Includes funds not spent, primarily due to projects not going into construction as originally scheduled.
AVAILABLE REVENUE AND FUND BALANCE	24,653,324	23,996,088	17,110,138	27,132,463	
TOTAL BUDGET APPROPRIATIONS	24,653,324	23,996,088	7,221,700	27,132,463	
ENDING FUND BALANCE	**$ 0**	**$ 0**	**$ 9,888,438**	**$ 0**	

SAN BERNARDINO COUNTY FLOOD CONTROL DISTRICT
PRELIMINARY BUDGET STUDY FY 2010/11
EXPENDITURES
ZONE 2

DESCRIPTION	Proposed Budget FY 09/10	Final Budget FY 09/10	Projected Expenditures FY 09/10	Proposed Budget FY 10/11	REMARKS
GENERAL ENGINEERING & ADMIN.					
General Engineering/Planning	$ 425,000	$ 187,000	$ 205,000	$ 225,000	Planning and engineering services for activities including flood hazard reviews, permits, leases and agreements, public inquiries, etc. A portion of the administration costs related to FEMA funded projects, under Planning Division, will be reimbursed by FEMA.
Permits	275,000	305,000	335,000	350,000	
Flood Hazard Review	35,000	85,000	95,000	100,000	
General Administration	525,700	709,900	709,900	636,200	General administration costs include the interfund contribution to fund RFZ, the Countywide Cost Allocation Program (COWCAP), and audit fees for the annual Flood Control audit.
Public Liability Insurance	414,900	414,900	414,900	73,000	Zone's share of District-wide costs for liability insurance. Total for FY 10/11 = $350,000.
CONSTRUCTION & ENGINEERING					
Construction Projects	15,542,724	13,889,288	1,549,000	19,143,951	See attached list - Page 3.
Planning & Engineering	3,520,000	3,625,000	1,194,900	2,664,312	See attached list - Page 4.
MAINTENANCE					
Routine Maintenance	3,300,000	3,300,000	2,000,000	2,500,000	Year-round activities to clear channels, inspect/maintain all existing facilities; spraying for weeds, vector control and graffiti removal. FY 08/09 actual = $3,383,026.
Storm Maintenance	200,000	200,000	150,000	200,000	Funds for storm related activities, including major repairs of facilities and basin cleaning activities due to storm events. Potential reimbursement of partial costs by FEMA and State OES for events declared as an emergency. FY 08/10 actual = $42,515.
Environmental Clearances	50,000	50,000	20,000	50,000	Includes costs for a variety of environmental and biological issues including permits, surveys, and monitoring of habitat; coordination and admin. of the Santa Ana River floodplain maint. plan and removal of vegetation; mitigation for the maintenance of the Santa Ana River including cowbird trapping and sensitive bird surveys.
WATERSHED MANAGEMENT					
Hydrology & Data Collection	140,000	140,000	120,000	100,000	Collection of data, statistical analysis of data collected from precipitation and flow gages within the zone and hydrology services; includes agreement with USGS in funding surface-water gauging stations at SAR & E St. FY 08/10 actual = $143,839.
Stormwater Management (NPDES)	225,000	285,000	285,000	285,000	Annual contribution by the zone to comply with Federal mandate on NPDES; includes costs for coordination, cost-share contribution, County's share, Permit fee and costs to monitor discharges into District facilities. Costs also include Aquatic Pesticide Monitoring.
OTHER CHARGES					
Property/Land Management	0	130,000	100,000	130,000	Surplus Property request reviews and lease agreements.
Disaster-Sheep fire SAT			43,000	0	Field reviews and preparation of Safety Assesment Team (SAT) report for the Sheep Fire that burned in October of 2009
Colton and San Bernardino repayment (Randall Basin)	0	675,000	0	675,000	Bid Results = $672,615 including contingencies & construction admin. Construction is complete. City of Colton is working on Final cost estimate to submit for reimbursement by the District.
Non Distributed Charges					
TOTAL BUDGET	**$ 24,653,324**	**$ 23,996,088**	**$ 7,221,700**	**$ 27,132,463**	

SAN BERNARDINO COUNTY FLOOD CONTROL DISTRICT
PRELIMINARY BUDGET STUDY FY 2010/11
CONSTRUCTION PROJECTS
ZONE 2

DESCRIPTION	Proposed Budget FY 09/10	Final Budget FY 09/10	Projected Expenditures FY 09/10	Proposed Budget FY 10/11	REMARKS
HIGHLAND					
Sand Creek/Warm Creek Confluence	$ 100,000	$ 100,000	$ 20,000	$ 110,000	District to be lead in preparing
RIALTO					
Cactus Basin #3	10,700,000	8,368,564	801,000	9,183,000	Estimated construction cost is $9.183 million including contract administration, contingencies and costs for enviro. mitigation and revegetation for Basin 3. Costs also include construction of street improvements on Baseline per agreement with the City Rialto
Rialto Channel wall replacement	0	678,000	678,000	0	Additional contract amount for replacement of property walls damaged during October 2004 storm along Rialto Channel. Agreement with City of Rialto for funding paid in full.
SAN BERNARDINO					
Alabama @ City Creek	4,000,000	4,000,000	40,000	4,100,000	Construction cost estimated at $4.1 million. Start for construction summer 2010 pending utility relocation. Majority of construction and design cost are reimbursable by FHWA and State OES. Cities of Highland, Redlands and San Bernardino as well as IVDA are participating in the cost.
Cable Creek (levee)	642,724	642,724	0	*550,951*	Project to increase the levee height in compliance with the FEMA 65.10 levee certification regulations
FONTANA					
West Fontana Channel	0	0	0	0	Project funding will follow Phases I and II in Zone 1. 30% of Basin expenses to be paid by Zone 2.
MAJOR MAINTENANCE					
Del Rosa Channel Repair	100,000	100,000	5,000	0	Funding to prepare environmental and right of way documents . Prelimary cost for construction $3 million
Lytle Cajon Channel and Warm Creek Channel	0	0	5,000	5,200,000	Funds to repair concrete invert per inspection by the Corps. Preliminary estimated project cost = $5.2 million. Construction on hold pending funding.
TOTAL CONSTRUCTION	**$ 15,542,724**	**$ 13,889,288**	**$ 1,549,000**	**$ 19,143,951**	

SAN BERNARDINO COUNTY FLOOD CONTROL DISTRICT
PRELIMINARY BUDGET STUDY FY 2010/11
PLANNING AND ENGINEERING PROJECTS
ZONE 2

DESCRIPTION	Proposed Budget FY 09/10	Final Budget FY 09/10	Projected Expenditures FY 09/10	Proposed Budget FY 10/11	REMARKS
ENGINEERING PROJECTS & STUDIES					
Levee Certification	$ 2,700,000	$ 2,700,000	$ 800,000	$ 100,000	Zone 2 share of costs (70.2%) related to the certification of District levees. Phase I estimated cost = $800,000. Phase II is estimated to cost $9.4 million.
Rialto MPD Update/CSDP 3-3	25,000	50,000	2,500	0	Funding is to assist the City of Rialto Master Plan of Drainage Update including updating Comprehensive Storm Drain Plan 3-3. City of Rialto has completed update.
Priority Debris Basin Program	25,000	35,000	30,000	30,000	Zone 2 share of costs for annual field survey, aerial flights and emergency mapping of Priority Debris Basins.
CSDP 3-5 and 3-8	5,000	25,000	5,000	5,000	Funding to assist City of Colton with the design and environmental documentation of CSDP 3-5/3-8. City of Colton is lead (agreement for $205,00 encumbered in 2005)
Facility Survey	0	0	1,000	0	Funding continued for Zone's share of costs related to Surveyors establishing a GPS database of District facilities.
SANTA ANA RIVER MAINSTEM					
San Timoteo Channel, Reach 3B - Barton Road to u/stream	15,000	15,000	61,000	218,000	District share for remaining right-of-way. District share is 25% of the costs, split 15% with Zone 2 and 85% with Zone 3. Zone 2 reimburses Zone 3 for interest payment to Corps. Landscaping contract is estimated at $3.5 million.
Seven Oaks Dam	400,000	425,000	223,000	1,745,312	Annual cost share by San Bernardino, Orange & Riverside Counties for project coordination including labor, + annual maintenance cost share. District share is 7.03%, split 73% with Zone 2 and 27% with Zone 3. Riverside and Orange Counties reimbursed their shares to District. Zone 2 reimburses Zone 3 for payment to Corps.
Seven Oaks Dam Woolly Star	100,000	125,000	17,000	130,000	Tri-Counties' cost share for long-term mitigation study required by the COE on the SAR Wolly Star. This is a 100 year study costing approx. $3.8 million of which a majority of these cots will be expended over the next 20 years. District share is 7.03%. Riverside & Orange Counties' shares are reimbursed to District (see Revenues page).
Seven Oaks Dam Water Studies	250,000	250,000	55,400	436,000	Funding for Seven Oaks Dam mitigation ($12 million for multiple speciies and $3.8 million for Wooly Star). District share is 7.03% of which Zone 2 pays 73%. ($810,800 total with remaining to be funded in FY 09/10)
TOTAL PLANNING & ENGINEERING	**$ 3,520,000**	**$ 3,625,000**	**$ 1,194,900**	**$ 2,664,312**	

SAN BERNARDINO COUNTY FLOOD CONTROL DISTRICT
PRELIMINARY BUDGET STUDY FY 2010/11
10 - YEAR CONSTRUCTION FUNDING PROGRAM
ZONE 2

PROJECT	Projected 09/10	Budget Yr 1 10/11	Budget Yr 2 11/12	Budget Yr 3 12/13	Budget Yr 4 13/14	Budget Yr 5 14/15	Budget Yr 6 15/16	Budget Yr 7 16/17	Budget Yr 8 17/18	Budget Yr 9 18/19	Budget Yr 10 19/20	TOTAL
												Page 5
TOTAL BUDGET APPROPRIATIONS (1)	$ 17,110,138	$ 27,132,463	$ 8,360,300	$ 8,412,000	$ 8,740,800	$ 8,887,200	$ 9,445,600	$ 10,014,500	$ 10,642,300	$ 11,292,301	$ 12,018,500	$ 132,056,102
Less: Expenditures												
General Engineering and Administration	1,759,800	1,384,200	1,777,400	1,830,700	1,885,600	1,942,200	2,000,500	2,060,500	2,122,300	2,186,000	2,251,600	21,200,800
Planning & Engineering	1,194,900	2,664,312	150,000	154,500	159,100	163,900	168,800	173,900	179,100	184,500	190,000	5,383,012
Maintenance	2,170,000	2,750,000	2,777,500	2,805,300	2,889,500	2,976,200	3,065,500	3,157,500	3,252,200	3,349,800	3,450,300	32,643,800
Watershed Management	405,000	385,000	388,900	392,800	404,600	416,700	429,200	442,100	455,400	469,100	483,200	4,672,000
Other Charges	143,000	130,000	131,300	132,600	133,900	135,200	136,600	138,000	139,400	140,800	142,200	1,503,000
Projected Total Expenditures (2)	$ 5,672,700	$ 7,313,512	$ 5,225,100	$ 5,315,900	$ 5,472,700	$ 5,634,200	$ 5,800,600	$ 5,972,000	$ 6,148,400	$ 6,330,200	$ 6,517,300	$ 65,402,612
AVAILABLE DISTRICT CONSTRUCTION FUNDS (3) = (1) - (2)	**$ 11,437,438**	**$ 19,818,951**	**$ 3,135,200**	**$ 3,096,100**	**$ 3,268,100**	**$ 3,253,000**	**$ 3,645,000**	**$ 4,042,500**	**$ 4,493,900**	**$ 4,962,101**	**$ 5,501,200**	**$ 66,653,490**
DISTRICT FUNDED PROJECTS												
Rialto Channel wall replacement	**678,000**	**0**	********* FUNDING COMPLETE *********									
Alabama @ City Creek ($4.1 million)	40,000	**4,100,000**	********* FUNDING COMPLETE *********									4,140,000
Cactus Basin #3 ($9.013 million)	801,000	**9,183,000**	********* FUNDING COMPLETE *********									9,984,000
Rialto Cactus Basin #3 Street Improvements	0	**0**										
Lytle Cajon Channel and Warm Creek Channel ($5.2 million)	5,000	**5,200,000**	********* FUNDING COMPLETE *********									5,205,000
Rialto Channel @ Riverside ($4.4 million)	0	0	*2,287,151*	2,096,100	**628,108**	********* FUNDING COMPLETE *********						5,011,359
Del Rosa Repair ($3 million)	5,000	0	0	0	*1,639,992*	**2,006,527**	********* FUNDING COMPLETE *********					3,651,519
Sand Creek/Warm Creek Confluence ($2.64 million)	20,000	110,000	100,000	0	0	*246,473*	**2,962,464**	********* FUNDING COMPLETE *********				3,438,937
Cable Creek	0	550,951	248,049	0	0	0	682,537	*4,042,500*	*4,493,900*	*3,792,101*	*5,501,200*	19,311,238
Del Rosa Channel ($3 million)	0	0	0	0	0	0	0	0	0	-	0	0
East Fontana Storm Drain ($500,000)	0	0	0	0	0	0	0	0	0	0	0	0
Rialto Channel - priority crossings ($1.8 million)	0	0	0	0	0	0	0	0	0	0	0	0
Rialto Channel - Etiwanda Ave. to Willow Ave. - ultimate culverts & channel ($10.178 million)	0	0	0	0	0	0	0	0	0	0	0	0
West Fontana Channel (share for Zone 1 project and $5 million Phase 3)	0	0	0	0	0	0	0	*0*	*0*	*1,170,000*	*0*	1,170,000
Cactus Basin #4 & #5 ($21.648 million)	0	0	0	0	0	0	0	0	0	0	0	0
CSDP 3-5	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL DISTRICT FUNDED PROJECTS (5)	**1,549,000**	**19,143,951**	**2,635,200**	**2,096,100**	**2,268,100**	**2,253,000**	**3,645,000**	**4,042,500**	**4,493,900**	**4,962,101**	**5,501,200**	**$ 52,590,051**
TOTAL PROPOSED FUNDS FOR PROJECTS (6) = (4)+(5)	**$ 1,549,000**	**$ 19,143,951**	**$ 2,635,200**	**$ 2,096,100**	**$ 2,268,100**	**$ 2,253,000**	**$ 3,645,000**	**$ 4,042,500**	**$ 4,493,900**	**$ 4,962,101**	**$ 5,501,200**	**$ 51,912,051**

SAN BERNARDINO COUNTY FLOOD CONTROL DISTRICT
PRELIMINARY BUDGET STUDY FY 2010/11
10 - YEAR CONSTRUCTION FUNDING PROGRAM
ZONE 2

PROJECT	Projected 09/10	Budget Yr 1 10/11	Budget Yr 2 11/12	Budget Yr 3 12/13	Budget Yr 4 13/14	Budget Yr 5 14/15	Budget Yr 6 15/16	Budget Yr 7 16/17	Budget Yr 8 17/18	Budget Yr 9 18/19	Budget Yr 10 19/20	TOTAL
												Page 6
PAYMENTS												
Rialto RDA repayment	0	0	500,000	1,000,000	1,000,000	**1,000,000**	*********** PAID IN FULL **********					3,500,000
Colton and San Bernardino repayment-Randall Basin	0	675,000	0	*********** PAID IN FULL **********								675,000
TOTAL PAYMENTS (7)	**$ -**	**$ 675,000**	**$ 500,000**	**$ 1,000,000**	**$ 1,000,000**	**$ 1,000,000**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 4,175,000**
CARRYOVER	$ 9,888,438	$ -	$ -	$ -	$ 0	$ 0	$ -	$ -	$ -	$ -	$ -	**$ -**
FUTURE PROJECTS (8) = (3) - (6) - (7)			-	-	0	0	-	-	-	-	-	$ 1