INITIAL STUDY

FOR

CHINO DESALTER PHASE 3 EXPANSION

Prepared for:

Chino Basin Desalter Authority
1425 South Bon View Avenue
Ontario, California 91761

Prepared by:

Tom Dodson & Associates
2150 North Arrowhead Avenue
San Bernardino, California 92405
(909) 882-3612

October 2010

NOTICE OF INTENT
TO ADOPT A MITIGATED NEGATIVE DECLARATION

TO: San Bernardino County
Clerk of the Board of Supervisors
385 N. Arrowhead Avenue, 2nd Floor
San Bernardino, CA 92415

and

Office of Planning & Research
State Clearinghouse
1400 Tenth Street
Sacramento, CA 95814

Subject: Notice of Intent to Adopt a Mitigated Negative Declaration

Lead Agency: Chino Basin Desalter Authority
1425 South Bon View Avenue
Ontario, CA 91761

Contact: Timothy Mim Mack
Phone: (909) 395-2657

Chino Basin Desalter Authority (CDA) is the Lead Agency preparing an Initial Study for the project described below. The Initial Study makes the proposed findings that, with implementation of the mitigation measures provided, the project will not have a significant adverse effect on the environment. We need to know the comments and concerns of interested and responsible agencies and the public regarding the content of the Initial Study. Please send any comments to Mr. Timothy Mim Mack at Chino Basin Desalter Authority at the address listed above. We will need the name, address, and telephone number of a contact person if comments are submitted.

Project Title: CHINO DESALTER PHASE 3 EXPANSION PROJECT

State Clearinghouse Number: Not Yet Assigned

Project Location: The Chino Desalter Phase 3 Expansion Project is located within the Chino Groundwater Basin. The Chino Basin consists of an alluvial valley that is relatively flat from east to west, sloping from north to south at a one to two percent grade. Basin elevation ranges from about 2,000 feet above mean sea level (amsl) adjacent to the San Gabriel foothills to about 500 feet amsl near Prado Dam. The Chino Basin is bounded as follows: on the north by the San Gabriel Mountains and the Cucamonga Basin; on the east by the Rialto-Colton Basin, Jurupa Hills and the Pedley Hills; on the south by the La Sierra area, the Santa Ana River and the Temescal Basin; and on the west by the Chino Hills, Puente Hills, and the cities of Pomona and Claremont. The proposed Chino Desalter Phase 3 Expansion Project improvements would occur within the southern portion of the Chino Basin, generally south of State Highway 60 and north of Prado Basin.

Project Description: The Chino Desalter Phase 3 Expansion Project consists of an expansion of groundwater extraction and treatment in the southern portion of the Chino Basin from an existing 27,000 acre-feet annually to approximately 40,000 acre-feet annually. The project consists of installing and operating the following equipment and components: up to six new wells; new pipelines to deliver the raw water to the Chino I and II Desalters; new treatment facilities at the Chino II Desalter to treat the additional raw water; a possible concentrate reduction facility at the Chino II Desalter; up to four pump stations to transfer product water to potable water suppliers; and new pipelines to deliver the product (treated) water to water suppliers. Once installed, this expanded Desalter system will require electricity to operate wells, pump stations and expanded desalter facilities, and a small quantity of reject water may be disposed of through the Santa Ana Regional Interceptor line for treatment in Orange County.

Proposed Review Process: CDA's decision to fund, construct and operate this project is a discretionary decision or "project" that requires evaluation under the California Environmental Quality Act (CEQA). This Mitigated Negative Declaration is CDA's proposed CEQA determination for this project.

Copies of the Initial Study are available for public review at the Chino Basin Desalter Authority office at the City of Ontario Municipal Utilities Company, 1425 South Bon View Avenue, Ontario, CA 91761. The public review period for the Initial Study shall begin on October 19, 2010 and close on November 17, 2010. Any comments you have must be submitted in writing no later than the closing date.

Tim Mim Mack — CDA Coordinator — 10/18/10

Signature — Title — Date

Notice of Completion & Environmental Document Transmittal

Mail to: State Clearinghouse, P.O. Box 3044, Sacramento, CA 95812-3044 (916) 445-0613
For Hand Delivery/Street Address: 1400 Tenth Street, Sacramento, CA 95814 — 916/445-0613

SCH #_____

Project Title: Chino Desalter Phase 3 Expansion Project
Lead Agency Chino Basin Desalter Authority — Contact Person Timothy Mim Mack
Mailing Address 1425 South Bon View Avenue — Phone (909) 395-2657
City Ontario — Zip 91761 — County San Bernardino County

Project Location: County San Bernardino — City/Nearest Community Ontario
Cross Streets southern portion of Chino Basin, generally south of SH 60 and north of Prado Basin — Zip Code N/A
Lat. / Long. N 33° 58' 111" / W 117° 39' 0.24" (general) — Total Acres N/A
Assessor's Parcel No _____ — Sections / Township / Range N/A
Within 2 miles: State Hwy # 60 — Waterways Santa Ana River
Airports Chino Airport — Railways UPRR — Schools N/A

Document Type:

CEQA: □ NOP □ Early Cons □ Neg Dec ■ Mit Neg Dec □ Draft EIR □ Supplement/Subsequent EIR (Prior SCH No.) _____ Other _____
NEPA: □ NOI □ EA □ Draft EIS □ FONSI
Other: □ Joint Document □ Final Document □ Other _____

Local Action Type:

□ General Plan Update □ General Plan Amendment □ General Plan Element □ Community Plan
□ Specific Plan □ Master Plan □ Planned Unit Development □ Site Plan
□ Rezone □ Prezone □ Use Permit □ Land Division (Subdivision, etc.)
□ Annexation □ Redevelopment □ Coastal Permit ■ Other Water Supply Project

Development Type:

□ Residential: Units _____ Acres _____
□ Office: *Sq.ft.* _____ *Acres* _____ *Employees* _____
□ Commercial: *Sq.ft.* _____ *Acres* _____ *Employees* _____
□ Industrial: *Sq.ft.* _____ *Acres* _____ *Employees* _____
□ Education _____
□ Recreational _____
■ Water Facilities: *Type* _____ *MGD* 10.5
□ Transportation: *Type* _____
□ Mining: *Mineral* _____
□ Power: *Type* _____ *Watts* _____
□ Waste Treatment: *Type* _____ *MGD* _____
□ Hazardous Waste: *Type*
□ Other: _____

Project Issues Discussed in Document:

□ Aesthetics / Visual
□ Agricultural Land
■ Air Quality
■ Archaeological / Historical
■ Biological Resources
□ Coastal Zone
□ Drainage / Absorption
□ Economic / Jobs
□ Fiscal
□ Floodplain / Flooding
□ Forest Land / Fire Hazard
■ Geologic / Seismic
□ Minerals
■ Noise
□ Population / Housing Balance
□ Public Services / Facilities
□ Recreation / Parks
□ Schools / Universities
□ Septic Systems
□ Sewer Capacity
■ Soil Erosion / Compaction / Grading
□ Solid Waste
■ Toxic / Hazards
■ Traffic / Circulation
■ Vegetation
■ Water Quality
■ Water Supply / Groundwater
■ Wetland/Riparian
□ Wildlife
□ Growth Inducing
□ Land Use
■ Cumulative Effects
□ Other _____

Present Land Use / Zoning / General Plan Designation: N/A

Project Description: The Chino Desalter Phase 3 Expansion Project consists of an expansion of groundwater extraction and treatment in the southern portion of the Chino Basin from an existing 27,000 acre-feet annually to approximately 40,000 acre-feet annually. The project consists of installing and operating the following equipment and components: up to six new wells; new pipelines to deliver the raw water to the Chino I and II Desalters; new treatment facilities at the Chino II Desalter to treat the additional raw water; a possible concentrate reduction facility at the Chino II Desalter; up to four pump stations to transfer product water to potable water suppliers; and new pipelines to deliver the product (treated) water to water suppliers. Once installed, this expanded Desalter system will require electricity to operate wells, pump stations and expanded desalter facilities, and a small quantity of reject water may be disposed of through the Santa Ana Regional Interceptor line for treatment in Orange County.

Reviewing Agencies Checklist

Lead Agencies may recommend State Clearinghouse distribution by marking agencies below with an "X".
If you have already sent your document to the agency please denote that with an "S".

____	Air Resources Board	____	Office of Historic Preservation
____	Boating / Waterways, Department of	____	Office of Public School Construction
____	California Highway Patrol	____	Parks & Recreation
X	Caltrans District # 8	____	Pesticide Regulation, Department of
____	Caltrans Division of Aeronautics	____	Public Utilities Commission
____	Caltrans Planning (Headquarters)	____	Reclamation Board
____	Coachella Valley Mountain Conservancy	X	Regional WQCB, # 8
____	Coastal Commission	____	Resources Agency
____	Colorado River Board	____	S.F. Bay Conservation & Development Commission
____	Conservation, Department of	____	San Gabriel & Lower L.A. Rivers & Mtns Conservancy
____	Corrections, Department of	____	San Joaquin River Conservancy
____	Delta Protection Commission	____	Santa Monica Mountains Conservancy
____	Education, Department of	____	State Lands Commission
____	Energy Commission	____	SWRCB: Clean Water Grants
X	Fish & Game, Region # 6	X	SWRCB: Water Quality
____	Food & Agriculture, Department of	____	SWRCB: Water Rights
____	Forestry & Fire Protection	____	Tahoe Regional Planning Agency
____	General Services, Department of	X	Toxic Substances Control, Department of
____	Health Services, Department of	X	Water Resources, Department of
____	Housing & Community Development		
____	Integrated Waste Management Board	X	Other Calif. Department of Public Health
X	Native American Heritage Commission	____	Other ____
____	Office of Emergency Services		

Local Public Review Period (to be filled in by lead agency)

Starting Date October 19, 2010 Ending Date November 17, 2010

Lead Agency (complete if applicable)

Consulting Firm: Tom Dodson &Associates
Address: 2150 N. Arrowhead Avenue
City/State/Zip: San Bernardino, CA 92405
Contact: Tom Dodson
Phone: (909) 882-3612

Applicant: Chino Basin Desalter Authority
Address: 1425 South Bon View Avenue
City/State/Zip: Ontario, CA 91761
Contact: Timothy Mim Mack
Phone: (909) 395-2657

Signature of Lead Agency Representative:

Tim Mim Mack, CDA Coordinator Date: 10/18/10

Authority cited: Section 21083, Public Resources Code. Reference: Section 21161, Public Resources Code.

CHINO BASIN DESALTER AUTHORITY
(Draft) MITIGATED NEGATIVE DECLARATION

Lead Agency: Chino Basin Desalter Authority
1425 South Bon View Avenue
Ontario, CA 91761

Contact: Mr. Timothy Mim Mack
Phone: (909() 395-2657

Project Title: CHINO DESALTER PHASE 3 EXPANSION PROJECT

State Clearinghouse Number: Not yet assigned

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Finding: Chino Basin Desalter Authority's decision to implement this proposed expansion project is a discretionary decision or "project" that requires evaluation under the California Environmental Quality Act (CEQA). Based on the information in the project Initial Study, the Chino Basin Desalter Authority has determined that a Mitigated Negative Declaration is the appropriate environmental determination to comply with CEQA.

Initial Study: Copies of the Initial Study are available for public review at the Chino Basin Desalter Authority offices at the City of Ontario Municipal Utilities Company, 1425 South Bon View Avenue, Ontario, CA 91761. The public review period for the Initial Study closes on November 17, 2010.

Mitigation Measures: All mitigation measures identified in the Initial Study are prepared for adoption as conditions of the project and will be implemented through a mitigation monitoring and reporting program adopted with the Negative Declaration.

DRAFT

Signature *Title* *Date*

INITIAL STUDY

FOR

CHINO DESALTER PHASE 3 EXPANSION

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October 2010

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ABBREVIATIONS AND ACROYNMS

AAQS	Ambient Air Quality Standards
amsl	above mean sea level
APE	area of potential effect
AQMD	Air Quality Management District
AQMP	Air Quality Management Plan
ARB	Air Resources Board
BACT	best available control technologies
BMP	Best Management Practices
CAA	Clean Air Act
CAAA	Clear Air Act Amendment
Cal-EPA	California Environmental Protection Agency
Cal-OSHA	California Occupational Safety and Health Administration
Caltrans	California Department of Transportation
CARB	California Air Resources Control Board
CCR	California Code of Regulation
CCWF	Chino Creek Well Field
CDA	Chino Basin Desalter Authority
CDFG	California Department of Fish and Game
CDPH	California Department of Public Health
CEQA	California Environmental Quality Act
CERCLIS	U.S. EPA Superfund

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ABBREVIATIONS AND ACROYNMNS (continued)

CGS	California Geological Survey
CHP	California Highway Patrol
CHPH	California Department of Public Health
CNDDB	California National Diversity Data Base
CNEL	Community Noise Equivalent Level
dB	decibel
dBA	A-weighting decibel
DOT	U.S. Department of Transportation
DPM	diesel particulate matter
DTSC	Department of Toxic Substances Control
EIC	Eastern Information Center
EPA	Environmental Protection Agency
ESA	Endangered Species Act
Fed/OSHA	Federal Occupational Safety and Health Administration
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
GHG	Greenhouse Gases
GLO	General Land Office
HMM	Hazardous Materials Management Division
HWCL	Hazardous Waste Control Law
IEUA	Inland Empire Utilities Agency
IX	ion-exchange
JCSD	Jurupa Community Service District
LOS	Level of Service
LST	Local Significance Thresholds
LUSTIS	Leaking Underground Storage Tank Information System
MCL	maximum concentration levels
MGD	million gallons per day
mg/l	milligrams per liter
MSHCP	Multiple Species Habitat Conservation Plan
MWD	Metropolitan Water District of Southern California
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NIH	National Institute of Health
NOI	Notice of Intent

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ABBREVIATIONS AND ACROYNMNS (continued)

NPDES	National Pollutant Discharge Elimination System
NRC	Nuclear Regulatory Commission
NRWL	Non-Reclaimable Water Line
OBMP	Optimum Basin Management Plan
OSHA	Occupational Safety and Health Administration
PCE	passenger car equivalent
PDR	Preliminary Design Report
RCFC&WCD	Riverside County Flood Control and Water Conservation District
RCRA	Resource Conservation and Recovery Act
RO	reverse osmosis
RWQCB	Regional Water Quality Control Board, Santa Ana Region
SARWC	Santa Ana River Watershed Committee
SARI	Santa Ana Regional Interceptor
SAWPA	Santa Ana Watershed Project Authority
SCADA	Supervisory Control and Data Acquisition
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SEIR	Subsequent Environmental Impact Report
SFR	State Resolving Fund
SIP	State Implementation Plan
SoCAB	South Coast Air Basin
SSAB	Salton Sea Air Basin
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TDA	Tom Dodson & Associates
TDS	total dissolved solids
UFC	Uniform Fire Code
USGS	U.S. Geological Survey
VOC	Volatile Organic Compound
WEI	Wildermuth Environmental, Inc.
WMWD	Western Municipal Water District
WRCMSHCP	Western Riverside County Multiple Species Habitat Conservation Plan

PROJECT DESCRIPTION

Much of the information provided in this project description is extracted from the Carollo 2010 Comprehensive Predesign Report (PDR), provided as Appendix 1 to this document.

INTRODUCTION

The Chino I Desalter (Chino I) began operation in 2000 as the first phase of a groundwater management project designed to help maintain hydraulic control of the Chino Groundwater Basin (Chino Basin or the Basin), to preserve or increase the yield of the Basin, to remove contaminants from the groundwater, and to provide a drinking water supply. The Chino II Desalter (Chino II) began operation in 2006 to expand the capacity of the groundwater treatment system. Treatment technologies used at Chino I and Chino II include reverse osmosis (RO), ion-exchange (IX) and volatile organic compound (VOC) air stripping. Construction of these facilities constituted the Chino Desalter Phase 1 and Phase 2 projects. Chino Desalter facilities are owned and operated by the Chino Basin Desalter Authority (CDA), a joint powers authority composed of CDA member agencies.

As members of the CDA, the City of Ontario (Ontario), Western Municipal Water District (WMWD) and Jurupa Community Services District (JCSD), referred to herein as the project Sponsors, are proposing Phase 3 of the Chino Desalter Project. CDA will act as the lead agency under CEQA. The proposed project would expand the desalter program such that the groundwater pumping for the desalters would reach 40,000 acre-feet per year (AF/yr) and that the pumping would occur in amounts and at locations in southwestern Chino Basin that the Chino Basin Watermaster believes would contribute to the achievement of hydraulic control. Phase 3 of the Chino Desalter Project would include among other things, the expansion of Desalter capacity, the construction and operation of new groundwater wells to supply the expanded treatment capacity, and new pipelines to convey water both to and from and the Desalters. The project would contribute to the strategic reduction in groundwater storage (Re-Operation) within the Basin by an additional 400,000 AF (cumulative total overdraft of 600,000 AF through 2030) as described in the Peace II Agreement: Party Support for Watermaster's OBMP Implementation Plan, Settlement and Release of Claims Regarding Future Desalters, dated as of October 25, 2007 ("Peace II" or "Peace II Agreement"). The environmental impacts of Re-Operation are being evaluated in the Peace II Draft Subsequent EIR ("Peace II SEIR"), for which the public review and comment period was from May 10-June 23, 2010. The environmental impacts of Re-Operation will not be reevaluated in this document. Phase 3 of the Chino Desalter Project as proposed herein represents the desalter project as described in the Peace II SEIR; however, specific details as to how the desalter expansion will be accomplished have changed since the description developed for the Peace II SEIR.

The scope of the Chino Desalter Phase 3 project is defined in terms of the following groundwater withdrawal and product water capacity objectives:

- Contribute to hydraulic control of the Chino Basin overflow to the Santa Ana River,
- Increase desalter groundwater pumping from the lower Chino Basin to 40,000 AF/yr in accordance with the Optimum Basin Management Plan (OBMP),
- Provide at least 10 million gallons per day (MGD) of additional product water capacity that will be delivered to CDA members for domestic water supply.

CDA, the Sponsors and their consultants are not responsible for the determination that the Chino Phase 3 Project will achieve hydraulic control. The Chino Basin Watermaster, using an independent consultant (Wildermuth Environmental, Inc or WEI), will review the Phase 3 scope and determine whether the project scope will achieve hydraulic control objectives. Based upon Chino Basin Watermaster's request and based on its belief that hydraulic control requires the construction and operation of the Chino Creek Well Field (CCWF), which consists of new wells that would pump 5,000 to 7,700 AF/yr, the CCWF has been included in the Project. The balance of the additional groundwater withdrawal, above the CCWF yield, would come from existing Chino Desalter wells.

The groundwater pumped to a desalter for treatment is referred to as raw water. The treated drinking water production of a groundwater desalter is referred to as product water, which is either treated water from the desalter treatment process facility or a blend of treated and raw water that is in compliance with all Federal and State health-based drinking water standards. Increasing the Chino Desalter raw water supply to 40,000 AF/yr and achieving a minimum of an additional 10 MGD product water capacity will require expansion of the desalter treatment capacity. The extraction and conveyance of the new raw water supply will require new groundwater wells and associated infrastructure, new and existing raw water pipelines, pump stations, and product water pipelines.

The treatment of the new raw water supply will require expanded reverse osmosis/ion exchange capacity at Chino II. The project may also require expansion of RO capacity by 1.1 MGD at Chino I to maintain existing product water quantities, if groundwater extraction changes result in increased raw water total dissolved solids (TDS) at Chino I. The additional increment of product water made available by the expansion of the desalter facilities would permit increased deliveries by CDA to the Jurupa Community Services District, the City of Ontario and Western Municipal Water District through existing and new pipelines. The facilities required to convey the new product water include pipelines, pump stations, and potentially reservoirs, although none are planned at this time.

The lowered groundwater associated with the proposed increased groundwater extraction could cause some area wells to require resetting of pump infrastructure lower within the existing well and would increase the energy required to pump water at existing wells where the groundwater level was lowered. Other proposed actions of the proposed project would reduce existing energy demands, as is discussed in greater detail in the project specific components. Increased groundwater pumping associated with the project would have the potential to contribute to inelastic subsidence. Final screening levels of wells, which determines the layer of the aquifer from which water is extracted, would be designed in conjunction with the Watermaster to minimize or abate subsidence impacts.

PROJECT LOCATION

The Chino Desalter Phase 3 Project is located within the Chino Groundwater Basin as shown on the inset in Figure 1. Figure 1 illustrates the boundary of the Chino Groundwater Basin as it is legally defined in the stipulated Judgment in the case of Chino Basin Municipal Water District vs. the City of Chino et al. Figure 1 also shows the Regional Water Quality Control Board, Santa Ana Region (Regional Board) management zones as established in the Water Quality Control Plan for the Santa Ana River Basin (Basin Plan).

The Chino Basin consists of an alluvial valley that is relatively flat from east to west, sloping from north to south at a one to two percent grade. Basin elevation ranges from about 2,000 feet adjacent to the San Gabriel foothills to about 500 feet near Prado Dam. The Chino Basin is bounded as follows:

- on the north by the San Gabriel Mountains and the Cucamonga Basin;
- on the east by the Rialto-Colton Basin, Jurupa Hills and the Pedley Hills;
- on the south by the La Sierra area, the Santa Ana River and the Temescal Basin; and
- on the west by the Chino Hills, Puente Hills, and the Pomona and Claremont Basins.

The principal drainage course for the Basin is the Santa Ana River. It flows 69 miles across the Santa Ana Watershed from its origin in the San Bernardino Mountains to the Pacific Ocean. The Santa Ana River enters the Basin at the Riverside Narrows and flows along the southern boundary to the Prado Flood Control Reservoir where it is eventually discharged through the outlet at Prado Dam and flows the remainder of its course to the Pacific Ocean. The Basin is traversed by a series of ephemeral and perennial streams that include: San Antonio Creek, Chino Creek, Cucamonga Creek, Deer Creek, Day Creek, Etiwanda Creek and San Sevaine Creek. These creeks flow primarily north to south and carry significant natural flows only during, and for a short time after, the passage of Pacific storm fronts that typically occur from October through April.

At the present time, year-round flow occurs along the entire reach of the Santa Ana River in the Basin, partially due to year-round surface inflows at Riverside Narrows (upstream wastewater reclamation facility discharges), discharges from municipal water reclamation facilities that intercept the Santa Ana River between the Narrows and Prado Dam, and rising groundwater. Rising groundwater occurs in Chino Creek, in the Santa Ana River at Prado Dam, and potentially at other locations on the Santa Ana River, depending on climate and season. The Chino Basin is mapped within the USGS – Corona North, Cucamonga Peak, Devore, Fontana, Guasti, Mount Baldy, Ontario, Prado Dam, Riverside West and San Dimas Quadrangles, 7.5 Minute Series topographic maps.

The proposed Chino Desalter Phase 3 Project improvements would occur within the southern portion of the Chino Basin, generally south of State Highway 60 and north of Prado Basin. Please refer to Figure 2.

EXISTING AND PROPOSED DESALTER CAPACITIES

The Chino Desalter Phase 3 Alternatives Evaluation Report prepared by Carollo Engineers in 2007 evaluated alternatives including expansion of Chino I, expansion of Chino II, and construction of a new desalter. Carollo's analysis concluded that expansion of Chino II was the lowest cost alternative, and therefore, this analysis will evaluate the environmental impacts of expanding the desalting facilities at Chino II (Option B described below) as the preferred alternative but will also evaluate the impacts of Option A (described below) as an alternative project design. CDA contracts do not distinguish between the desalters in allocating water to the member agencies, so the expansion of one desalter versus the other would not impact water contracts.

The existing and proposed raw water and product water capacities for the existing Chino Desalters and the proposed Phase 3 expansion are provided in Table 1. The "nameplate"

capacity is the theoretical design capacity of the desalter. The operation factor is the ratio between the nameplate capacity of a facility and the annual average flow required to deliver a specified volume of water per year. The operation factor accounts for the fact that facilities are generally unable to operate continuously at nameplate capacity for an entire year. The operation factor accounts for equipment downtime for repairs, cleaning, replacement and maintenance, power outages and other shutdowns, both planned and unplanned.

Table 1
VOLUMES AND CAPACITIES
CHINO DESALTER PHASE 3 PDR – JCSD/ONTARIO/WMWD

	Raw Water[a] (AF/yr)	Product Water[b] (AF/yr)	Desalter Nameplate Capacity (MGD)	Desalter Efficiency[c] (percent)
Chino I				
Existing	16,140	14,200	14.2	88
Chino II				
Existing	11,820	10,400	10.0[d] / 15.0[e]	88
Expansion	12,040	10,600	10.5	88
Subtotal	23,860	21,000	20.5	88
All Desalters				
Existing	27,960	24,600	24.2	88
Expansion	12,040	10,600	10.5	88
Total	40,000	35,200	34.7	88

Notes:
a. Raw Water volumes are based on the desalter efficiencies shown and will vary with actual desalter efficiencies.
b. Product Water volumes are based upon the CDA member entitlements as modified by Amendment No. 2 to the CDA Joint Powers Agreement.
c. Desalter Efficiency = Product Water/Raw Water and is dependant upon factors such as RO process recovery and RO bypass. 88 percent is the average desalter efficiency.
d. 10 MGD excludes the water quality dependent raw water bypass.
e. 15 MGD includes the water quality dependent raw water bypass

Source: Carollo, *Chino Desalter Phase 3 Comprehensive Predesign Report (Third Draft)*, February 2010

Table 1 shows two nameplate values for Chino II: 10.0 MGD and 15.0 MGD. The 10.0 MGD nameplate capacity designation excludes the water quality dependent raw water bypass capacity whereas the 15.0 MGD nameplate capacity designation includes the water quality dependent raw water bypass capacity. Raw water bypass capacity and water quality are defined by the California Department of Public Health (CDPH) in the Chino II operating permit. CDPH approved the following capacities in the Chino II operating permit:

> *The Chino II Desalter is approved for a design capacity of 6 MGD of reverse osmosis permeate flow, a design capacity of 4 MGD of ion exchange treated flow, and up to 5 MGD of by-pass blend flow to meet the treatment target. The Desalter shall not be operated at a daily flow in excess of these capacities without approval from the Department.* (Permit No. 05-20-06P-005, page 5).

The "treatment target" referred to is the blended product water TDS or nitrate goal. The actual capacity of the Chino II bypass flow is constrained by both the performance of the RO and IX processes and the quality of the raw water, which is dependent both upon the wells being operated on a given day and upon changes in groundwater TDS and nitrates over time. In other

words, the capacity of the raw water bypass at Chino II is limited by water quality under the terms of the CDPH permit. Because of the CDPH water quality limitation, the Chino II bypass has never operated at the allowable maximum rate of 5 MGD. The historical average for the Chino II raw water bypass capacity is 2.2 MGD and the 90th percentile bypass capacity is less than 3 MGD. Consequently, the Chino II product water capacity has historically ranged between 12 and 13 MGD. The CDPH permit capacity of Chino II without including the water quality dependent raw water bypass is the sum of the permitted RO and IX capacities: 10 MGD. The RO and IX capacity has been used as the Chino II nameplate capacity in some documents.

Historically, the desalters have never operated at the nameplate capacities. Chino I has never been able to achieve 14.2 MGD nameplate capacity. Chino II has never been able to achieve 15 MGD nameplate capacity (which includes the raw water bypass), but it has consistently exceeded 10 MGD nameplate capacity (which excludes the raw water bypass).

Desalter Expansion
The following desalter expansion options were considered in the Carollo PDR (2010).

Desalter Expansion Option A:
- Chino I Capacity = 14.2 MGD (original nameplate capacity) this option would require the addition of up to two RO trains at Chino I
- Chino II Capacity = 20.5 MGD (comprised of 20.5 MGD RO and IX process capacity)

Desalter Expansion Option B:
- Chino I Capacity = 12.0 MGD
- Chino II Capacity = 22.7 MGD (comprised of 20.5 MGD RO and IX process capacity plus 2.2 MGD of raw water bypass capacity)

Desalter Expansion Option C:
- Chino I Capacity = 12.0 MGD (including up to 1.1 MGD of additional membrane capacity, if needed to maintain existing 12.0 MGD capacity)
- Chino II Capacity = 22.7 MGD (comprised of 20.5 MGD RO and IX process capacity plus 2.2 MGD of concentrate reduction permeate capacity)

The increased production of Chino II shown under desalter expansion Options B and C represents an increase in the delivery of product water entitlement from Chino II and a corresponding decrease in the delivery of product water entitlement from Chino I. Either of these options assumes that a portion of the JCSD entitlement at Chino I would be shifted to Chino II. The JCSD entitlement from Chino I is delivered to the JCSD 870 zone while the JCSD entitlement from Chino II is delivered to the JCSD 1110 zone.

The product water entitlements delivered from Chino II under these different scenarios (20.5 MGD or 22.7 MGD Chino II capacity) requires different product water pump deliveries to different zones. The entitlement volumes, desalter capacity and required product water pump deliveries to match the desalter capacity are shown in Table 2 for the 20.5 MGD Chino II capacity scenario and Table 3 for the 22.7 MGD Chino II capacity scenario.

Table 2
CHINO II PRODUCT WATER PUMPING REQUIREMENTS: 20.5 MGD CAPACITY
CHINO DESALTER PHASE 3 PDR – JCSD/ONTARIO/WMWD

Volume	JCSD (AF/yr)	Ontario (AF/yr)	WMWD (AF/yr)	SARWC (AF/yr)	Norco (AF/yr)	Total (AF/yr)
Agency Entitlement						
Current	5,500	3,500	0	400	1,000	10,400
Expansion	3,533	3,533	3,534	0	0	10,600
Total	9,033	7,033	3,534	400	1,000	21,000
Existing Chino II Product Water Pumping						
Zone 1110 PS	5,500	3,500	0	400	1,000	10,400
Expanded Chino II Product Water Pumping						
Zone 1110 PS	9,033	0	0	400	0	9,433
Zone 1010 PS	0	7,033	3,534	0	1,000	11,567
Total	9,033	7,033	3,534	400	1,000	21,000

Flow	Units	JCSD	Ontario	WMWD	SARWC	Norco	Total
Agency Capacity							
Current	MGD	5.29	3.37	0.00	0.38	0.96	10.0
Expansion	MGD	3.50	3.50	3.50	0.00	0.00	10.5
Total	MGD	8.79	6.87	3.50	0.38	0.96	20.5
Existing Chino II Product Water Capacity Requirements							
Zone 1110 PS	MGD	5.29	3.37	0.00	0.38	0.96	10.0
	gpm	3,670	2,336	0	267	667	6,940
Expanded Chino II Product Water Capacity Requirements							
Zone 1110 PS	MGD	8.79	0.00	0.00	0.38	0.00	9.2
	gpm	6,099	0	0	267	0	6,366
Zone 1010 PS	MGD	0.00	6.87	3.50	0.00	0.96	11.3
	gpm	0	4,764	2,429	0	667	7,861
Total	MGD	8.79	6.87	3.50	0.38	0.96	20.5
	gpm	6,099	4,764	2,429	267	667	14,227

Source: Carollo, *Chino Desalter Phase 3 Comprehensive Predesign Report (Third Draft)*, February 2010

Table 3
CHINO II PRODUCT WATER PUMPING REQUIREMENTS: 22.7 MGD CAPACITY
CHINO DESALTER PHASE 3 PDR – JCSD/ONTARIO/WMWD

Volume	JCSD (AF/yr)	Ontario (AF/yr)	WMWD (AF/yr)	SARWC (AF/yr)	Norco (AF/yr)	Total (AF/yr)
Agency Entitlement						
Current	5,500	3,500	0	400	1,000	10,400
Expansion	3,533	3,533	3,534	0	0	10,689
Chino I Deficit	1,811	0	0	0	0	1,811
Total	10,844	7,122	3,534	400	1,000	22,900
Existing Chino II Product Water Pumping						
Zone 1110 PS	5,500	3,500	0	400	1,000	10,400
Expanded Chino II Product Water Pumping						
Zone 1110 PS	10,844	0	0	400	0	11,244
Zone 1010 PS	0	7,122	3,534	0	1,000	11,656
Total	10,844	7,122	3,534	400	1,000	22,900

Flow	Units	JCSD	Ontario	WMWD	SARWC	Norco	Total
Agency Capacity							
Current	MGD	5.29	3.37	0.00	0.38	0.96	10.0
Expansion	MGD	3.50	3.50	3.50	0.00	0.00	10.5
Chino I Deficit	MGD	2.20	0.00	0.00	0.00	0.00	2.2
Total	MGD	10.96	6.87	3.50	0.38	0.96	22.7
Existing Chino II Product Water Capacity Requirements							
Zone 1110 PS	MGD	7.49	3.37	0.00	0.38	0.96	12.20
	gpm	5,197	2,336	0	267	667	8,467
Expanded Chino II Product Water Capacity Requirements							
Zone 1110 PS	MGD	10.96	0.00	0.00	0.38	0.00	11.34
	gpm	7,606	0	0	267	0	7,872
Zone 1010 PS	MGD	0.00	6.87	3.50	0.00	0.96	11.33
	gpm	0	4,764	2,429	0	667	7,861
Total	MGD	10.96	6.87	3.50	0.38	0.96	22.67
	gpm	7,606	4,764	2,429	267	667	15,733

Source: Carollo, *Chino Desalter Phase 3 Comprehensive Predesign Report (Third Draft)*, February 2010

The preferred desalter expansion alternative is Option C, which would expand Chino II to 22.7 MGD and would include construction and operation of concentrate reduction facilities. The preferred alternative produces the same annual volume of product water while requiring 1,800 AF/yr less raw water than Option B and 2,700 AF/yr less raw water than Option A. In comparison to Option B, the preferred alternative relies less on the higher quality groundwater pumping necessary to operate the raw water bypass. The preferred alternative would require less raw water because the concentrate reduction process converts a portion of RO concentrate waste into product water without requiring additional raw water. In other words, the process further concentrates waste from current processes, resulting in a greater quantity of product water. Currently, the desalter plants discharge waste brine through the Santa Ana Regional Interceptor (SARI) and the Chino Basin Non-Reclaimable Water Line (NRWL). The SARI and NRWL transport brine wastes out of the Basin for treatment and disposal to the ocean. The preferred alternative would reduce the SARI waste capacity demand of the desalters, which frees up capacity in the SARI pipeline for other projects or uses.

The concentrate reduction facilities would require deliveries of chemicals and sand brought to the site and removal of large quantities of calcium carbonate pellets by truck. The chemical delivery and pellet removal frequency is shown in Table 4 along with an estimate of plant staff labor hours required to supervise deliveries and loading. The concentrate reduction process would generate nearly 40 tons per day of calcium carbonate pellets. Because of the large amount of pellets generated, it may be possible to find a market for them rather than paying for their disposal in an appropriately licensed landfill. Potential markets could include cement manufacturing or other uses requiring high purity calcium carbonate (limestone) with sand.

The preferred alternative would not modify Chino I by the addition of new RO trains to achieve nameplate capacity (14.2 MGD). Under this alternative, it is possible that the actual capacity of Chino I would decrease if the proposed CCWF wells result in an increase in the TDS of the combined RO/IX raw water for Chino I. The preferred alternative for raw water conveyance of the proposed project, discussed in greater detail later in this project description, would convey flows from the new CCWF to Chino I and transfers Chino Desalter I (CDA-1) wells –13, 14, and 15 to the Chino II raw water supply. Under this scenario, and using a conservative assumption that the CCWF wells will produce raw water with TDS level = 1,400 mg/L (corresponding to an average of wells CDA I-5 through 8) then the blended RO/IX raw water TDS at Chino I will increase to 1,200 mg/L from the current average of approximately 900 mg/L. This raw water blending calculation assumes that raw water from wells CDA I-13, 14, and 15 is conveyed to Chino II. Under this condition the actual capacity of Chino I would be reduced by 1.1 MGD due to the reduction in IX effluent that could be blended while still meeting the current CDA objective of product water TDS less ≤ 350 mg/L. In order to avoid the loss of capacity at Chino I due to increased raw water TDS, the project may install and operate an additional 1.1 MGD of membrane capacity at Chino I. The actual impacts and requirements will not be known until the CCWF wells are drilled and tested.

In summary, the preferred alternative leaves Chino I at current capacity and expands Chino II by adding 10.5 MGD of RO/IX capacity to the existing 10 MGD RO/IX capacity. An additional 2.2 MGD of product water capacity is added through construction and operation of concentrate reduction facilities. Assumptions include the following:

Table 4
CONCENTRATE REDUCTION CHEMICAL DELIVERY SCHEULE
CHINO DESALTER PHASE 3 PDR – JCSD / ONTARIO / WMWD

		Pellets	Sand	Lime	Caustic Soda	Ferric Chloride	Polymer	Sulfuric Acid	Total
Labor Time per Delivery[a]	hours	1.88	1.88	1.88	1.50	1.13	0.75	1.50	
Time Between Deliveries									
Chino I	days	0.6	2.5	2.3	2.3	64	59	13	
Chino II	days	0.6	2.5	2.3	2.4	64	59	14	
Average Number (#) of Deliveries									
Chino I	#/yr	633	146	162	157	6	6	27	1,137
Annual	#/mo	53	12	13	13	0.5	0.5	2.3	95
Monthly	#/day	2.4	0.6	0.6	0.6	0.02	0.02	0.10	4.4
Daily (5-Day Week)									
Chino II	#/yr	626	144	160	155	6	6	27	1,124
Annual	#/mo	52	12	13	13	0.5	0.5	2.2	94
Monthly	#/day	2.4	0.6	0.6	0.6	0.02	0.02	0.10	4.3
Daily (5-Day Week)									
Labor for Deliveries									
Chino I									
Annual	hrs/yr	1,187	274	303	236	6	5	41	2,052
Monthly	hrs/mo	99	23	25	20	0.5	0.4	3.4	171
Daily (5-Day Week)	hrs/day	4.6	1.1	1.2	0.9	0.02	0.02	0.16	7.9
Chino II									
Annual	hrs/yr	1,174	270	300	233	6	5	40	2,028
Monthly	hrs/mo	98	23	25	19	0.5	0.4	3.4	169
Daily (5-Day Week)	hrs/day	4.5	1.0	1.1	0.9	0.02	0.02	0.15	7.8

Note:
a Assumes a plant operator is present and completely occupied by the delivery activity.

Source: Carollo, *Chino Desalter Phase 3 Comprehensive Predesign Report (Third Draft)*, February 2010

- Desalter Capacity

  – Chino II is expanded from 10 to 22.7 MGD capacity by adding 4 MGD of IX and 6.5 MGD of RO to the existing capacity plus an additional 2.2 MGD of RO concentrate is converted to permeate through pretreatment and secondary RO (concentrate reduction facilities).

  – Raw water bypass is not included in the 22.7 MGD Chino II capacity calculation, but it can be used as part of the capacity to decrease operating costs.

  – Chino I is required to produce at 12 MGD capacity (14.2 MGD less 2.2 Chino II raw water bypass capacity) to meet entitlements.

- Raw Water Capacity

  - Connect the Chino I and Chino II raw water systems:

  – Addition of CCWF makes Wells I-13, 14, and 15 available for use at Chino II.

  – Intertie allows Chino II wells to provide redundancy to Chino I and vice versa.

  - Connecting Chino I wells to the Chino II raw water system may affect the use of the Chino II raw water bypass (because of nitrate impaired wells). This will not affect the product water capacity but could increase the operating cost.

  - Additional Chino II wells (e.g., Wells II-10, 11, and 12) can be added in the future if needed.

- SARI Capacity

  – Chino I would require additional SARI capacity, assuming that 1.1 MGD of additional RO capacity would be required to offset the potential increase in RO/IX raw water TDS that could occur because of changes in the proposed groundwater pumping. However, additional capacity would not have to be procured because excess SARI capacity from Chino II, made available by the concentrate reduction facilities, could be transferred to Chino I.

  – Concentrate reduction would eliminate the need for SARI capacity purchase for the Chino II expansion.

  – Concentrate reduction would eliminate the need to acquire additional SARI capacity to replace the 0.3 MGD of SARI treatment capacity that is currently “borrowed” from IEUA to allow operation of the existing Chino II facilities.

  – Concentrate reduction would allow for the sale or transfer of existing Chino II SARI capacity that would no longer be required.

If implementing the preferred alternative is not feasible, the proposed project would implement Option A, which would expand Chino II capacity to 20.5 MGD (comprised of 20.5 MGD RO and IX process capacity) but would not include the concentrate reduction. Rather, brine would be discharged to the SARI line in concentrations similar to those under existing conditions. A new pipeline would be required to convey brine flows from Chino II to the SARI line, which would likely be located within the roadway right-of-way parallel to the existing SARI line that conveys flows from Chino II east along Harrel Street to Etiwanda Avenue and south along Etiwanda Avenue to the SARI turnout located at Etiwanda Avenue and Bellgrave Avenue. Under Option A, Chino I would be expanded to achieve 14.2 MGD (the original nameplate capacity) by the addition of up to two RO trains at Chino I.

Assumptions include the following:

- Desalter Capacity
  - Chino II is expanded from 10 to 20.5 MGD capacity by expanding the IX capacity from 4 to 8 MGD and expanding the RO capacity from 6 to 12.5 MGD.
  - Raw water bypass is not included in the 20.5 MGD Chino II capacity but it can be used as part of the capacity to reduce the operating cost.
  - The Sponsors buy into the existing Chino II raw water, on-site, and product water capacity in excess of 10 MGD.
  - Chino I is modified by addition of up to two RO trains in order to produce at 14.2 MGD capacity and replace the loss of Chino II capacity in excess of 10 MGD.
- Raw Water Capacity
  - The same as for Option C, the preferred alternative, because the raw water requirement remains the same. The additional 2.2 MGD capacity at Chino II in Option C comes from converting concentrate to product water.
- SARI Capacity
  - Chino I requires purchase of an additional $13.42 million of SARI capacity to support the additional RO.
  - Chino II requires purchase of an additional $26.02 million of SARI capacity to support the additional RO.
  - Chino II requires purchase of an additional $3.4 million of SARI capacity to replace the missing 0.3 MGD of SARI treatment capacity that is currently “borrowed” from IEUA to allow operation of the existing Chino II facilities.

GROUNDWATER EXTRACTION

As shown in Table 1, to reach the 40,000 AF/yr desalter raw water objective requires an additional 12,040 AF/yr of groundwater pumping and will result in 10,600 AF/yr of additional product water, assuming an average desalter operating efficiency of 88 percent. Desalter operating efficiency is the ratio of product water to raw water, and is dependent upon the process recovery and how much water is "lost" as part of the waste removal process. Of the additional groundwater pumping, Chino Basin Watermaster is requiring 5,000 to 7,700 AF/yr to come from the new Chino Creek Well Field (CCWF) wells. The balance of the additional groundwater withdrawal, above the CCWF yield, is proposed to be extracted using existing desalter wells.

The Chino Groundwater Basin in the vicinity of the Chino Desalter well fields is comprised of two horizontal layers. Layer 1 refers to the upper alluvial aquifer system, and Layer 2 refers to the lower alluvial aquifer system. The groundwater in Layer 1 is characterized by higher nitrate and TDS levels relative to Layer 2. The two layers are separated by confining material of relatively low hydraulic transmissivity. The primary flow within Layer 1 and Layer 2 is horizontal in the vicinity of the CCWF; however the influence of the confining layer separating Layer 1 and Layer 2 diminishes as one moves east and the layers tend to merge. The objective of hydraulic control will be achieved when Layer 1 does not discharge flow to the Santa Ana River. This condition can be evaluated using models showing unit flow vector arrows to indicate the direction of groundwater flow. Hydraulic control is demonstrated when modeling indicates that all unit flow vectors for Layer 1 indicate a direction of flow terminating at a desalter well. Figure 3 provided by Wildermuth, shows a Chino Desalter well field model scenario that achieves this result (Wildermuth Model Alternative 1C).

The CCWF locations are proposed, as required by Chino Basin Watermaster, with the expectation that the CCWF would intercept flows to the Santa Ana River and achieve hydraulic control when operated in conjunction with the existing Chino Desalter wells. Six CCWF wells have been proposed and located in terms of general vicinity by Wildermuth (refer to Figure 4). The actual locations of the CCWF wells have not been determined yet, but the possible locations under consideration are provided in Figure 13. Two CCWF alignments were considered. CCWFA well field would provide the shortest length of raw water pipeline and is, therefore, the more cost-effective well field location.

Although the CCWFB alignment would have potential benefits in remediation of the Chino airport plume, the potentially responsible parties have not provided any assurances that they would participate in the costs of construction of the more expensive CCWFB alignment or the subsequent VOC treatment. Without such financial contributions, the CCWFB alignment is more expensive for the Sponsors. In addition, the CCWFB alignment also locates wells deeper into the Prado Flood Control and Conservation Basin, which poses concerns of dewatering near riparian habitat. For these reasons, the CCWFA alignment has been selected as the preferred alternative.

Chino Desalter Wells

Chino Desalter wells are designated herein as either CDA I (equipped to pump to the Chino I hydraulic gradeline), or CDA II (equipped to pump to Chino II hydraulic gradeline). At the present time there are 14 CDA I wells and 8 CDA II wells, for a total of 22 existing Chino

Desalter wells. Both CDA I and CDA II wells are numbered sequentially; however, each well field has a missing well in the sequence; CDA I–12 and CDA II–5 were never constructed.

The proposed project would construct the CCWFA wells pumping at an annual rate of 7,488 AF/yr exclusively from the Layer 1 aquifer as proposed by Wildermuth Alternative 1C (Wildermuth, 2008). The final screening levels of the wells, which determines which layer of the aquifer water is extracted from, would be designed in conjuction with the Watermaster to minimize or abate subsidence impacts. The Wildermuth model, which is the preferred alternative of the proposed project, conveys flows from the new CCWF to Chino I and transfers wells CDA I–13, 14, and 15 to the Chino II raw water supply. The yield of these three existing Chino I wells is roughly equivalent to the proposed capacity of the CCWFA wells. Connecting CDA I–13, 14, and 15 wells to the Chino II raw water system may affect the use of the Chino II raw water bypass because some of the wells currently operating in the Chino I raw water supply system have nitrate levels that may be classified as extremely impaired by the Department of Public Health. This would not affect the product water capacity but could increase the operating cost. If well capacities decline in the future then additional wells (e.g., CDA II-10, 11 and 12) can be constructed by the CDA, if necessary.

Conclusions from Groundwater Models

Groundwater models for operation of the expanded Chino Desalter well fields have been provided by Wildermuth and GEOSCIENCE. Both models show declining groundwater levels will result in well pumping levels within the well casings that are lower than the top of the screened intervals or lower than the current pump setting for some Chino Desalter Wells. Implications include the following:

- If pumping levels drop below pump settings then pumps must be lowered.
- Lower pumping levels will result in decreased pump capacity or increased motor horsepower to maintain capacity.
- Dewatering screen intervals may result in reduced well yield or decreased specific capacity.

Table 5 summarizes the current and projected pumping levels in relation to current pump settings and screen intervals. Under the GEOSCIENCE Baseline Scenario model for 2008 conditions, none of the twenty-two existing Chino Desalter wells have pumping levels below the top of the first screen interval and none of the wells are operating within ten feet of the pump setting. The same model scenario predicts that by 2017 the baseline conditions (without the Phase 3 expansion) will result in an additional drawdown at the existing Chino Desalter Wells ranging from 10 to 60 feet. This projected 2017 drawdown would result in ten of the twenty-two existing wells with pumping levels below the top of the first screened interval and three wells with pumping levels within 10 feet of the pump setting.

Under the GEOSCIENCE model Scenario that includes five new Chino II wells to supply the Phase 3 Chino II Desalter expansion (Scenario 3), the pumping for the Phase 3 expansion would result in additional drawdown at the existing Chino Desalter Wells of less than 20 feet over the Baseline Scenario drawdown by the year 2017 with the exception of one well, which would have greater drawdown. There would also be one additional well that would have a pumping level within 10 feet of the pump setting. The modeling shows that the continued

baseline operation of the existing Chino Desalter well fields will have an incrementally greater impact on well drawdown than the proposed Phase 3 expansion. The project proposes that the Chino Basin Watermaster will monitor future well pumping levels and recommend appropriate adjustments (e.g., lowering pumps and/or adjusting pumping rates). The CDA may need to purchase sites for wells CDA II-10, 11, and 12 if these wells must be constructed in the future to enable CDA to provide sufficient water to its member agencies. It should be noted that the draw down of water levels in the Chino Basin is a desirable result of the proposed Phase 3 Expansion Project and is consistent with Peace II and the Peace II SEIR.

A complete presentation of model data is tabulated in Appendix A.2 of the Carollo 2010 PDR. A graphical comparison of historical and projected water levels and flow rates under all model scenarios for each well is presented in Appendix A.3 of the same document as Figures A.1 through A.22.

New Well Facilities

The proposed scope for the Chino Phase 3 expansion includes six new wells constructed as the CCWFA, located near Chino I, and three or four new well sites for potential future wells, located as shown by GEOSCIENCE approximately midway between Chino I and Chino II. Please refer to Figures 2 and 13.

New wells constructed as part of the project would be equipped with vertical turbine line-shaft well pumps. The well discharge head and motor would be enclosed within a ventilated building with noise mitigation features such as internal acoustical panels and acoustical louvers in ventilation wall penetrations.

The existing Chino I and Chino II Desalters do not include standby power for treatment or product water pumping. Existing Chino I wells have standby power (engine generators) whereas existing Chino II wells are designed to allow installation of future standby power.

The addition of standby power to the desalter expansion and at the new CCWF wells is not current CDA practice and is not included within the Phase 3 expansion scope of work. Wells and associated infrastructure would be designed to allow future installation of standby power and to shutdown and restart safely in the event of a power failure. Full details are provided in the Carollo PDR, 2010.

Site Work for New Well Facilities

Subject to local zoning requirements, the entire site perimeter of above ground facilities constructed outside of existing water treatment compounds would be surrounded by a masonry block wall for security and as a visual barrier. Any buffer strips, if required by local ordinances, outside the block wall would be landscaped as necessary. The entire site within the perimeter wall would be paved with asphalt or Portland cement concrete pavement over a structural base material. Pervious concrete pavement should also be considered in design. Concrete equipment pads, housekeeping pads, drainage gutters and curbs would be constructed as appropriate.

Table 5
CURRENT AND PROJECTED CONDITIONS FOR PUMP SETTING AND SCREENS
CHINO DESALTER PHASE 3 PDR – JCSD/ONTARIO/WMWD

		GEOSCIENCE: Scenario 1 (2008)				GEOSCIENCE: Scenario 1 (2017)				Scenario 1 (2008 - 2017) Δ Water Depth (ft)	GEOSCIENCE: Scenario 3 (2017)				Scenario 1 to 3 (2017) Δ Water Depth (ft)	Wildermuth: Alternative 1C (2023)			
				Dewatered Screen				Dewatered Screen					Dewatered Screen					Dewatered Screen	
Well No.	Current Pump Setting (ft BGS)	Projected Pumping Level in Well (ft BGS)	Water Depth Above Pump (ft)	Length (ft)	Percent (%)	Projected Pumping Level in Well (ft BGS)	Water Depth Above Pump (ft)	Length (ft)	Percent (%)		Projected Pumping Level in Well (ft BGS)	Water Depth Above Pump (ft)	Length (ft)	Percent (%)		Projected Pumping Level in Well (ft BGS)	Water Depth Above Pump (ft)	Length (ft)	Percent (%)
CDA I-1	260	149	111	0	0	163	97	0	0	-14	156	147	0	0	7	141	119	0	0
CDA I-2	340	138	202	0	0	148	192	0	0	-10	140	240	0	0	8	125	215	0	0
CDA I-3	285	123	162	0	0	135	150	0	0	-12	121	182	0	0	14	125	160	0	0
CDA I-4	290	122	168	0	0	143	147	0	0	-21	192	146	0	0	-49	121	169	0	0
CDA I-5	255	105	150	0	0	132	123	0	0	-27	150	120	0	0	-18	124	131	0	0
CDA I-6	170	115	55	0	0	144	26	0	0	-29	158	36	0	0	-14	125	45	0	0
CDA I-7	175	110	65	0	0	139	36	0	0	-29	153	42	0	0	-14	125	50	0	0
CDA I-8	285	114	171	0	0	142	143	0	0	-28	160	141	0	0	-18	132	153	0	0
CDA I-9	185	113	72	0	0	142	43	0	0	-29	159	33	0	0	-17	138	47	0	0
CDA I-10	175	116	59	0	0	145	30	0	0	-29	161	22	0	0	-16	143	32	0	0
CDA I-11	275	127	148	0	0	160	115	0	0	-33	174	123	0	0	-14	141	134	0	0
CDA I-13	190	119	71	0	0	149	41	0	0	-30	163	55	0	0	-14	124	66	0	0
CDA I-14	140	102	38	0	0	134	6	**25**	**7**	-32	147	2	**38**	**11**	-13	122	18	**22**	**6**
CDA I-15	150	100	50	0	0	133	17	**28**	**14**	-33	146	8	**42**	**21**	-13	126	24	**26**	**13**
CDA II-1	298	131	167	0	0	164	134	**2**	**1**	-33	178	126	**17**	**8**	-14	157	141	**2**	**1**
CDA II-2	325	137	188	0	0	175	150	**14**	**9**	-38	186	144	**25**	**16**	-11	170	155	**14**	**9**
CDA II-3	335	138	197	0	0	182	153	**16**	**10**	-44	192	148	**27**	**16**	-10	173	162	**13**	**8**
CDA II-4	154	137	17	0	0	185	-31	**23**	**13**	-48	194	-35	**33**	**18**	-9	173	-19	**17**	**9**
CDA II-6	305	139	166	0	0	193	112	**38**	**26**	-54	201	110	**45**	**31**	-8	180	125	**30**	**21**
CDA II-7	255	120	135	0	0	176	79	**31**	**30**	-56	184	77	**38**	**36**	-8	164	91	**24**	**23**
CDA II-8	240	117	123	0	0	171	69	**35**	**35**	-54	179	67	**43**	**43**	-8	157	83	**27**	**27**
CDA II-9a	200	148	52	0	0	207	-7	**20**	**19**	-59	213	-7	**28**	**27**	-6	191	9	**11**	**11**
Total No. of Wells with:																			
Dewatered Pumps			0				3					4					2		
Dewatered Screens			0				10					10					10		

Notes:
a. Values in shaded box indicate water depth less than 10 feet above the current pump setting.
b. Bold values indicate dewatered screened intervals.
c. GEOSCIENCE model pumping levels include an estimate of localized losses through material adjacent to well, filter pack, and screen.
d. Wildermuth model pumping levels represent the modeled cell containing the well but do not include allowance for losses across adjacent material, filter pack, and screen.

Source: Carollo, *Chino Desalter Phase 3 Comprehensive Predesign Report (Third Draft)*, February 2010

Perimeter walls would have a man-gate entrance/exit with a concrete drive approach and a separate vehicle gate (visual-barrier metal). The drive approach would allow a vehicle to pull out of traffic lanes prior to opening the gate. Gate access would be controlled either remotely through the supervisory control and data acquisition (SCADA) system or via a local key pad. Site security would include the following:

- Appropriate site lighting, activated either from local on/off switches or photocells.
- Intrusion switches on doors to electrical enclosures.
- Security motion detectors and cameras.

RAW WATER PIPELINES

Raw water pipelines convey water from wells to the desalter facilities for treatment. They are not part of the potable water distribution system. There are two new sets of raw water pipelines required as part of the Phase 3 expansion project:

- CCWF Raw Water Pipeline System (Chino I) (Refer to Figure 5)
- Chino II Wellfield Expansion Raw Water Pipeline System (Chino II) (Refer to Figure 5)

The **Chino I Desalter** currently has two independent raw water pipeline systems:

- The Volatile Organic Compounds (VOCs) well pipeline connects wells CDA I-1, 2, 3, and 4 to the air stripping system for removal of VOCs.
- The RO/IX pipeline conveys raw water from wells CDA I-5, 6, 7, 8, 9, 10, 11, 13, 14, and 15 to Chino I for treatment in either the RO or IX process.

The proposed CCWF wells will be screened and will produce exclusively from the upper alluvial aquifer (Layer 1), which is characterized by water quality requiring treatment for removal of nitrates and dissolved salts. Therefore, the proposed CCWF wells will require treatment by RO or IX facilities and can share the same pipeline with wells CDA I-5 through 15. Groundwater models indicate that CCWF wells may produce VOCs in the future. Segregation of VOC producing CCWF wells through construction of separate raw water pipelines is not recommended. The CDA will coordinate the screening levels in the new wells with the Watermaster with the objective of minimizing any permanent subsidence effect from the new wells.

Figure 5 shows the location of existing Chino I raw water pipelines and some of the existing wells together with the proposed CCWF wells (alignment A) and raw water pipeline routes. The CCWFA well locations shown on this figure are approximate locations provided by GEOSCIENCE (May 2009) and do not reflect the constraints of property availability or utility locations (e.g., sanitary sewers and overhead power lines). The proposed sites can be accommodated by the routes shown on Figure 5. As indicated in Figure 5, wells CCWFA-1, 2, and 3 will be connected to the existing Chino I RO/IX treatment raw water pipeline in Kimball Avenue. Well CCWFA-4 will be located at the Chino I Desalter site and does not require off-site piping. Well CCWFA-6 will be located within the property boundaries of Inland Empire Utility Agencies' (IEUA's) RP-5 Solids Handling Facility at the intersection of Mountain Avenue and Bickmore Avenue. The termination point of the new CCWF raw water pipeline from the Chino I Desalter has been established by the selection of this site. Two alternative routes are shown between Chino I and the CCWFA-6 site. The eastern route (along Fern Avenue) is the preferred

alternative because it requires less pipeline construction along Kimball Avenue, a more heavily traveled street. The western route (along San Antonio Avenue) will be selected if property availability leads to the purchase of a site for CCWFA-5 along this route. Both routes have equivalent pipeline length.

As discussed previously, the expansion of the Chino II Desalter includes the following modifications to the Chino II well field:

- Connect existing wells CDA I-13, 14, and 15 to the Chino II raw water system
- Accommodate the connection of potential, future wells to the Chino II raw water pipeline system.

Figure 6 shows the locations of five proposed sites for future CDA II wells selected by GEOSCIENCE (May 2009), designated as CDA II-10 through 14. Of the five alternative well sites proposed only three will be needed. Four alternative pipeline routes that can connect CDA I-13, 14, and 15 to the Chino II raw water system while accommodating connections to future wells are shown as Options 1 through 4. Options 2 and 3 are more expensive and require use of well sites CDA II-13 and 14, for which there are limited undeveloped parcels available for a well site. For these reasons, the preferred options are either Option 1 or 4, which would allow use of future well sites CDA II-10, 11, and 12 along the extension of Bellegrave Avenue, between Haven Avenue and Archibald Avenue. For the purpose of this document, the Option 4 pipeline alignment is the preferred alternative because it provides the greatest flexibility in the procurement of well sites and is conservative in that it has a higher capital cost than Option 1.

Chino I/II Raw Water Intertie

The raw water produced by wells CDA I-13, 14, and 15 would be conveyed to Chino II via a new intertie that would connect the Chino I and II raw water systems as part of the proposed project. The raw water intertie would provide beneficial redundancy, reliability and flexibility for the desalter raw water supply by allowing water transfers from the entire Chino II well field into the Chino I well field. Figure 6 shows all of the alternatives that were considered for the new intertie pipeline.

The Chino II raw water pipeline system is pressurized to a hydraulic gradeline that allows flow to the Chino II Desalter, with a required gradeline of 885 feet above mean sea level (AMSL) at the desalter site. The Chino I raw water pipeline system is pressurized to allow a gradeline of 770 feet AMSL at the Chino I Desalter site. Therefore, the Chino II raw water system can transfer water through a flow control or pressure control station to the Chino I raw water supply system without additional pumping. The proposed construction of an intertie flow control station would allow transfer of raw water from the Chino II raw water system to the Chino I raw water system as part of the Phase 3 expansion project.

In order to transfer wells CDA I-13, 14, and 15 to the Chino II raw water pipeline, either the wells would be re-equipped with larger motors to pump to the Chino II raw water pipeline gradeline, or a raw water intertie pump station would be installed. The preferred alternative is to install an intertie pump station. This option allows the three wells to continue to pump to the Chino I gradeline using the existing submersible pumps. An inline booster pump station, the intertie pump station, constructed as part of the Chino I/II raw water pipeline intertie would transfer water from the Chino I raw water pipeline to the Chino II raw water pipeline gradeline. The intertie pump station would work together with the intertie flow control station to allow flexibility

in raw water transfer from Chino II to Chino I and vise versa. Raw water would be able to flow in either direction rather than just from the higher pressure line (Chino II) to the lower pressure line (Chino I), creating greater reliability and redundancy for the system. If possible, the intertie pump station and flow control could be incorporated with one of the future well sites. Figure 7 shows the possible pump station locations as well as the preferred pipeline alignment. A schematic representation is shown in Figure 8 and a site plan layout is shown in Figure 9.

If the existing submersible pumps at wells CDA I-13, 14, and 15 were modified rather than installing the intertie pump station, vertical turbine line-shaft well pumps would have to be installed that would require construction of buildings to buffer increased noise emissions. When properties were purchased for Wells CDA I-13, 14, and 15, it was represented that motors would be submersible, which minimizes noise levels without construction of a building around each well. Continued use of submersible motors maintains those commitments. An additional benefit of maintaining the existing submersible pumps at Wells CDA I-13, 14, and 15 is that they would be more energy efficient if pumping to Chino I were required in the future. If only these three wells were re-equipped rather than the intertie pump station installed, only flows from these three wells could be conveyed to Chino II, whereas all Chino I well flows could be conveyed to Chino II if required with installation of the intertie pump station, allowing for greater flexibility.

Of consequence to installing the intertie pump station is that some of the wells currently operating in the Chino I raw water supply system have nitrate levels that may be classified as extremely impaired by the California Department of Public Health (CDPH). CDPH Policy Memo 97-005 defines a water supply as extremely impaired when it contains contaminant levels that exceed 10 times the maximum contaminant level (MCL)/action level for chronic health effects or exceeds three times an MCL/action level for acute health effects. One potential implication is that CDPH may require treatment for nitrate levels instead of allowing blending at Chino II when the proposed raw water intertie piping conveys extremely impaired water from the Chino I well field to Chino II for treatment. Currently, some raw water at Chino II is bypassed around the IX and RO treatment processes without nitrate removal.

There are several alternatives for use of extremely impaired well water at Chino II, including the following:

- Option 1: Continue the Chino II raw water bypass.

This alternative is a continuation of current practice and requires approval from CDPH. It is the lowest cost alternative because it allows a continuation of the low cost bypass while also using the capacity of existing wells (CDA II-13, 14, and 15) without the cost of drilling new wells. This option has a low risk to public health because operational procedures can ensure that product water nitrate standards are not exceeded even with the raw water bypass.

- Option 2: Eliminate the Chino II raw water bypass.

This alternative assumes that CDPH does not allow a continuation of the raw water bypass at Chino II when treating raw water from extremely impaired Chino I wells. This alternative also avoids the cost of drilling new wells but it has a higher operating cost than Option 1 because of

the added expense of treating Chino II raw water that is currently bypassed around the RO and IX processes. This option also has a low risk to public health.

- Option 3: Pretreat Chino I well field water for nitrate removal at the raw water intertie.

This option would continue the use of the Chino II raw water bypass by removing nitrates from Chino I well water prior to introduction into the Chino II raw water pipeline using an IX treatment process, which could be located at the proposed intertie pump station as shown in Figure 3.3. This option has the highest cost because it requires construction and operation of a new treatment facility, but it also provides a low risk to public health.

- Option 4: Drill new Chino II wells instead of using existing well CDA II-13, 14, and 15.

This option assumes that new Chino II wells can be drilled that are not critically impaired with respect to nitrates. This option has a high cost (for construction of the wells) and also a high risk of failure because of the challenge of locating new wells that produce water from the Layer 1 aquifer (the purpose of the Chino Desalter wells) without exceeding the extremely impaired nitrate limit. The area for new wells with greatest sustainability (i.e., lowest long-term drawdown) is in the vicinity of wells CDA I-13, 14, and 15, which are critically impaired. There is a risk that new wells in the same vicinity would also produce raw water that is critically impaired with respect to nitrates, either initially or over time.

The four options were discussed with representatives of the San Bernardino and San Diego offices of CDPH in a meeting on July 13, 2009 attended by representatives of Carollo and the Phase 3 project Sponsors. CDPH will not make a decision until after an application for a revised operating permit is submitted; however, CDPH indicated a willingness to consider continued use of the Chino II raw water bypass (Option 1). Discussion included the following points:

- CDPH has flexibility and discretion, gained through experience, in how to apply Policy Memo 97-005.

- With acceptable operational procedures in place to manage the Chino II blended raw water nitrate levels and ensure that product water nitrate limits are not exceeded, the risk to public health is low.

- CDPH has approved operating permits allowing use of extremely impaired wells (with respect to nitrates) with nitrate treatment bypass in the following cases:

  – Chino II uses well CDA II-9A as a raw water supply while using the existing raw water bypass.
  – Chino I uses CDA I-4 as a VOC well that is treated through the air stripping tower, which provides no nitrate removal (i.e., bypasses the RO/IX nitrate treatment).

The preferred alternative is Option 1. However, if CDPH does not approve an application for a revised operating permit allowing Option 1, then elimination of the Chino II raw water bypass during those periods when extremely impaired wells are treated at Chino II (Option 2) would be implemented.

PRODUCT WATER PIPELINES

The original Chino II product water facilities took advantage of the fact that the desalter is located within the JCSD distribution system by transporting all product water through the JCSD 1110 pressure zone. JCSD, Ontario, Norco, and SARWC all receive Chino II product water entitlements via transportation through the JCSD 1110 zone. Because each of these CDA members (except JCSD) deliver their Chino II product water into lower pressure zones, there is a loss of energy associated with pumping to the JCSD 1110 zone and then reducing the pressure for delivery to lower zones.

Because of limited onsite storage at the Chino Desalters, the product water pump stations and pipelines are not intended to operate at flow rates higher than the nameplate capacities of the treatment plants where they are located. Therefore, in order to deliver the required CDA member entitlement volumes, the total reliable delivery capacity of Chino II product water pump stations matches the nameplate capacity for the desalter. Two options were evaluated for delivering product water to the Sponsors in the Carollo April 2009 technical memorandum.

- A new 1010 zone pump station and dedicated pipeline to convey Chino II product water jointly to Ontario and WMWD.

- A new 870 zone pump station to convey Chino II product water for JCSD and WMWD to the JCSD 870 zone distribution system. WMWD would receive water elsewhere from the JCSD 870 zone.

The preferred alternative would install a new 1010 zone pump station within the existing Chino II compound and a new dedicated pipeline to convey Chino II product water jointly to Ontario and WMWD. (Refer to Figure 10 product water pipeline/pump stations and Figure 11.) This alternative was selected because it allows WMWD to meet contractual water quality obligations (NO_3< 25 mg/L, TDS < 350 mg/L) to Norco with Chino II product water, independent of the blended water quality within the JCSD distribution system. The other alternative that was considered relied upon construction of a pump station to transfer water from the JCSD 870 zone to the Arlington pipeline, which would be unused after construction of the Riverside-Corona Feeder. Long-term delivery of WMWD product water relied upon the construction of the Riverside-Corona Feeder Pipeline, which has uncertain funding and schedule at this time.

The preferred alternative would deliver all JCSD product water from Chino II (both original and expansion entitlements) to the 1110 zone.

Table 6 summarizes the energy cost savings that would occur with construction of the preferred alternative, whereby construction of the 1010 zone pump stations would avoid the cost (both in terms of dollar expenditure and air quality emissions) of pumping the existing product water allotment to the 1110 zone with subsequent pressure reduction and inherent energy loss.

Table 6
SUMMARY OF CHINO II PRESSURE ZONE PUMPING COSTS
CHINO DESALTER PHASE 3 PDR – JCSD/ONTARIO/WMWD

	JCSD		Ontario		WMWD		Norco	
	Existing AF/yr (MGD)	Expansion AF/yr (MGD)	Existing AF/yr (MGD)	Expansion AF/yr (MGD)	Existing AF/yr (MGD)	Expansion AF/yr (MGD)	Existing AF/yr (MGD)	Expansion AF/yr (MGD)
1110 Zone	5,500 (5.29)	3,533 (3.5)	3,500 (3.37)	3,533 (3.5)			1,000 (0.96)	
			$58,000[a] ($890,000)[b]	$60,000[a] (-$920,000)[b]			$16,000[a] (-$250,000)[b]	
1010 Zone			3,500 (3.37)	3,533 (3.5)		3,534 (3.5)	1,000 (0.96)	

Source: Carollo, *Chino Desalter Phase 3 Comprehensive Predesign Report (Third Draft)*, February 2010

JCSD product water deliveries

The existing Chino II 1110 zone product water pump station has a firm capacity (if the largest pump were out of service) of 10 MGD and a total capacity of 15 MGD at design conditions. The preferred alternative would deliver the total JCSD entitlement capacity (8.79 MGD) through the existing 1110 zone pump station located within the Chino II compound. Pumping the JCSD Chino II entitlement through the existing 1110 zone product water pump station would require expansion of the existing pump station capacity by the addition of another pump. Refer to Figure 10 product water pipeline/pump stations.

Ontario product water deliveries

Ontario currently receives water from Chino II via transportation of product water through the JCSD 1110 zone with subsequent pressure reduction to the Ontario 1010 zone. Under the preferred alternative, Ontario would have the flexibility to deliver its entitlement capacity through the 1110 zone pump station (with JCSD storage benefits) or through the new 1010 zone pump station and dedicated pipeline (with lower pumping costs and improved water quality benefits). The preferred alternative includes construction of a new 1010 zone pump station and pipeline large enough to accommodate Ontario's total entitlement capacity (6.87 MGD) and construction of a new pump station at the Milliken Reservoir site to transfer Chino II product water from the Ontario 1010 zone to the 1212 zone (refer to Figure 14).

WMWD product water deliveries

WMWD would receive product water from the Chino II expansion indirectly by means of an exchange using Arlington Desalter product water currently sold to the City of Norco. The Arlington Desalter (operated by WMWD) delivers water to Norco through the existing 30-inch Arlington pipeline. Water delivered to Norco from WMWD's Chino II expansion entitlement in lieu of Arlington Desalter product water will make the equivalent amount of Arlington Desalter product water available for other WMWD customers. Norco has a contract to take 4,000 acre-feet of Arlington Desalter product water annually. The 3,534 acre-feet per year made available to WMWD from the Chino II expansion could be delivered to Norco through the proposed 1010 zone pump station and dedicated product water pipeline shown in Figure 11 and Figure 10 product water pipeline/pump stations. The proposed pipeline on Hamner Avenue would connect to the existing 30-inch Arlington pipeline. Therefore, at least 3,534 acre-feet of product

water per year, currently sold to Norco from the Arlington Desalter, will be available for distribution elsewhere.

The preferred alternative would construct a new 1010 zone pump station and pipeline large enough to accommodate WMWD's entitlement capacity (3.5 MGD). Facilities would be shared with Ontario up to the Ontario 1010 zone turnout located at Riverside Drive and Hamner Avenue. The portion of the Hamner pipeline located south of Riverside Drive would be used by WMWD and Norco. The proposed Hamner pipeline would cross the Santa Ana River just prior to connecting with the existing Arlington Pipeline. The proposed alternative is to bore and jack the pipeline under the Santa Ana River. (Refer to Figure 12)

In addition to the product water deliveries summarized above, the CDA also plans to construct a treated water pump back capability that provides for potable water produced at the Chino II Desalter to be conveyed to the cities of Chino and Chino Hills, if needed, by modification of existing facilities. This "pump back capability" has not yet been designed and will be implemented by the CDA under a separate environmental review process in the future. This objective is identified for information only at this time and is not evaluated in this document.

CONSTRUCTION SCENARIO

It is assumed for all activities that construction would take place during 10-hour workdays for a 6-day workweek, but not all equipment would be operating continuously over the 10-hour daily work period. Small electric tools would be connected to the utility grid, but welders and other large electric equipment would be powered by an on-site generator. The number of construction workers and daily equipment-operating scenarios would vary according to the type and phase of construction project. It is further assumed that each worker would commute using his or her own vehicle and the average commute would be approximately 20 miles one way. Emissions from the planting of landscape materials and screening wall construction are expected to be minimal and have not been calculated.

Pipelines

The maximum pipe length that would be installed in a single year under the Chino Desalter Phase 3 Expansion Project would be approximately 60,000 LF, which is the total pipeline length currently associated with Chino Desalters Phase 3 Expansion Project. It is forecast that the pipe would range from 10 to 36-inch diameter with about half of the pipe between 10-18 inch diameters and the other half between 24-36 inch diameters. Trucks delivering the pipe and appurtenant equipment can carry an average of about 900 feet of 10 to 18-inch pipe per load and about 200 feet of 24 to 36-inch pipe per load. Installation of up to 60,000 LF of pipe in a year would require about 184 truck deliveries per year. It is anticipated that the majority of the pipe and equipment would come from the Fontana, Ontario, Mira Loma area by way of the freeways. Such deliveries would result in round-trips that average about 40 miles at an average speed of about 40 mph.

Typically, up to 900 feet of pipeline trench could be excavated, the pipe installed, backfilled, and compacted each day during pipeline installation in undeveloped areas whereas only 300 ft per day could be installed in developed roadways. In either case equipment would be operated for roughly the same portion of the day and daily equipment emissions would be the same, except that undeveloped areas would not require pavement removal and reinstallation.

Ground disturbance emissions assume roughly half an acre of land would be actively excavated on a given day. It is anticipated that installation of pipeline in developed locations would require the use of a backhoe, crane, compactor, roller/vibrator, pavement cutter, grinder, haul truck and two dump trucks operating 6 hours per day; a water truck and excavator operating 4 hours per day and a paving machine and compacter operating 2 hours per day. Installation of pipeline in undeveloped locations would require the same equipment without the paving equipment (cutter, grinder, paving machine). Materials delivery would require approximately one truck per day for unimproved area and one truck every three days for improved alignment installation. This phase of construction would require up to two truck trips per day with an estimated average round trip of 40 miles delivering construction materials and equipment (concrete, steel, pipe, etc.). Calculations assume twelve workers would each commute 40 miles round-trip to the work site, and that only one work crew would install pipeline at a time.

The pipelines that would be installed in support of the Desalter Expansion Project would use push-on joints (e.g., gasketed bell-and-spigot) that do not require welding. However, the Contractor may occasionally use a portable generator and welder for equipment repairs or incidental uses.

The proposed product water pipeline in Hamner Avenue would cross the Santa Ana River just prior to connecting with the existing Arlington Pipeline. The proposed alternative is to bore and jack the pipeline under the Santa Ana River. The jacking and receiving pits would be excavated using a mid size excavator. The excavated material is stockpiled on site if there is space to do so. If there is inadequate space the excavated soils must be off-hauled to a site that is somewhat accessible to be able to bring the material back on-site to fill the excavation after the jacking operations are complete. Assuming the carrier pipe is 36-inches in diameter the steel casing pipe would most likely be 48-inches in diameter. Also assuming that the river crossing is 10-feet deep we would want a minimum of 5-feet of cover over the casing at the lowest point of the river. Therefore, the jacking pit dimensions would be 15-feet wide by 25-feet long by 25-feet deep. This also assumes that the steel casing sticks are 10-feet long. The receiving pit would most likely be 15-feet long by 15-feet wide by 25-feet deep. The jacking equipment is typically a hydraulic jacking frame that holds the steel casing pipe and guides it into the hole. There typically six to eight employees on an operation of this nature.

Reservoirs

The Desalter program has constructed two reservoirs to date: a 5 MG reservoir located in Jurupa Community Service's District service area and a 3 MG reservoir located in the City of Chino's service area. There are no plans to construct any additional reservoirs at this time; however, impacts associated with reservoir construction are included in the event that future circumstances require the construction of reservoirs to support Desalter water programs.

It is forecast that for site preparation of a reservoir and access road, no more than 2 acres would be actively graded on a given day. It is anticipated that grading activities would occur over a 10-15 day period and would require one bull dozer, front end loader, water truck, grader, excavator and two dump/haul trucks operating 6 hours per day. Calculations assume eight workers would each commute 40 miles round-trip to the work site.

Construction of the reservoir would require the delivery and installation of equipment and materials. This phase of construction would result in 6 truck trips on the worst case day with an average round trip of 20 miles delivering construction materials and equipment (concrete, steel,

pipe, etc.). Installation of the reservoir would occur over about 30 days and would require the use a crane, forklift, backhoe, front loader and two haul trucks operating 6 hours per day. Calculations assume six workers would each commute 40 miles round-trip to the work site.

In addition to the above construction equipment, heavy duty trucks would be employed for on-site deliveries. Smaller trucks and automobiles would be utilized for on-site supervision and employee commuting. The diesel delivery trucks were assumed to require 300 on-road miles per day.

Typically, the exteriors of reservoirs are coated with a primer and enamel coats both to prevent corrosion and for aesthetic purposes. South Coast Air Quality Management District Rule 1113, as amended, sets limits on the volatile reactive organic compounds (VOC or ROC) that can be released by coatings sold within the District. The largest reservoir that has been constructed for desalter facilities is a 5 million gallon tank, thus impact estimates assume that this would be the largest future reservoir and that it would be coated to a 6 mil thickness.

Booster Stations

The Chino Desalter Phase 3 Expansion Project would construct and operate four booster stations: the Raw Water Intertie, 1010 Zone, 1110 Zone (expansion), and the Milliken pump stations.

A. Raw Water Intertie Pump Station
B. 1010 Zone Pump Station
C. 1110 Zone (expansion) Pump Station
D. Milliken Pump Station

It is forecast that no more than 0.5 acres would be actively graded on a given day for site preparation of each booster station. It is anticipated that grading activities would occur over a 5-day period and would require one bull dozer or motor grader operating 8 hours per day, one water truck operating 4 hours per day and one dump truck operating 4 hours per day. Calculations assume five workers would each commute 40 miles round-trip to the work site.

Construction of each pump station would require the delivery and installation of equipment and materials. This phase of construction would result in 6 truck trips on the worst case day with an average round trip of 20 miles delivering construction materials and equipment (concrete, steel, pipe, etc.). Installation of the booster station would require the use of a crane, forklift, backhoe and front loader operating 4 hours per day. Calculations assume five workers would each commute 40 miles round-trip to the work site.

The Chino Desalter Phase 3 Expansion Project pump stations would be at sites that have permanent power available for construction and a generator would not be required for welding at these sites.

Wells

The Chino Desalter program has installed 22 wells to date. The Chino Desalter Phase 3 Expansion Project is anticipated to result in the installation of 6 new production wells in the Chino Creek Well Field (CCWF) and 3 or 4 new production wells to be located at new well sites for Desalter II.

The capacity of the CCWF could range from about 5,000 acre-ft/yr to 7,700 acre-ft/yr. For the purposes of the air quality analysis, it is assumed that the capacity of the CCWF will be 7,700 acre-ft/yr.

Development of up to ten new wells during a given year, assuming all wells were constructed in a single year, would require the delivery and set up of the drilling rig. A more likely scenario is that up to six wells would be installed in a given year, but the emissions forecast assumes that all ten would be installed in a given year as this would be the "worst case" scenario and mitigation, if necessary, would be designed for the higher emission levels. It is anticipated that these wells would be drilled at different times and the drilling equipment would be transported to and from the sites on separate occasions. For the purposes of this evaluation, it is forecast that delivery of the drilling equipment ten times in a year would result in ten 50 mile round-trips at an average speed of 30 mph.

The drilling and development of each well to an average depth of 850 feet would take approximately 45 days, of which 15 to 20 days would include 24-hour drilling activity. Delivery of the well casings, pumps, motors, etc. for each well is forecast to result in about 1,000 miles being traveled by trucks averaging about 45 mph. Calculations assume two workers would each commute 40 miles round-trip to the work site. Typically, well drilling requires only minimal earth movement and/or grading. The well casings are expected to be welded and it is assumed that well development and installation would require two weeks of a diesel generator.

Monitoring Wells

The Chino Desalter Program has installed or is in the process of installing 5 monitoring wells to date. While not currently anticipated, monitoring wells may be installed to monitor groundwater quality in the future. Typically these are drilled to shallower depths than water production wells and do not require test pumping, thus they require less development time and fewer materials to construct. It is forecast that development of a single monitoring well would result in air emissions equal to one half the emissions associated with development of a single production well.

Regenerable and Non-regenerable Treatment Facilities

Regenerable and non-regenerable treatment facilities have been installed as part of other Chino Basin water management activities and one of the potential options for the Chino Desalter Phase 3 Expansion Project is to locate a regenerable treatment facility at the same site as the Raw Water Intertie Pump Station. These facilities are typically installed to remove moderate amounts of contaminants from individual wells or from a small number of wells. These facilities are typically small, co-located with other water infrastructure and disturb less than 0.5 acres of land.

It is forecast that site preparation for each treatment facility would require no more than 0.5 acre to be actively graded on a given day. It is anticipated that grading activities would occur over a 5 day period and would require one bull dozer operating 8 hours per day, one water truck operating 4 hours per day and one dump truck operating 4 hours per day. Calculations assume five workers would each commute 40 miles round-trip to the work site.

Construction of each treatment facility would require the delivery and installation of equipment and materials. This phase of construction would result in 6 truck trips on the worst case day with an average round trip of 20 miles delivering construction materials and equipment

(concrete, steel, pipe, etc.) Installation of the treatment facility would require the use of a crane, forklift, backhoe and front loader operating 4 hours per day. Calculations assume five workers would each commute 40 miles round-trip to the work site.

Desalter Facilities

Treatment capacity of Chino II will be increased by 10 MGD, which corresponds to the raw water pumping requirement increasing by about 12,040 acre-ft/yr. Desalter expansion would occur within an existing facility and would not require grading or site preparation. Installation of the expansion equipment would require a maximum of 20 workers and typical construction site equipment (cranes for setting ion exchange vessels, front end loaders, fork lifts, etc.) Impact estimates would assume one vehicle trip per worker and 5-10 deliveries per day over a 12-month construction period.

OPERATIONS

Operational air quality impacts would consist of vehicle trips to service the proposed facilities and energy required to power the proposed facilities. Operational impacts vary depending upon the type of infrastructure proposed. Most water related infrastructure, including wells, pump stations and pipelines, require very few vehicle trips for maintenance and operation, typically less than one trip per day per facility.

Booster Stations

Energy consumption for booster stations depends on the location within the Basin to be pumped to and from and the volume of water to be pumped. Carollo Engineers provided energy consumption calculations, provided in the Table 7 below, for the four pump stations currently proposed as part of the Chino Desalter Phase 3 Expansion Project.

Table 7
ENERGY CONSUMPTION CALCUALTIONS FOR PUMP STATIONS

Pump Station	Power Consumption	Notes
Intertie Pump Station	891,111 kwh/yr	From Table 2 in Appendix G-10 of the PDR, back calculated using $0.09/kwh
Milliken Pump Station	987,778 kwh/yr	From Table 2 in Appendix G-10 of the PDR, back calculated using $0.09/kwhr
1010 Pump Station	4,315,751 kwh/yr	Per Table 6.2 in the PDR, production is 11,656 af/yr, Using TDH of 270' per Table 6.7 and 75% efficiency
Expanded 1110 Pump Station	-434,027 kwh/yr	Per Table 6.2 in the PDR, net production is decreased by 844 af/yr, Using TDH of 375' per Table 6.7 and 75% efficiency

Wells

Energy consumption for wells depends on where the wells are located within the basin and how much water the wells are pumping. In general, wells located in the northern part of the Chino Basin require more pumping power due to deeper groundwater. The power required for wells in the Chino Basin ranges from 60-500 kW per hour. Assuming wells are run 6 hours per day, the energy consumption would be 360-3000 kW-hr per day. The total maximum daily electrical consumption is estimated to be 3 MW per day for each well.

There is no energy consumption for a monitoring well.

Carollo Engineers provided energy consumption calculations for the proposed Chino Creek Wells as well as for the additional pumping costs associated with lowered groundwater levels at the Chino I and Chino II Wells (Table 8).

Table 8
ENERGY CONSUMPTION CALCULATIONS FOR CHINO CREEK WELLS

Wells	Power Consumption	Notes
Chino Creek Wells	1,691,111 kwh/yr	From Table 2 in Appendix G-10 of the PDR, back calculated using $0.09/kwh
Chino I Wells	292,080 kwh/yr	Using average groundwater change from Chino I wells from Table 2.3 and Chino I pumping rate of 8,376 af/yr (from Table 2.2.), assuming 75% pumping efficiency.
Chino II Wells	767,200 kwh/yr	From Table 2 in Appendix G-10 of the PDR, back calculated using $0.125/kwh

Regenerable and Non-regenerable Treatment Facilities

The estimated power requirement for both regenerable and non-regenerable treatment facilities would be less than 100 kilowatts per hour (kWh) per facility, including groundwater pumping and facility operation energy requirements.

Periodic deliveries of salt (sodium chloride) to the regenerable facilities are required to maintain continuous operation. The solution would be delivered in bulk by chemical trucks. It is conservatively estimated that a maximum of one truck trip per day per facility would be required.

The frequency of resin change-out at the non-regenerable facilities could vary between 6 and 12 months, depending on contaminant concentration and use of the facility. When the resin from a non-regenerable facility is exhausted, it is either removed and regenerated off-site for use elsewhere, or disposed of in an appropriately licensed landfill, complete with leachate protection, etc. Ongoing maintenance and oversight of the facilities would conservatively require one visit by an agency employee to every above-ground facility (pipelines are excluded) each day. The total maximum daily electrical consumption is estimated to be 1.1 MW per day for each treatment unit.

Desalter Facilities

Desalter groundwater well production would increase from the existing 27,900 acre-ft/yr to about 40,000 acre-ft/yr and desalter product water deliveries would increase from the current 24,600 acre-ft/yr to about 35,200 acre-ft/yr. Based on a recent Southern California Edison efficiency test, the energy consumption at the existing Desalter facilities per acre-ft of water is provided in Table 9.

Table 9
EXISTING DESALTER FACILITIES ENERGY CONSUMPTION PER ACRE-FT

	Chino/Desalter I	Chino/Desalter II
Wells	492 kWh/AF	581 kWh/AF
Reverse Osmosis	850 kWh/AF	623 kWh/AF
Pumping	367 kWh/AF	484 kWh/AF
Total	1,709 kWh/AF	1,688 kWh/AF

Carollo Engineers provided energy consumption calculations for the proposed desalter expansion (Table 10).

Table 10
ENERGY CONSUMPTION CALCUATIONS FOR PROPOSED DESALTER EXPANSION

Desalter	Power Consumption	Notes
Chino I Expansion		
Higher RO Feed Pressure	93,333 kwh/yr	Per Appendix G.10, Page 6 of the PDR, back calculated using $0.09/kwhr
Capacity Expansion	2,031,949 kwh/yr	Based on FY 09/10 CDA Chino I Desalter Energy Budget ($1,548,345) applied linearly to meet 14.2 MGD capacity at 1,100 mg/L TDS with current operation at 12.7 MGD (see Figure 4.9 in PDR), assuming $0.09/kwh
Total Chino I Expansion	2,125,282 kwh/yr	
Chino II Expansion		
Higher RO Feed Pressure	61,111 kwh/yr	Per Appendix G.10, Page 6 of the PDR, back calculated using $0.09/kwh
Capacity Expansion	17,603,938 kwh/yr	Based on FY 09/10 CDA Chino II Desalter Energy Budget ($1,508,909) applied linearly to meet 10.5 MGD expansion above current capacity of 10 MGD, assuming $0.09/kwh
Concentrate Reduction	4,680,000 kwh/yr	Per Appendix G.10, Page 7 of the PDR
Total Chino II Expansion	22,345,049 kwh/yr	

The new Chino Creek Well Field water would be conveyed to Chino I, therefore some existing Chino I wells production are proposed to be rerouted from Chino I to Chino II for greatest efficiency and least environmental impact (shorter pipeline length, etc.)

New product water developed by the expanded desalter facilities would be conveyed to the Jurupa Community Services District, the City of Ontario, and/or Western Municipal Water District through existing and new pipelines, in most cases through gravity lines.

It is anticipated that several additional personnel will be required to operate the expanded desalter facilities.

The additional chemical deliveries and pellet removal required by the operation of the proposed concentrate reduction facilities are provided in Table 4. The preferred alternative would install and operate concentrate reduction facilities at Chino II only.

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

■	**Aesthetics**		**Agriculture Resources**	■	**Air Quality and Greenhouse Gases**
■	**Biological Resources**	■	**Cultural Resources**	■	**Geology / Soils**
■	**Hazards & Hazardous Materials**	■	**Hydrology / Water Quality**		**Land Use / Planning**
	Mineral Resources	■	**Noise**		**Population / Housing**
■	**Public Services**		**Recreation**	■	**Transportation/Traffic**
	Utilities / Service Systems		**Mandatory Findings of Significance**		

DETERMINATION (To be completed by the Lead Agency)

On the basis of this initial evaluation:

	I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
X	I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
	I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
	I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect (1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and (2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
	I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Jim Mim Mack, CDA Coordinator Signature	10/18/10 Date
Signature	Date

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
I. AESTHETICS – Would the project:				
a) Have a substantial adverse effect on a designated scenic vista or designated scenic highway?		■		
b) Substantially damage publicly visible scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings?		■		
c) Substantially degrade the existing visual character or quality of the site and its surroundings?		■		
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?		■		

Substantiation:

a. *Less Than Significant With Mitigation Incorporation* – The Phase 3 Desalter Expansion facilities would be located underground (pipes) and above ground in the form of typical structures that will be used to house wells, support desalter operations or as storage reservoirs. The proposed project facilities and activities are not forecast to cause any significant adverse impacts to a scenic vista because these facilities will not be located in areas or be of a size to adversely impact such vistas.

The most significant visual resources in the project area are the hills and mountains surrounding the Chino Basin, pastoral landscapes in and within view of the project area, and the Santa Ana River riparian habitat. The proposed project facility improvements would be located within the cities of Chino, Ontario and Norco and on unincorporated lands within the counties of Riverside and San Bernardino. The predominant scenic vistas in the project area, as identified in local General Plans are: the views of the San Gabriel, San Bernardino and Santa Ana Mountains, Chino Hills, Jurupa Hills, Prado Basin, the Chino farmlands, and certain road corridors.

The activity associated with the proposed project that has the highest potential to conflict with local agency design guidelines is construction disturbance of the landscape. Such disturbance can be reduced to an acceptable level by landscaping or revegetating disturbed areas [pipelines, well pads, and structural developments (desalters)] or returning hardscapes (paved roadways, parking areas, etc.) to their prior condition after disturbance. Restoration of areas disturbed by Phase 3 Desalter Expansion facilities requires vegetating either with landscaping that is consistent with local design guidelines or with native vegetation that is consistent with that which occurs naturally in the area.

The scenic views from and toward the foothill and mountain areas should be protected against development impacts. This can be accomplished by carefully planning the location and extent of development, by clustering development to maximize open space where appropriate and by encouraging the underground placement of utilities, where practicable. The proposed project activities are small in scale or located within existing developed landscapes or desalter facility compounds and are proposed within the valley, not in the hills where they might be visible from a

distance. The improvements have no potential to block scenic views towards the hills and mountains.

With implementation of mitigation outlined below, development of the Phase 3 Desalter Expansion facilities will be consistent with current general plan requirements for protecting scenic vistas.

I-1 All surface areas disturbed by Phase 3 Desalter Expansion construction activities, except those areas occupied by structures or hardscapes, shall be revegetated, either with native vegetation in natural landscapes or in accordance with a landscape plan in man-made landscape areas. In non-native landscape areas, landscaping shall prioritize the use of native species or drought tolerant non-invasive species. Once construction is completed revegetation shall begin immediately. Where a formal landscape plan is to be implemented, it shall be coordinated with the local agency and the local design guidelines for consistency. Where a native landscape is to be restored, it shall be implemented in cooperation with regulatory agencies with oversight from a qualified biologist or landscape architect.

I-2 All utility connections for Phase 3 Desalter Expansion facilities shall be placed underground unless technically infeasible.

Given the type of facilities proposed by the Phase 3 Desalter Expansion and implementation of the above mitigation, scenic vistas can be protected and are not forecast to be substantially degraded by any of the proposed facilities.

b. *Less Than Significant With Mitigation Incorporation* – The proposed project facilities and activities are not forecast to cause any significant adverse impacts to scenic resources, including scenic highways, because the proposed facilities will not be located in areas or be of a size to adversely impact such resources. Exact locations for some facilities proposed as part of Phase 3 Desalter Expansion facilities, particularly well and booster station sites, have not been selected. However, the area within which facilities would be located has been demarcated and is indicated in the figures accompanying this document.

There are no designated wild and scenic rivers located in the project vicinity.

Within the greater Phase 3 Desalter Expansion project area there are roadways classified as eligible for state scenic highway status, but there are no officially designated scenic highways. Located in the southwestern portion of the Chino Basin, State Route (SR) 142 south of SR 71 and SR 71 south of SR 83 are eligible to be state scenic highways, but are not officially designated. Several additional roadways, SR 57 south of SR 60 and SR 91 south of SR 71, located in the near southwest of the Chino Basin are also eligible to be state scenic highways, but are not officially designated.

The County of San Bernardino has designated scenic corridors within the project area and established planning standards that should be employed with development. OS 5.3 of County General Plan designates all of SR 71 within unincorporated County area, located in the southern portion of the Chino Basin, as a scenic route. The Circulation and Infrastructure Background Report for the County of San Bernardino General Plan dated February 21, 2006 lists roads designated scenic routes by the County. The only such roadway in the vicinity of proposed project activities is State Route 83, which the County designates all unincorporated frontage south of Riverside Drive as scenic.

The San Bernardino County General Plan states that land adjacent to and visible from the corridor, based on a motorist's line of sight, should generally be considered the boundaries of a scenic

corridor. Where the line of sight extends a considerable distance or to the horizon, the General Plan indicates that "a reasonable boundary" should be selected.

No Phase 3 Desalter Expansion facilities are proposed along or adjacent to scenic routes designated by the County of San Bernardino with the possible exception that facilities both within and outside of existing compounds are proposed along State Route 83 at Kimball Avenue. The impacts may or may not occur on or along unincorporated frontage depending upon final selection of well sites.

Riverside County has designated State Route 71 as an eligible scenic route, as shown on Figure C-9 of the Riverside County General Plan. No Phase 3 Desalter Expansion facilities are proposed along or adjacent to scenic routes within the County of Riverside.

With the exception of proposed facilities along State Route 83 at Kimball Avenue, development under the Phase 3 Desalter Expansion would not substantially damage publicly visible scenic resources because no such resources are identified in the immediate vicinity of Phase 3 Expansion facilities. With implementation of mitigation outlined below, Phase 3 Expansion development will be consistent with current general plan requirements for protecting scenic resources and scenic highway visual values.

I-3 Where facilities are proposed to be located adjacent to scenic highways, corridors or other scenic features identified in local agency planning documents, Phase 3 Desalter Expansion facility implementation will conform with design requirements established in these planning documents.

c. *Less Than Significant With Mitigation Incorporation* – In general, many of the groundwater treatment facilities, wells, and conveyance facilities proposed under the Phase 3 Expansion would be installed within existing, developed utility sites, many of which are in commercialized or industrial areas. The existing facilities are surrounded by block walls and/or chain link fences and, in some cases, landscaped visual buffers. At the proposed Phase 3 Expansion facilities that would be installed within developed sites, on-site operations would generally not be visible from off-site, and the visual character of these sites would not be substantially changed.

Installation of surface facilities has a potential to modify the existing view or visual setting at specific project sites which could cause a substantial negative visual impact. Mitigation measure I-1 outlined above can ensure that construction disturbance is mitigated by replacing vegetation and controlling potential negative aesthetic effects due to landscape scarring. Mitigation measure I-2, requiring that utilities be placed below ground when feasible, reduces the potential negative aesthetic impact of new above ground utility infrastructure. Fencing or block wall will be installed around new well sites, treatment facilities, and above water conveyance facilities and structures for both security and to serve as a visual buffer. For structures such as well housings, compliance with local agency design guidelines will ensure that new facilities do not cause significant negative aesthetic effects.

I-4 Fencing, landscaping and/or architectural design will be incorporated in project design to reduce the visual impact of facilities in a manner consistent with the surrounding development and with the local agency design guidelines to the extent that such measures do not conflict with the engineering and budget constraints established for the facility.

d. *Less Than Significant With Mitigation Incorporation* – Some of the proposed Phase 3 Desalter Expansion facilities will require the installation of night lighting. The development of most of the proposed facilities are to be within existing facility sites, which already have some lighting features. Glare from new light fixtures that may be installed as part of proposed improvements has a

potential to cause a significant negative impact upon adjacent uses, including sensitive receptors such as residential, rural or wildlife habitat portions of the project area. Such impacts can be fully mitigated by implementing measures for street lighting and down shielded commercial lighting which are generally an accepted element of urbanization.

Night lighting installed in support of the Phase 3 Desalter Expansion facilities will be mitigated to a non-significant level consistent with existing regulations controlling lighting requirements in each jurisdiction by controlling the amount of night light (lumens), by positioning of lights, by selecting the appropriate type of lighting for the specific site and location, and by directing the light glow/glare through use of hoods and other directional controls.

The last potentially significant adverse light-and-glare impact relates to headlights from project-related vehicle trips on project area roadways. The majority of increased vehicle trips will be attributable to daytime construction and maintenance related trips to the Phase 3 Desalter Expansion facilities. The number of nighttime trips is estimated to be so small relative to existing trips on roadway that no significant cumulative contribution to headlight glare is anticipated to affect light sensitive receptor areas. No unusual or unique sources of light and glare are anticipated to be required in support of the Phase 3 Desalter Expansion facilities. Many of the jurisdictions within which the project will occur have passed ordinances or adopted development codes designed to minimize the impact of light and glare on sensitive uses. The Phase 3 Desalter Expansion facilities will conform with the guidelines of each jurisdiction wherever feasible, but at a minimum the facilities will comply with the following mitigation measure.

I-5 Future project review and implementation shall implement the following:

- ***Use of low pressure sodium lights where security needs require such lighting to minimize impacts of glare.***
- ***Height of lighting fixtures shall be lowered to the lowest level consistent with the purpose of the lighting to reduce unwanted illumination.***
- ***Directing light and shielding shall be used to minimize off-site illumination.***
- ***No light shall be allowed to intrude into sensitive light receptor areas off of a specific project site.***

Conclusion

The above analysis concludes that the proposed Phase 3 Desalter Expansion facilities would have no significant impact with incorporation of the proposed mitigation on scenic resources, including scenic highways and scenic vistas. Further the analysis finds that the proposed Phase 3 Desalter Expansion facilities would not create significant light or glare or have a demonstrable negative aesthetic effect. No further analysis of aesthetic impacts is required.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
II. AGRICULTURE RESOURCES – In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. Would the project:				
a) Convert viable farmland (Prime Farmland, Unique Farmland, or Farmland of Statewide Importance) as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?			■	
b) Conflict with existing zoning for agri-cultural use, or a Williamson Act contract?			■	
c) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of farmland to non-agricultural use?			■	

Substantiation:

The Chino Basin historically contained significant agricultural resources, primarily dairy ranches located in the southern portion of the Basin and citrus groves and grape vineyards located in the northern portion of the Basin. In recent years, urbanization has converted a great percentage of the agricultural land in the Chino Basin to other uses. In 1994, the San Bernardino County Local Agency Formation Commission allocated an area of agricultural preserve (about 15,400 acres) to the cities of Chino and Ontario, which have subsequently annexed the land and assigned non-agricultural land use designations to the vast majority of it. In many cases, the former dairy lands have already been converted to urban uses during the housing construction boom in the early part of this decade. Conversion of agriculture has not been driven directly by water related issues, but rather agriculture activities have shifted to alternative locations due to both the cost to continue dairy operations in the Chino Basin and the value of the land for non-agricultural uses. Remaining agricultural lands may continue to be converted to other uses in accordance with the General Plan vision of the jurisdictions responsible for establishing land use designations, although the City of Chino General Plan Map designates some land for agricultural uses, particularly in the vicinity of Prado Basin. The time period required for transition will depend upon future demand for urban development in the area, and the overall costs of operating, maintaining and closing the dairy ranches.

The San Bernardino County General Plan Land Use Background Report dated October 31, 2005 Figure 1-5A shows that Williamson Act lands in the project vicinity are in areas under the jurisdiction of the City of Chino and the State of California. The Land Use Background Report summarizes the decline in acreage enrolled in Williamson Act contracts within the County as 67.5% from 1991 through 2001. Further declines in Williamson Act land have occurred since January 1, 2001, when there were 7,103

acres under Williamson Act contracts, while on January 1, 2004 acreage under contract had dropped to 4,533 acres.

The State of California Department of Conservation Division of Land Resource Protection's San Bernardino County Important Farmland 2006 map shows the entire project area within the County. Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland) is depicted on scattered, typically small, parcels in the project area.

The State of California Department of Conservation Division of Land Resource Protection's Riverside County Williamson Act Lands 2007 map depicting land enrolled in Williamson Act and Farmland Security Zone contracts as of January 1, 2007 shows active Williamson Act contracts on prime agricultural land as well as non-renewals of contracts on both on prime and non-prime agricultural lands within the Chino Basin in the immediate vicinity of proposed project facilities. This map depicts all of Riverside County within the project boundaries.

a-c. *Less Than Significant Impact* – In January 2004, the Regional Board amended the Water Quality Control Plan for the Santa Ana River Basin (Basin Plan) to incorporate an updated total dissolved solids (TDS) and nitrogen (N) management plan. The Basin Plan Amendment includes both "anti-degradation" and "maximum benefit" objectives for TDS and nitrate-nitrogen for the Chino and Cucamonga groundwater management zones. The application of the "maximum benefit" objectives relies on implementation of a specific program of projects and requirements. The Phase 3 Desalter Expansion is a critical component of the programs designed to comply with the maximum benefit requirements of the Basin Plan. The "maximum benefit" objectives for TDS and N have provided assimilative capacity within the Basin that supports continued agricultural activities. Essentially, without implementation of the desalter expansion, it would be difficult for ground water quality standards to comply with the Basin Plan, which could result in greater restriction of agricultural operations.

At the general plan level, the Phase 3 Desalter Expansion will not cause or contribute to the transition of agricultural land to urban uses. Increasing the quantity of local groundwater that can be treated to enhance water quality has no identifiable potential to cause or contribute to this transition in uses. In fact, as discussed above, the 2004 Basin Plan Amendment and the OBMP, of which the Phase 3 Desalter Expansion is a part, provides a context through which agricultural discharges can be addressed.

At the project specific level, the Phase 3 Desalter Expansion may have a very small impact on agricultural operations. Most of the new treatment facilities, wells, and conveyance facilities will be installed within the footprints of existing water utility sites. The majority of new treatment facilities, wells, and conveyance structures and facilities that will not be located on sites already developed with existing water facilities are expected to be located within areas already developed with residential, commercial or industrial uses. Most pipelines will be placed within existing rights-of-way, which are alignments that are generally already disturbed. Any pipelines placed under agricultural land would allow most agricultural operations to continue. Thus, the installation and operation of pipelines is not forecast to cause any measurable loss of agricultural land.

Production wells, monitoring wells and booster stations may remove some agricultural land from operation. The total acreage of land expected to be impacted for well and booster station footprints is forecast to be less than 10 acres (one reservoir on five acres and several booster stations on approximately one acre each). Given the rate of conversion of agricultural land to other uses in recent years, the potential conversion of less than 10 acres in support of Phase 3 Desalter Expansion facilities, representing the equivalent of less than 1% of land removed from Williamson Act lands in San Bernardino County between January 1, 2001 and January 1, 2004, is not forecast to be a significant impact to agricultural lands or operations. Given the small acreage of land that

could be removed from agricultural operations, the project's contribution to cumulative removal of agricultural operations is considered less than significant.

Conclusion

The above analysis concludes that the proposed Phase 3 Desalter Expansion facilities would have no significant impact on agricultural resources or operations. No further analysis of agricultural resources is required.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
III. AIR QUALITY – Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?			■	
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?		■		
c) 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)?		■		
d) Expose sensitive receptors to substantial pollutant concentrations?		■		
e) Create objectionable odors affecting a substantial number of people?			■	
f) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment; or Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?		■		

Substantiation:

The project is located entirely within the SoCAB which is under the jurisdiction of the SCAQMD. The air quality regulatory jurisdictions within the project area include the U.S. Environmental Protection Agency (EPA), the California EPA, and the SCAQMD. The SCAQMD has jurisdiction over the air basin in which

the proposed project is located and is responsible for regulating stationary source emissions. The District has also been given the authority to regulate mobile emissions as an indirect source.

The SoCAB experiences a persistent temperature inversion (increasing temperature with increasing altitude) as a result of the semi-permanent high pressure over the Pacific Ocean. This inversion limits the vertical dispersion of air contaminants produced in the air basin, trapping them relatively near the ground. Pollutants generated in the coastal portions of the basin undergo photochemical reactions converting them to smog, which is then transported inland by the prevailing daytime onshore winds. The project area typically has poor air quality in the summer and good air quality in the winter due to the combination of onshore and offshore winds, summer inversions and high levels of emissions generated within the air basin.

An Air Quality Impact Analysis prepared by JE Compliance Services, Inc for the project is the basis for much of the information provided in this section. The Air Quality Technical Study is provided as Appendix 2 to this document. Ambient air quality standards (AAQS) are the levels of air quality considered safe, with an adequate margin of safety, to protect the public health and safety. They are designed to protect those people most susceptible to respiratory distress, such as asthmatics, the elderly, very young children, people already weakened by other disease or illness, and people engaged in strenuous work or exercise, called "sensitive receptors." Healthy adults can tolerate occasional exposure to air pollutant concentrations considerably above these minimum standards before adverse effects are observed. Recent research suggests, however, that long-term exposure to air pollution at levels that meet air quality standards may nevertheless have adverse health effects. For example, ozone exposure even at levels close to the ambient standard may lead to adverse respiratory health.

The federal Clean Air Act (CAA), the California Clean Air Act (CCAA), and the Air Quality Management Plan (AQMP), prepared and adopted by the SCAQMD, regulate air quality in the air basin. The following discussion describes the regulatory authority of the federal, state and local jurisdictions. The Federal CAA Amendments of 1990 required that the U.S. EPA review all national AAQS with respect to health impacts and propose modifications or new rules as appropriate. In addition, the amendments of the 1990 federal CAA are associated with the attainment and maintenance of air quality standards, permits and enforcement, toxic air pollutants, acid deposition, stratospheric ozone protection and motor vehicles and fuels.

The goal of Title I, the non-attainment provision, is to attain air quality standards for six criteria pollutants: ozone, oxides of nitrogen, oxides of sulfur, particulate matter (PM_{10}), carbon monoxide, and lead. All non-attainment areas are designated or classified based on the severity of their non- attainment problem. These classifications determine the extent to which remedial actions must be taken within a given air quality planning area. The SoCAB is an air quality planning area designated non-attainment by federal and state standards for ozone (O_3) and particulate matter ($PM_{2.5}$ and PM_{10}). Federal ambient air quality standards are summarized in Table III-1.

The CCAA, passed by the California Legislature and signed into law by the Governor in 1988, is a comprehensive air pollution control agenda for the state of California. State standards are, in most cases, more stringent than federal standards. The goal of the CCAA is to attain state air quality standards by the earliest practical date. Because California established AAQS several years before the federal action and because of unique air quality problems introduced by the restrictive dispersion meteorology in much of California, there is a considerable difference between state and national clean air standards. Those standards currently in effect in California are shown on Table III-1.

Table III-1
STATE OF CALIFORNIA AIR RESOURCES BOARD AMBIENT AIR QUALITY STANDARDS

Pollutant	Average Time	California Standards [1]		National Standards [2]		
		Concentration [3]	Method [4]	Primary [3,5]	Secondary [3,6]	Method [7]
Ozone (O3)	1 Hour	0.09 ppm (180 µg/m3)	Ultraviolet Photometry	–	Same as Primary Standard	Ultraviolet Photometry
	8 Hour	0.070 ppm (137 µg/m3)		0.08 ppm (157 µg/m3)		
Respirable Particulate Matter (PM10)	24 Hour	50 µg/m3	Gravimetric or Beta Attenuation	150 µg/m3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m3		–		
Fine Particulate Matter (PM2.5)	24 Hour	No Separate State Standard		35 µg/m3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m3	Gravimetric or Beta Attenuation	15 µg/m3		
Carbon Monoxide (CO)	8 Hour	9.0 ppm (10 mg/m3)	Non-Dispersive Infrared Photometry (NDIR)	9 ppm (10 mg/m3)	None	Non-Dispersive Infrared Photometry (NDIR)
	1 Hour	20 ppm (23 mg/m3)		35 ppm (40 mg/m3)		
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m3)		–	–	–
Nitrogen Dioxide (NO2) *	Annual Arithmetic Mean	0.030 ppm (56 µg/m3)	Gas Phase Chemiluminescence	0.053 ppm (100 µg/m3)	Same as Primary Standard	Gas Phase Chemiluminescence
	1 Hour	0.18 ppm (338 µg/m3		–		
Sulfur Dioxide (SO2)	Annual Arithmetic Mean	–	Ultraviolet Fluorescence	0.030 ppm (80 µg/m3)	–	Spectrophotometry (Paraosaniline Method)
	24 Hour	0.04 ppm (105 µg/m3)		0.14 ppm (365 µg/m3)	–	
	3 Hour	–		–	0.5 ppm (1300 µg/m3)	
	1 Hour	0.25 ppm (655 µg/m3)		–	–	–
Lead 8	30-Day Average	1.5 µg/m3		–	–	–
	Calendar Quarter	–		1.5 µg/m3	Same as Primary Standard	High Volume Sampler and Atomic Absorption
Visibility Reducing Particles	8 Hour	Extinction coefficient of 0.23 per kilometer – visibility of 10 miles or more (0.07 - 30 miles or more for Lake Tahoe) due to particles when relative humidity is less than 70 percent. Method: Beta Attenuation and Transmittance through Filter Tape.		**No Federal Standards**		
Sulfates	24 Hour	25 µg/m3	Ion Chromatography			
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m3)	Ultraviolet Fluorescence			
Vinyl Chloride 8	24 Hour	0.01 ppm (26 µg/m3)	Gas Chromatography			

Note: * On February 19, 2008, the Office of Administrative Law approved a new Nitrogen Dioxide ambient air quality standard, which lowers the 1-hour standard to 0.18 ppm and establish a new annual standard of 0.030 ppm. These changes will become effective March 20, 2008.

Footnotes

1 California standards for ozone, carbon monoxide (except Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, suspended particulate matter – PM10, PM2.5, and visibility reducing particles, are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

2 National standards (other than ozone, particulate matter, and those based on annual averages or annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest eight hour concentration in a year, averaged over three years, is equal to or less than the standard. For PM10, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m3 is equal to or less than one. For PM2.5, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over 3 years, are equal to or less than the standard. Contact U.S. EPA for further clarification and current federal policies.

3 Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

4 Any equivalent procedure which can be shown to the satisfaction of the ARB to give equivalent results at or near the level of the air quality standard may be used.

5 National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.

6 National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

7 Reference method as described by the EPA. An “equivalent method” of measurement may be used but must have a “consistent relationship to the reference method” and must be approved by the EPA.

8 The ARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

Source: California Air Resources Board (02/21/08)

The CCAA requires each air pollution control district of an air basin designated as in non-attainment of state ambient air quality standards to prepare and submit a plan for attaining and maintaining state standards. After further review of the relationship between fine particulate matter and human health effects, the California Air Resources Board (CARB) adopted new state standards on June 20, 2002 for $PM_{2.5}$ that are more stringent than the federal standards. No specific control programs are in place to achieve this much more stringent standard. However, it does represent an air quality goal to dramatically reduce the adverse health effects from small-particle air pollution. Health effects from air pollutants are summarized in Table III-2.

Each attainment plan must define the present and anticipated extent of non-attainment, including adopted and proposed measures to reduce emissions of the pollutant and/or its precursors, and their anticipated effectiveness; the availability and effectiveness of additional control measures; the earliest practicable attainment date; any legal, technological, or administrative impediment to developing and implementing an attainment plan; the relative significance of both natural and windblown emissions; and any additional information needed with respect to ambient air monitoring and air quality computer modeling, and estimated budgetary requirements to obtain the information.

Some of the CCAA requirements include reducing pollutants contributing to non-attainment by 5 percent per year, or 15 percent over a 3-year period, achieving an average commuter ridership of 1.3 persons per vehicle, reducing non-attainment pollutant exposures by 30 percent, and ranking control measures by implementation priorities.

There are no AAQS for non-criteria pollutants (such as diesel exhaust–the ARB identified diesel exhaust as a toxic air contaminant in 1998). Therefore, other guidelines are used to evaluate the potential air quality impact of diesel exhaust. For non-cancer effects, the California AB 2588 Air Toxics Hot Spots program criteria identify a hazard index. The hazard index (HI) is the ratio of a modeled concentration to a concentration (termed the reference exposure level) determined by the State of California Office of Environmental Health Hazard Assessment (OEHHA) below which no adverse health effects are expected to occur. This reference concentration for diesel exhaust is 5 ug/m^3. If the hazard index is less than 1.0, then health effects are not expected. For cancer effects, Proposition 65 established the criteria of no significant risk level of 10 incremental cancers per one million exposed persons (10 x 10^{-6}).

Table III-2
HEALTH EFFECTS SUMMARY FOR AIR POLLUTANTS

Pollutants	Sources	Primary Effects
Ozone	Atmospheric reaction of organic gases with nitrogen oxides in sunlight.	Aggravation of respiratory and cardiovascular diseases. Irrigation of eyes. Impairment of cardiopulmonary function. Plant leaf injury.
Nitrogen Dioxide	Motor vehicle exhaust. High temperature. Stationary combustion. Atmospheric reactions.	Aggravation of respiratory illness. Reduced visibility. Reduced plant growth. Formation of acid rain.
Carbon Monoxide	Incomplete combustion of fuels and other carbon-containing substances, such as motor vehicle exhaust. Natural events, such as decomposition of organic matter.	Reduced tolerance for exercise. Impairment of mental function. Impairment of fetal development. Death at high levels of exposure. Aggravation of some heart disease (angina).
Fine Particulate Matter (PM-10)	Stationary combustion of solid fuels. Construction activities. Industrial processes. Atmospheric chemical reactions.	Reduced lung function. Aggravation of the effects of gaseous pollutants. Aggravation of respiratory and cardiorespiratory diseases. Increased cough and chest discomfort. Soiling. Reduced visibility.
Fine Particulate Matter (PM-2.5)	Fuel combustion in motor vehicles, equipment and industrial sources. Residential and agricultural burning. Industrial processes. Also, formed from photochemical reactions of other pollutants, including NOx, sulfur oxides and organics.	Increases respiratory disease. Lung damage. Cancer and premature death. Reduces visibility and results in surface soiling.
Sulfur Dioxide	Combustion of sulfur-containing fossil fuels. Smelting of sulfur-bearing metal ores. Industrial processes.	Aggravation of respiratory diseases (asthma, emphysema). Reduced lung function. Irritation of eyes. Reduced visibility. Plant injury. Deterioration of metals, textiles, leather, finishes, coating, etc.
Lead	Contaminated soil.	Impairment of blood functions and nerve construction. Behavioral and hearing problems in children.

Source: California Air Resources Board, 2002.

The CARB coordinates and oversees both State and federal air pollution control programs in California, and has divided the State into 15 air basins. Significant authority for air quality control within each basin has been given to local Air Pollution Control Districts (APCD) or Air Quality Management Districts (AQMD) that regulate stationary source emissions and develop local non-attainment plans. The SCAQMD has jurisdiction over the air basin in which the proposed project is located and is responsible

for regulating stationary source emissions, and has been given the authority to regulate mobile emissions as an indirect source. The SCAQMD jurisdiction includes the South Coast Air Basin, portions of the Mojave Desert Air Basin and the Salton Sea Air Basin. The SoCAB includes Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino Counties and includes the project location. The SoCAB has an area of about 6,800 sq. miles and a 2005 population estimated to be 16 million people.

Regional Air Quality

Monitoring of air quality in the project area is the responsibility of the SCAQMD. The SCAQMD monitors concentrations of criteria air pollutants throughout Los Angeles, Orange, Riverside and San Bernardino County at 33 monitoring stations. SCAQMD monitoring stations representative of the Chino Basin are the Norco/Corona Station (No.22), Metropolitan Riverside County Stations 1 and 2 (No.23), Northwest San Bernardino Valley Station (No.32), Southwest San Bernardino Valley Station (No.33) and Central San Bernardino Valley Stations 1 and 2 (No.34). The air quality monitoring data from these stations is provided on Table III-3. Pollutant concentrations exceed the federal and State standards for ozone and particulate matter. Consequently, the SoCAB is in exceedance of standards for ozone, PM_{10} and $PM_{2.5}$. The Basin is the only air basin in the nation classified as in "extreme" non-attainment for ozone.

The SoCAB air quality problems are caused by: its location in a large urban area where substantial air pollutant emissions are generated on a daily basis; meteorological conditions and topographical constraints that slow down dispersal of pollutants out of the basin; a low ability to disperse pollutants vertically in the atmosphere; and a sunny climate that provides the photochemical energy that increases creation of ozone and other pollutants. Though there has been overall improvement in the SoCAB during the last several decades, it still has some of the poorest air quality in the nation.

Table III-3
NUMBER OF DAYS ABOVE THE STANDARD AND MAXIMUM OBSERVED CONCENTRATIONS IN 2007

Pollutant/Standard	St. 22 Norco/Corona	St. 23 Metro Riv Co 1	St. 23 Metro Riv Co 2	St. 32 NW San Brdo Valley	St. 33 SW San Brdo Valley	St. 34 Central San Brdo Valley 1	St. 34 Central San Brdo Valley 2
Ozone							
1-Hour > 0.09 ppm (S)	-	31	-	32	-	40	48
1-Hour > 0.12 ppm (F)*	-	2	-	7	-	9	8
8-Hour > 0.07 ppm (S)	-	69	-	55	-	60	74
8-Hour > 0.075 ppm (F)	-	46	-	35	-	43	51
Max. 1-Hour Conc. (ppm)	-	0.131	-	0.145	-	0.144	0.153
Carbon Monoxide							
1-Hour > 20 ppm (S)	-	0	0	0	-	0	0
8-Hour > 9 ppm (S,F)	-	0	0	0	-	0	0
Max. 1-Hour Conc. (ppm)	-	4.0	4.0	2.0	-	3.0	4.0
Max. 8-Hour Conc. (ppm)	-	2.9	2.1	1.7	-	1.8	2.3
Nitrogen Dioxide							
1-Hour > 0.18 ppm (S)	-	0	-	0	-	0	0
Max. 1-Hour Conc. (ppm)	-	0.07	-	0.10	-	0.09	0.08
Inhalable Particulates (PM10)							
24-Hour > 50 mg/m3 (S)#	17%	57%	-	-	24%	59%	49%
24-Hour > 150 mg/m3 (F)	0	0	-	-	0	0	0
Max. 24-Hour Conc. (ug/m3)	93	118	-	-	115	111	136
Ultra-Fine Particulates (PM2.5)							
24-Hour > 65 mg/m3 (F)#	-	11.2%	7.9%	-	5.9%	9.3%	11.1%
Max. 24-Hour Conc. (ug/m3)	-	75.7	68.6	-	72.8	77.5	72.1

Notes: * standard revoked in 2006; (S) - State ambient standard; (F) - Federal ambient standard
data represent % of samples exceeding standards

Source: SCAQMD 2007 Air Quality Monitoring Summary; note the 2008 Summary has not yet been released

The SoCAB is in non-attainment for ozone and particulate matter, but primary pollutants such as carbon monoxide (CO), nitrogen oxides (NOx), sulfur dioxide, sulfate, and lead do not exceed allowable levels and the SoCAB is in attainment for these criteria pollutants. Certain attainment pollutants are managed under a maintenance plan.

The SCAQMD CEQA Air Quality Handbook (1993) identifies specific quantitative emission thresholds that are recommended to local agencies for determining significance of air emissions from a specific project. These thresholds are listed in Tables III-4 and III-5.

Table III-4
CONSTRUCTION THRESHOLDS

Pollutant	Threshold (lb/day)	Threshold (tons/quarter)
Carbon Monoxide (CO)	550	24.75
Sulfur Oxides (SO_2)	150	6.75
Reactive Organic Compounds (ROC)	75	2.5
Nitrogen Oxide (NOx)	100	2.5
Particulate Matter (PM_{10})	150	6.75

Operation or occupancy related air emissions are considered to be significant in the SoCAB if they exceed any of the thresholds shown on Table III-5 after a development becomes occupied.

Table III-5
OPERATIONAL SIGNIFICANCE THRESHOLDS

Pollutant	Threshold (lb/day)
Carbon Monoxide (CO)	550
Sulfur Oxides (SO_2)	150
Reactive Organic Compounds (ROC)	55
Nitrogen Oxide (NOx)	55
Particulate Matter (PM_{10})	150

SCAQMD states the following additional indicators should be used as screening criteria to determine if a project needs additional air quality evaluation:

- Project could interfere with the attainment of the federal or state ambient air quality standards by either violating or contributing to an existing or projected air quality violation
- Project could generate vehicle trips that cause a CO hot spot.
- Project could result in population increases within the regional statistical area which would be in excess of that projected in the AQMP and in other than planned locations for the project's build-out year

Project Impacts

a. *Less Than Significant Impact* – The SoCAB is designated non-attainment by federal and state standards for ozone and particulate matter ($PM_{2.5}$ and PM_{10}). These classifications determine the extent to which remedial actions must be taken within a given planning area.

The CCAA requires each air pollution control district designated as in non-attainment of state ambient air quality standards to prepare and submit a plan for attaining and maintaining state standards. After further review of the relationship between fine particulate matter and human health effects, the California Air Resources Board (CARB) adopted new state standards on June 20, 2002 for $PM_{2.5}$ that are more stringent than the federal standards. No specific control programs are in place to achieve this much more stringent standard. However, it does represent an air quality goal to dramatically reduce the adverse health effects from small-particle air pollution. Health effects from air pollutants are summarized in III-8 under item (d) of this section.

Potential short-term air quality impacts attributable to the project are generally due to grading and facility construction activities. Potential long-term air quality impacts would be due to an increase in vehicle trips or increased electrical demand required to support Desalter Phase 3 operations. Water related infrastructure, such as that proposed requires very few vehicle trips for maintenance and operation, typically less than one trip per day per facility. The impact of increased pumping and water treatment activity on electrical usage would be very small relative to the overall electrical demand of the region served; and it will be less per acre-foot than importing water, assuming it would be available. Construction emissions include onsite generation of dust, off-gasing of paving materials and equipment exhaust, and offsite emissions from construction employee commuting and/or trucks delivering building materials.

Comparing the emission forecasts contained in construction emission tables below to the SCAQMD emission thresholds in Table III-4, the mitigated emissions of criteria pollutants from the construction phase of the project do not exceed the regional significance thresholds. Therefore, construction emissions are not considered to result in significant adverse impacts or any conflicts with the SCAQMD AQMP.

Comparing the emission forecasts contained in operating emission tables below to the SCAQMD emission thresholds in Table 4.2-5, the unmitigated emissions of criteria pollutants from the operational phases of the project do not exceed the regional significance thresholds. Therefore, operating emissions are not considered to result in significant adverse impacts or any conflicts with the SCAQMD AQMP.

A comparison to localized significance thresholds (LSTs) to project construction emissions indicates that with implementation of mitigation measures, particularly setbacks from sensitive receptors, these thresholds are also not exceeded. Thus, no conflict with the SCAQMD AQMP for local emission thresholds is forecast to result from project implementation.

The SoCAB is designated as a non-attainment area for $PM_{2.5}$ and PM_{10} and ozone. The SoCAB is designated as an attainment area with a maintenance plan for carbon monoxide (CO) and nitrogen dioxide (NO_2). Based on the annual forecast construction emissions, the proposed project is not forecast to conflict with or obstruct implementation of the applicable air quality plan. Construction and operational emissions do not exceed the *de minimus* thresholds established in 40 CFR 93.153. In fact because this project will reduce imported water supplies over time, a net reduction (unquantifiable) in emissions will occur due to the high energy consumption related to the transport of water to the Chino Basin, be it from the State Water Project or from the Colorado River.

b-d & f. *Less Than Significant With Mitigation Incorporation* – The Jorgensen Air Quality Analysis (Appendix 2) evaluated the following Desalter Phase 3 Expansion Project facilities and activities: installation of 60,000 lineal feet of pipeline in developed and undeveloped areas; installation of a five million gallon reservoir; installation of booster stations; installation of production and monitoring wells; installation of a regenerable treatment facility; and the expansion of an existing desalter facility. All detailed assumptions and the methodology of evaluation is provided in Appendix 2. The following is a summary of the emission forecast abstracted from Appendix 2. Table numbers from

the Jorgensen report have been revised to coincide with the sequential numbering in this document instead of the text in Appendix 2.

South Coast Air Quality Management District (SCAQMD) publishes screening levels to determine if a project is regionally significant. Unmitigated criteria pollutant emissions from the construction phase of the project area provided in Table III-6 through Table III-11. Unmitigated emissions of PM10 and PM2.5 from the pipeline phases exceed the LSTs. Unmitigated emissions of the remaining criteria pollutants do not exceed the LSTs. The emissions of criteria pollutants from the construction phase do not exceed the regional significance levels. Unmitigated criteria pollutant emissions from the operational phases of the project are provided in Table III-11 through Table III-15. Unmitigated emissions from the operation phase of the project do not exceed the regional significance levels or the LSTs.

Mitigated criteria pollutant emissions from the all specific facility construction phases of the project are provided in Tables III-16 through III-21. The mitigated emissions of criteria pollutants from the construction phase do not exceed the regional significance levels. At the request of CDA, several combined facility construction scenarios were also examined in the Jorgensen report. Table III-22 contains an emission forecast for construction of several facilities (two pipeline headings, a booster station, desalter expansion and two well equipping activities) and shows that these activities can be carried out concurrently without exceeding thresholds, with mitigation. Table III-23 contains an emission forecast for construction of a different suite of facilities (drilling two production wells and equipping one well) and shows that these activities can be carried out concurrently without exceeding thresholds, with mitigation.

The SCAQMD has a proposed interim greenhouse gas significance threshold of 10,000 metric tons of carbon dioxide equivalents per year. Construction emissions from a project are to be amortized over a 30 year period and added to the annual operating emissions. CDA concurs that the 10,000 metric ton threshold for "industrial" projects is an appropriate threshold for determining significance of construction and operation activities of the Desalter Phase 3 project. Based on federal conformity calculations, the annual quantity of carbon dioxide emitted from the project will not exceed 10,000 metric tons.

The South Coast Air Basin ("basin") is designated as a non-attainment area for PM10, PM2.5, and ozone. The basin is designated as an attainment area with a maintenance plan for CO and nitrogen dioxide (NO2). The basin is designated as an attainment area for SO2. The attainment status of the criteria pollutants is summarized in Table III-24.

Table III-24
Attainment Status for Criteria Pollutants

Pollutant	Status
CO	Attainment (maintenance plan)
SOx	Attainment
NOx	Attainment (maintenance plan)
PM10	Non-attainment (serious)
PM2.5	Non-attainment
Ozone (1-hr)	Non-attainment (extreme)
Ozone (8-hr)	Non-attainment (extreme)

Construction and operational emission do not exceed the de minimis thresholds established in 40 CFR 93.153. Construction and operational emissions (in tons per year) for the expansion project and the corresponding de minimis thresholds are provided in Table III-25 through III-29.

Average annual daily emissions (in tons per day) for 2014 are provided in the 2007 Air Quality Management Plan issued by SCAQMD in June 2007. Annual emissions for CO, NOx, and VOC were estimated by taking the average daily planning inventory emissions for 2014 and multiplying by 365 days. Annual emissions for PM2.5 and SO2 were estimated by taking the predicted average daily emissions for 2014 and multiplying by 365 days. Since predicted average daily emissions for PM10 were not provided in the plan, emissions for PM 2.5 were used for comparison purposes. The emission from construction and operation (in tons per year) are below 10 percent of the emission inventories for the basin.

Based on the detailed air emissions forecast summarized above and provided in detail in Appendix 2, the proposed project will not exceed any criteria pollutant significance thresholds during construction or operation. Mitigation is required to control certain emissions below a level of significance. The following measures will need to be implemented during construction.

III-1 The project is restricted to the maximum mix of construction activities listed in Tables III-22 and III-23, although alternative construction activities may be conducted concurrently as long as the SCAQMD daily significance thresholds are not exceeded.

III-2 All offroad construction equipment shall be either Tier 3 or Tier 4 certified for this project.

III-3 All active pipeline construction areas shall be watered a minimum of three times daily (61% reduction in PM2.5 and PM10 emissions).

III-4 Active grading for a reservoir, if constructed, shall not exceed an area greater than 1.5 acres per day.

III-5 Production and monitoring wells shall be located at least 50 meters from the nearest sensitive receptor.

III-6 Reservoirs must be located at least 50 meters from the nearest sensitive receptor.

With implementation of these measures, none of the construction activities or facility operations associated with the Desalter Phase 3 Expansion Project are forecast to cause significant adverse air quality impacts.

e. *Less than Significant Impact* – The only odor generating activities associated with the proposed Desalter Phase 3 Expansion Project are construction related activities, including paving and diesel exhaust from construction equipment. Both of these odors are common in the urban environment and due to the type of proposed construction activities will be short term impacts in areas where sensitive receptors exist, such as residences adjacent to existing roadways. Based on the lack of receptors, the common character of the type of odor emissions, and the short-term of odor generation activities, no significant odor impacts are forecast to result from implementing the proposed project.

Conclusion

Based on the detailed Air Quality Analysis provided in Appendix 2 and summarized above, the Desalter Phase 3 Expansion project is not forecast to cause significant air quality impacts during construction or operation. Further, the proposed project will not exceed federal conformity requirements because annual construction and operation emissions were determined to be *de minimis.*

Table III-6
MAXIMUM DAILY UNMITIGATED CONSTRUCTION EMISSIONS FOR PIPELINE CONSTRUCTION, DEVELOPED (2011), lbs/day

Activity	Source	VOC	NOx	CO	SO2	PM10 (Dust)	PM10 (Exh)	PM10 (Total)	PM2.5 (Dust)	PM2.5 (Exh)	PM2.5 (Total)	CO2	CH4
Pipeline construction	Fugitive dust	0	0	0	0	5.00	0	5.00	1.05	0	1.05	0	0
Pipeline construction	Off-road equipment	3.15	24.18	14.83	0.03	0	1.30	1.30	0	1.16	1.16	2,549.36	0.28
Pipeline construction	On-road equipment	0.78	9.68	10.94	0.01	0.47	0.47	0.94	0.40	0.44	0.84	1,181.73	0.04
Pipeline construction	Worker trips	0.41	0.41	3.97	0.01	0.04	0	0.04	0.03	0	0.03	529.13	0.04
Pipeline construction	Steel manufacturing	0	0	0	0	0	0	0	0	0	0	17,500.00	0
Pipeline construction	Off-gas	1.01E-02	0	0	0	0	0	0	0	0	0	0	0
Maximum daily emissions		4.35	34.26	29.73	0.04	5.51	1.78	7.29	1.48	1.60	3.08	21,760.21	0.36
Maximum onsite daily emissions		3.15	24.18	14.83	0.03	**5.00**	1.30	**6.30**	1.05	1.16	2.21	2,549.36	0.28
Regional significance threshold		75	100	550	150	150	150	150	55	55	55	-	-
Localized significance threshold - Norco/Corona[1]		-	118	674	-	4	4	4	3	3	3	-	-
Localized significance threshold - Mira Loma[2]		-	118	602	-	4	4	4	3	3	3	-	-
Localized significance threshold - Ontario/Chino/Chino Hills[3]		-	118	863	-	5	5	5	4	4	4	-	-

Note 1: Localized significance threshold based on project area size of one acre and sensitive receptor distance of 25 meters from project boundary.

Note 2: Localized significance threshold based on project area size of one acre and sensitive receptor distance of 25 meters from project boundary.

Note 3: Localized significance threshold based on project area size of one acre and sensitive receptor distance of 25 meters from project boundary.

Table III-7
MAXIMUM DAILY UNMITIGATED CONSTRUCTION EMISSIONS FOR RESERVOIR CONSTRUCTION (2011), lbs/day

Activity	Source	VOC	NOx	CO	SO2	PM10 (Dust)	PM10 (Exh)	PM10 (Total)	PM2.5 (Dust)	PM2.5 (Exh)	PM2.5 (Total)	CO2	CH4
Reservoir construction	Mass grading	6.13	49.38	24.55	0.06	15.03	2.31	17.34	3.17	2.06	5.23	5,354.17	0.55
Reservoir construction	Foundation	1.32	7.76	6.68	0.01	0.05	0.52	0.58	0.04	0.46	0.51	9,845.35	0.12
Reservoir construction	Paving	3.17	20.58	12.84	0.02	0.22	1.38	1.60	0.18	1.24	1.42	2,253.80	0.27
Reservoir construction	Construction	3.83	32.57	15.49	0.04	0.52	1.71	2.23	0.45	1.54	1.99	975,995.19	0.31
Reservoir construction	Architectural coating	32.92	0.14	1.32	0	0.01	0	0	0.01	0	0.01	176.38	0.01
Maximum daily emissions		32.92	49.38	24.55	0.06	15.03	2.31	17.34	3.17	2.06	5.23	975,995.19	0.55
Maximum onsite daily emissions		32.78	49.11	21.91	0.05	15.00	2.31	17.31	3.15	2.06	5.21	5,001.42	0.53
Regional significance threshold		75	100	550	150	150	150	150	55	55	55	-	-
Localized significance threshold - Norco/Corona[1]		-	200	1,474	-	18	18	18	7	7	7	-	-
Localized significance threshold - Mira Loma[2]		-	200	1,262	-	20	20	20	6	6	6	-	-
Localized significance threshold - Ontario/Chino/Chino Hills[3]		-	200	1,877	-	19	19	19	8	8	8	-	-

Note 1: Localized significance threshold based on project area size of two acres and sensitive receptor distance of 50 meters from project boundary.

Note 2: Localized significance threshold based on project area size of two acres and sensitive receptor distance of 50 meters from project boundary.

Note 3: Localized significance threshold based on project area size of two acres and sensitive receptor distance of 50 meters from project boundary.

Table III-8
MAXIMUM DAILY UNMITIGATED CONSTRUCTION EMISSIONS FOR BOOSTER STATION CONSTRUCTION OR DESALTER EXPANSION (2011), lbs/day

Activity	Source	VOC	NOx	CO	SO2	PM10 (Dust)	PM10 (Exh)	PM10 (Total)	PM2.5 (Dust)	PM2.5 (Exh)	PM2.5 (Total)	CO2	CH4
Booster station or desalter	Mass grading	2.56	21.38	9.58	0.03	1.02	0.90	1.92	0.22	0.80	1.02	2,577.49	0.23
Booster station or desalter	Foundation	2.95	25.63	10.91	0.03	0.22	1.13	1.34	0.18	1.01	1.19	5,184.87	0.25
Booster station or desalter	Trenching	0.55	2.68	3.20	0.01	0.02	0.19	0.21	0.01	0.17	0.18	487.69	0.05
Booster station or desalter	Construction	1.96	15.27	8.49	0.02	0.22	0.89	1.11	0.18	0.80	0.98	5,289.86	0.16
Booster station or desalter	Architectural coating	49.47	0.17	1.65	0	0.02	0	0.02	0.01	0	0.01	220.47	0.02
Maximum daily emissions		49.47	25.63	10.91	0.03	1.02	1.13	1.92	0.22	1.01	1.19	5,289.86	0.25
Maximum onsite daily emissions		49.30	21.32	7.93	0.03	1.00	0.92	1.90	0.21	0.82	1.01	2,481.57	0.22
Regional significance threshold		75	100	550	150	150	150	150	55	55	55	-	-
Localized significance threshold - Mira Loma[1]		-	118	602	-	178	178	178	86	86	86	-	-
Localized significance threshold - Ontario/Chino/Chino Hills[2]		-	118	863	-	44	44	44	12	12	12	-	-

Note 1: Localized significance threshold based on project area size of one acre and sensitive receptor distance of 500 meters from project boundary for PM and 25 meters from project boundary for CO and NOx.

Note 2: Localized significance threshold based on project area size of one acre and sensitive receptor distance of 100 meters from project boundary and 25 meters from project boundary for CO and NOx.

Table III-9
MAXIMUM DAILY UNMITIGATED CONSTRUCTION EMISSIONS FOR PRODUCTION WELL CONSTRUCTION (2011), lbs/day

Activity	Source	VOC	NOx	CO	SO2	PM10 (Dust)	PM10 (Exh)	PM10 (Total)	PM2.5 (Dust)	PM2.5 (Exh)	PM2.5 (Total)	CO2	CH4
Production well construction	Fugitive dust	0	0	0	0	2.50	0	2.50	0.53	0	0.53	0	0
Production well construction	Off-road equipment	5.31	46.60	22.69	0.06	0	2.13	2.13	0	2.13	2.13	5,959.23	0.48
Production well construction	On-road equipment	0.76	9.33	3.00	0.01	0.45	0.45	0.91	0.39	0.42	0.81	1,139.52	0.03
Production well construction	Worker trips	0.07	0.07	0.66	8.62E-04	7.10E-03	0	7.10E-03	4.52E-03	0	4.52E-03	88.19	6.14E-03
Production well construction	Steel manufacturing	0	0	0	0	0	0	0	0	0	0	2,345.00	0
Production well construction	Concrete manufacturing	0	0	0	0	0	0	0	0	0	0	108.70	0
Maximum daily emissions		6.14	56.00	26.35	0.08	2.96	2.58	5.54	0.92	2.55	3.47	9,640.64	0.52
Maximum onsite daily emissions		5.31	46.60	22.69	0.06	2.50	2.13	4.63	0.53	2.13	2.65	5,959.23	0.48
Regional significance threshold		75	100	550	150	150	150	150	55	55	55	-	-
Localized significance threshold - Mira Loma[1]		-	148	887	-	12	12	12	4	4	4	-	-
Localized significance threshold - Ontario/Chino/Chino Hills[2]		-	148	1,328	-	14	14	14	6	6	6	-	-

Note 1: Localized significance threshold based on project area size of one acre and sensitive receptor distance of 50 meters from project boundary.

Note 2: Localized significance threshold based on project area size of one acre and sensitive receptor distance of 50 meters from project boundary.

Table III-10
MAXIMUM DAILY UNMITIGATED CONSTRUCTION EMISSIONS FOR MONITORING WELL CONSTRUCTION (2011), lbs/day

Activity	Source	VOC	NOx	CO	SO2	PM10 (Dust)	PM10 (Exh)	PM10 (Total)	PM2.5 (Dust)	PM2.5 (Exh)	PM2.5 (Total)	CO2	CH4
Monitoring well construction	Fugitive dust	0	0	0	0	5.00	0	5.00	1.05	0	1.05	0	0
Monitoring well construction	Off-road equipment	4.59	41.71	20.12	0.06	0	2.09	2.09	0	1.86	1.86	5,471.29	0.41
Monitoring well construction	On-road equipment	0.67	8.20	2.64	9.43E-03	0.40	0.40	0.79	0.34	0.37	0.71	1,001.39	0.03
Monitoring well construction	Worker trips	0.07	0.07	0.66	8.62E-04	7.10E-03	0	7.10E-03	4.52E-03	0	4.52E-03	88.19	6.14E-03
Monitoring well construction	Steel manufacturing	0	0	0	0	0	0	0	0	0	0	2,333.33	0
Monitoring well construction	Concrete manufacturing	0	0	0	0	0	0	0	0	0	0	87.84	0
Maximum daily emissions		5.33	49.97	23.42	0.07	5.40	2.48	7.89	1.40	2.22	3.62	8,982.05	0.45
Maximum onsite daily emissions		4.59	41.71	20.12	0.06	5.00	2.09	7.09	1.05	1.86	2.91	5,471.29	0.41
Regional significance threshold		75	100	550	150	150	150	150	55	55	55	-	-
Localized significance threshold - Mira Loma[1]		-	148	887	-	12	12	12	4	4	4	-	-
Localized significance threshold - Ontario/Chino/Chino Hills[2]		-	148	1,328	-	14	14	14	6	6	6	-	-

Note 1: Localized significance threshold based on project area size of one acre and sensitive receptor distance of 50 meters from project boundary.

Note 2: Localized significance threshold based on project area size of one acre and sensitive receptor distance of 50 meters from project boundary.

Table III-11
MAXIMUM DAILY UNMITIGATED CONSTRUCTION EMISSIONS FOR TREATMENT FACILITY CONSTRUCTION (2011), lbs/day

Activity	Source	VOC	NOx	CO	SO2	PM10 (Dust)	PM10 (Exh)	PM10 (Total)	PM2.5 (Dust)	PM2.5 (Exh)	PM2.5 (Total)	CO2	CH4
Equipping wells	Off-road equipment	1.75	13.76	6.65	0.01	0.00	0.80	0.80	0.00	0.71	0.71	1,334.88	0.16
Equipping wells	On-road equipment	0.23	0.86	1.88	0.00	0.05	0.03	0.08	0.04	0.03	0.07	304.88	0.02
Equipping wells	Concrete manufacturing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3,705.70	0.00
Maximum daily emissions		1.98	14.62	8.53	0.02	0.05	0.83	0.88	0.04	0.74	0.78	5,345.46	0.18
Maximum onsite daily emissions		1.75	13.76	6.65	0.01	0.00	0.80	0.80	0.00	0.71	0.71	1,334.88	0.16
Regional significance threshold		75	100	550	150	150	150	150	55	55	55	-	-
Localized significance threshold - Mira Loma[1]		-	148	887	-	12	12	12	4	4	4	-	-
Localized significance threshold - Ontario/Chino/Chino Hills[2]		-	148	1,328	-	14	14	14	6	6	6	-	-

Note 1: Localized significance threshold based on project area size of one acre and sensitive receptor distance of 50 meters from project boundary.

Note 2: Localized significance threshold based on project area size of one acre and sensitive receptor distance of 50 meters from project boundary.

Table III-12
MAXIMUM DAILY UNMITIGATED OPERATIONAL EMISSIONS FROM RESERVOIR OPERATION (2011), lbs/day

Activity	Source	VOC	NOx	CO	SO2	PM10 (Dust)	PM10 (Exh)	PM10 (Total)	PM2.5 (Dust)	PM2.5 (Exh)	PM2.5 (Total)	CO2	CH4
Reservoir coating	Architectural coating	0.04	0	0	0	0	0	0	0	0	0	0	0
Maximum daily emissions		0.04	0	0	0	0	0	0	0	0	0	0	0
Maximum onsite daily emissions		0.04	0	0	0	0	0	0	0	0	0	0	0
Regional significance threshold		55	55	550	150	150	150	150	55	55	55	-	-
Localized significance threshold - Norco/Corona[1]		-	200	1,474	-	5	5	5	2	2	2	-	-
Localized significance threshold - Mira Loma[2]		-	200	1,262	-	5	5	5	2	2	2	-	-
Localized significance threshold - Ontario/Chino/Chino Hills[2]		-	200	1,877	-	5	5	5	2	2	2	-	-

Note 1: Localized significance threshold based on project area size of two acres and sensitive receptor distance of 50 meters from project boundary.

Note 2: Localized significance threshold based on project area size of two acres and sensitive receptor distance of 50 meters from project boundary.

Note 3: Localized significance threshold based on project area size of two acres and sensitive receptor distance of 50 meters from project boundary.

Table III-13
MAXIMUM DAILY UNMITIGATED OPERATIONAL EMISSIONS FROM BOOSTER STATION OPERATION (2011), lbs/day

Activity	Source	VOC	NOx	CO	SO2	PM10 (Dust)	PM10 (Exh)	PM10 (Total)	PM2.5 (Dust)	PM2.5 (Exh)	PM2.5 (Total)	CO2	CH4
Booster station operations	Vehicle trips	0.02	0.02	0.17	2.20E-04	1.78E-03	0	1.78E-03	1.13E-03	0	1.13E-03	22.05	1.54E-03
Booster station operations	Architectural coating	0.03	0	0	0	0	0	0	0	0	0	0	0
Maximum daily emissions		0.02	0.02	0.17	0.00	1.78E-03	0	0	1.13E-03	0	1.13E-03	22.05	0.00
Maximum onsite daily emissions		0.03	0	0	0	0	0	0	0	0	0	0	0
Regional significance threshold		55	100	550	150	150	150	150	55	55	55	-	-
Localized significance threshold - Mira Loma[1]		-	118	602	-	43	43	43	21	21	21	-	-
Localized significance threshold - Ontario/Chino/Chino Hills[2]		-	118	863	-	11	11	11	3	3	3	-	-

Note 1: Localized significance threshold based on project area size of one acre and sensitive receptor distance of 500 meters from project boundary for PM and 25 meters from project boundary for CO and NOx.

Note 2: Localized significance threshold based on project area size of one acre and sensitive receptor distance of 100 meters from project boundary and 25 meters from project boundary for CO and NOx.

Table III-14
MAXIMUM DAILY UNMITIGATED OPERATIONAL EMISSIONS FROM PRODUCTION WELL OPERATION (2011), lbs/day

Activity	Source	VOC	NOx	CO	SO2	PM10 (Dust)	PM10 (Exh)	PM10 (Total)	PM2.5 (Dust)	PM2.5 (Exh)	PM2.5 (Total)	CO2	CH4
Production well operations	Vehicle trips	0.02	0.02	0.17	2.20E-04	1.78E-03	0	1.78E-03	1.13E-03	0	1.13E-03	22.05	1.54E-03
Maximum daily emissions		0.02	0.02	0.17	0.00	1.78E-03	0.00	0.00	1.13E-03	0	1.13E-03	22.05	0.00
Maximum onsite daily emissions		0	0	0	0	0	0	0	0	0	0	0	0
Regional significance threshold		55	55	550	150	150	150	150	55	55	55	-	-
Localized significance threshold - Mira Loma[1]		-	148	887	-	3	3	3	1	1	1	-	-
Localized significance threshold - Ontario/Chino/Chino Hills[2]		-	148	1,328	-	4	4	4	2	2	2	-	-

Note 1: Localized significance threshold based on project area size of one acre and sensitive receptor distance of 50 meters from project boundary.

Note 2: Localized significance threshold based on project area size of one acre and sensitive receptor distance of 50 meters from project boundary.

Table III-15
MAXIMUM DAILY UNMITIGATED OPERATIONAL EMISSIONS FROM DESALTER FACILITY OPERATION (2011), lbs/day

Activity	Source	VOC	NOx	CO	SO2	PM10 (Dust)	PM10 (Exh)	PM10 (Total)	PM2.5 (Dust)	PM2.5 (Exh)	PM2.5 (Total)	CO2	CH4
Desalter facility operations	Electricity consumption	0	0	0	0	0	0	0	0	0	0	48,546.46	2.02
Desalter facility operations	Vehicle trips	0.10	0.10	0.99	0.00E+00	1.00E-02	0.00E+00	1.00E-02	1.00E-02	0.00E+00	1.00E-02	132.28	1.00E-02
Desalter facility operations	NaCl delivery	0.28	3.46	1.11	0.00E+00	1.70E-01	1.70E-01	3.40E-01	1.40E-01	1.60E-01	3.00E-01	422.05	1.00E-02
Desalter facility operations	Resin delivery	0.28	3.46	1.11	0.00E+00	1.70E-01	1.70E-01	3.40E-01	1.40E-01	1.60E-01	3.00E-01	422.05	1.00E-02
Desalter facility operations	Resin transfer offsite	0.28	3.46	1.11	0.00E+00	1.70E-01	1.70E-01	3.40E-01	1.40E-01	1.60E-01	3.00E-01	422.05	1.00E-02
Maximum daily emissions		0.94	10.48	4.32	0.00	0.52	0.51	1.03	0.43	0.48	0.91	49,944.89	2.06
Maximum onsite daily emissions		0	0	0	0	0	0	0	0	0	0	0	0
Regional significance threshold		55	55	550	150	150	150	150	55	55	55	-	-
Localized significance threshold - Mira Loma[1]		-	652	17,640	-	178	178	178	86	86	86	-	-

Note 1: Localized significance threshold based on project area size of one acre and sensitive receptor distance of 25 meters from project boundary.

Table III-16
MAXIMUM DAILY MITIGATED CONSTRUCTION EMISSIONS FOR PIPELINE CONSTRUCTION, DEVELOPED (2011), lbs/day

Activity	Source	VOC	NOx	CO	SO2	PM10 (Dust)	PM10 (Exh)	PM10 (Total)	PM2.5 (Dust)	PM2.5 (Exh)	PM2.5 (Total)	CO2	CH4
Pipeline construction	Fugitive dust	0	0	0	0	1.95	0	1.95	0.41	0	0.41	0	0
Pipeline construction	Off-road equipment	3.15	13.68	10.94	0.03	0	0.68	0.68	0	0.61	0.61	2,549.36	0.28
Pipeline construction	On-road equipment	0.78	9.68	3.11	0.01	0.47	0.47	0.94	0.40	0.44	0.84	1,181.73	0.04
Pipeline construction	Worker trips	0.41	0.41	3.97	0.01	0.04	0	0.04	0.03	0	0.03	529.13	0.04
Pipeline construction	Steel manufacturing	0	0	0	0	0	0	0	0	0	0	17,500.00	0
Pipeline construction	Off-gas	1.01E-02	0	0	0	0	0	0	0	0	0	0	0
Maximum daily emissions		4.35	23.76	18.02	0.04	2.46	1.16	3.61	0.84	1.04	1.89	21,760.21	0.36
Maximum onsite daily emissions		3.15	13.68	10.94	0.03	1.95	0.68	2.63	0.41	0.61	1.02	2,549.36	0.28
Regional significance threshold		75	100	550	150	150	150	150	55	55	55	-	-
Localized significance threshold - Norco/Corona[1]		-	118	674	-	4	4	4	3	3	3	-	-
Localized significance threshold - Mira Loma[2]		-	118	602	-	4	4	4	3	3	3	-	-
Localized significance threshold - Ontario/Chino/Chino Hills[3]		-	118	863	-	5	5	5	4	4	4	-	-

Note 1: Localized significance threshold based on project area size of one acre and sensitive receptor distance of 25 meters from project boundary.
Note 2: Localized significance threshold based on project area size of one acre and sensitive receptor distance of 25 meters from project boundary.
Note 3: Localized significance threshold based on project area size of one acre and sensitive receptor distance of 25 meters from project boundary.

Table III-17
MAXIMUM DAILY MITIGATED CONSTRUCTION EMISSIONS FOR RESERVOIR CONSTRUCTION (2011), lbs/day

Activity	Source	VOC	NOx	CO	SO2	PM10 (Dust)	PM10 (Exh)	PM10 (Total)	PM2.5 (Dust)	PM2.5 (Exh)	PM2.5 (Total)	CO2	CH4
Reservoir construction	Mass grading	6.13	24.99	24.55	0.06	5.88	1.06	6.94	1.25	0.95	2.19	5,354.17	0.55
Reservoir construction	Foundation	1.32	5.30	6.68	0.01	0.05	0.31	0.37	0.04	0.28	0.32	9,845.35	0.12
Reservoir construction	Paving	3.17	13.01	12.84	0.02	0.22	0.81	1.03	0.18	0.73	0.91	2,253.80	0.27
Reservoir construction	Construction	4.16	24.25	16.96	0.04	0.52	1.26	1.78	0.45	1.13	1.58	976,090.50	0.34
Reservoir construction	Architectural coating	32.92	0.14	1.32	0	0.01	0	0	0.01	0	0.01	176.38	0.01
Maximum daily emissions		32.92	24.99	24.55	0.06	5.88	1.26	6.94	1.25	1.13	2.19	976,090.50	0.55
Maximum onsite daily emissions		32.78	24.72	21.91	0.05	5.85	1.06	6.91	1.23	0.95	2.17	5,001.42	0.53
Regional significance threshold		75	100	550	150	150	150	150	55	55	55	-	-
Localized significance threshold - Norco/Corona[1]		-	200	1,474	-	18	18	18	7	7	7	-	-
Localized significance threshold - Mira Loma[2]		-	200	1,262	-	20	20	20	6	6	6	-	-
Localized significance threshold - Ontario/Chino/Chino Hills[3]		-	200	1,877	-	19	19	19	8	8	8	-	-

Note 1: Localized significance threshold based on project area size of two acres and sensitive receptor distance of 50 meters from project boundary.

Note 2: Localized significance threshold based on project area size of two acres and sensitive receptor distance of 50 meters from project boundary.

Note 3: Localized significance threshold based on project area size of two acres and sensitive receptor distance of 50 meters from project boundary.

Table III-18
MAXIMUM DAILY MITIGATED CONSTRUCTION EMISSIONS FOR BOOSTER STATION CONSTRUCTION/DESALTER EXPANSION (2011), lbs/day

Activity	Source	VOC	NOx	CO	SO2	PM10 (Dust)	PM10 (Exh)	PM10 (Total)	PM2.5 (Dust)	PM2.5 (Exh)	PM2.5 (Total)	CO2	CH4
Booster station or desalter	Mass grading	2.56	11.32	9.58	0.03	0.41	0.42	0.82	0.09	0.37	0.46	2,577.49	0.23
Booster station or desalter	Foundation	2.95	16.08	10.91	0.03	0.22	0.66	0.88	0.18	0.60	0.78	5,184.87	0.25
Booster station or desalter	Trenching	0.55	1.86	3.20	0.01	0.02	0.12	0.14	0.01	0.10	0.11	487.69	0.05
Booster station or desalter	Construction	1.96	10.59	8.49	0.02	0.22	0.56	0.78	0.18	0.51	0.69	5,289.86	0.16
Booster station or desalter	Architectural coating [3]	49.47	0.17	1.65	0	0.02	0	0.02	0.01	0	0.01	220.47	0.02
Maximum daily emissions		49.47	16.08	10.91	0.03	0.41	0.66	0.88	0.18	0.60	0.78	5,289.86	0.25
Maximum onsite daily emissions		49.30	11.77	7.93	0.03	0.39	0.46	0.81	0.08	0.41	0.45	2,481.57	0.22
Regional significance threshold		75	100	550	150	150	150	150	55	55	55	-	-
Localized significance threshold - Mira Loma[1]		-	118	602	-	178	178	178	86	86	86	-	-
Localized significance threshold - Ontario/Chino/Chino Hills[2]		-	118	863	-	44	44	44	12	12	12	-	-

Note 1: Localized significance threshold based on project area size of one acre and sensitive receptor distance of 500 meters from project boundary for PM and 25 meters from project boundary for CO and NOx.

Note 2: Localized significance threshold based on project area size of one acre and sensitive receptor distance of 100 meters from project boundary and 25 meters from project boundary for CO and NOx.

Note 3: Desalter expansion will not require architectural coating.

Table III-19
MAXIMUM DAILY MITIGATED CONSTRUCTION EMISSIONS FOR PRODUCTION WELL CONSTRUCTION (2011), lbs/day

Activity	Source	VOC	NOx	CO	SO2	PM10 (Dust)	PM10 (Exh)	PM10 (Total)	PM2.5 (Dust)	PM2.5 (Exh)	PM2.5 (Total)	CO2	CH4
Production well construction	Fugitive dust	0	0	0	0	0.98	0	0.98	0.20	0	0.20	0	0
Production well construction	Off-road equipment	5.31	34.88	22.69	0.06	0	1.48	1.48	0	1.48	1.48	5,959.23	0.48
Production well construction	On-road equipment	0.76	9.33	3.00	0.01	0.45	0.45	0.91	0.39	0.42	0.81	1,139.52	0.03
Production well construction	Worker trips	0.07	0.07	0.66	8.62E-04	7.10E-03	0	7.10E-03	4.52E-03	0	4.52E-03	88.19	6.14E-03
Production well construction	Steel manufacturing	0	0	0	0	0	0	0	0	0	0	2,345.00	0
Production well construction	Concrete manufacturing	0	0	0	0	0	0	0	0	0	0	108.70	0
Maximum daily emissions		6.14	44.27	26.35	0.08	1.44	1.93	3.36	0.60	1.90	2.50	9,640.64	0.52
Maximum onsite daily emissions		5.31	34.88	22.69	0.06	0.98	1.48	2.45	0.20	1.48	1.68	5,959.23	0.48
Regional significance threshold		75	100	550	150	150	150	150	55	55	55	-	-
Localized significance threshold - Mira Loma[1]		-	148	887	-	12	12	12	4	4	4	-	-
Localized significance threshold - Ontario/Chino/Chino Hills[2]		-	148	1,328	-	14	14	14	6	6	6	-	-

Note 1: Localized significance threshold based on project area size of one acre and sensitive receptor distance of 50 meters from project boundary.

Note 2: Localized significance threshold based on project area size of one acre and sensitive receptor distance of 50 meters from project boundary.

Table III-20
MAXIMUM DAILY MITIGATED CONSTRUCTION EMISSIONS FOR MONITORING WELL CONSTRUCTION (2011), lbs/day

Activity	Source	VOC	NOx	CO	SO2	PM10 (Dust)	PM10 (Exh)	PM10 (Total)	PM2.5 (Dust)	PM2.5 (Exh)	PM2.5 (Total)	CO2	CH4
Monitoring well construction	Fugitive dust	0	0	0	0	0.98	0	0.98	0.20	0	0.20	0	0
Monitoring well construction	Off-road equipment	4.59	32.03	20.12	0.06	0	1.47	1.47	0	1.31	1.31	5,471.29	0.41
Monitoring well construction	On-road equipment	0.67	8.20	2.64	9.43E-03	0.40	0.40	0.79	0.34	0.37	0.71	1,001.39	0.03
Monitoring well construction	Worker trips	0.07	0.07	0.66	8.62E-04	7.10E-03	0	7.10E-03	4.52E-03	0	4.52E-03	88.19	6.14E-03
Monitoring well construction	Steel manufacturing	0	0	0	0	0	0	0	0	0	0	2,333.33	0
Monitoring well construction	Concrete manufacturing	0	0	0	0	0	0	0	0	0	0	87.84	0
Maximum daily emissions		5.33	40.29	23.42	0.07	1.38	1.87	3.25	0.55	1.68	2.23	8,982.05	0.45
Maximum onsite daily emissions		4.59	32.03	20.12	0.06	0.98	1.47	2.45	0.20	1.31	1.52	5,471.29	0.41
Regional significance threshold		75	100	550	150	150	150	150	55	55	55	-	-
Localized significance threshold - Mira Loma[1]		-	148	887	-	12	12	12	4	4	4	-	-
Localized significance threshold - Ontario/Chino/Chino Hills[2]		-	148	1,328	-	14	14	14	6	6	6	-	-

Note 1: Localized significance threshold based on project area size of one acre and sensitive receptor distance of 50 meters from project boundary.

Note 2: Localized significance threshold based on project area size of one acre and sensitive receptor distance of 50 meters from project boundary.

Table III-21
MAXIMUM DAILY MITIGATED CONSTRUCTION EMISSIONS FOR EQUIPPING WELLS (2011), lbs/day

Activity	Source	VOC	NOx	CO	SO2	PM10 (Dust)	PM10 (Exh)	PM10 (Total)	PM2.5 (Dust)	PM2.5 (Exh)	PM2.5 (Total)	CO2	CH4
Equipping wells	Off-road equipment	1.75	7.34	6.65	0.01	0.00	0.38	0.38	0.00	0.34	0.34	1,334.88	0.16
Equipping wells	On-road equipment	0.23	0.86	1.88	0.00	0.05	0.03	0.08	0.04	0.03	0.07	304.88	0.02
Equipping wells	Concrete manufacturing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3,705.70	0.00
Maximum daily emissions		1.98	8.20	8.53	0.02	0.05	0.42	0.47	0.04	0.37	0.41	5,345.46	0.18
Maximum onsite daily emissions		1.75	7.34	6.65	0.01	0.00	0.38	0.38	0.00	0.34	0.34	1,334.88	0.16
Regional significance threshold		75	100	550	150	150	150	150	55	55	55	-	-
Localized significance threshold - Mira Loma[1]		-	148	887	-	12	12	12	4	4	4	-	-
Localized significance threshold - Ontario/Chino/Chino Hills[2]		-	148	1,328	-	14	14	14	6	6	6	-	-

Note 1: Localized significance threshold based on project area size of one acre and sensitive receptor distance of 50 meters from project boundary.

Note 2: Localized significance threshold based on project area size of one acre and sensitive receptor distance of 50 meters from project boundary.

Table III-22
MAXIMUM DAILY MITIGATED CONSTRUCTION EMISSIONS FOR TWO PIPELINES, BOOSTER STATION, DESALTER EXPANSION, AND TWO EQUIPPING WELLS, lbs/day

Activity	Source	VOC	NOx	CO	SO2	PM10 (Dust)	PM10 (Exh)	PM10 (Total)	PM2.5 (Dust)	PM2.5 (Exh)	PM2.5 (Total)	CO2	CH4
Pipeline	Combined	4.35	23.76	18.02	0.04	2.46	1.16	3.61	0.84	1.04	1.89	21,760.21	0.36
Pipeline	Combined	4.35	23.76	18.02	0.04	2.46	1.16	3.61	0.84	1.04	1.89	21,760.21	0.36
Booster station	Combined	49.47	16.08	10.91	0.03	0.41	0.66	0.88	0.18	0.60	0.78	5,289.86	0.25
Desalter expansion	Combined	0.00	16.08	10.91	0.03	0.41	0.66	0.88	0.18	0.60	0.78	5,289.86	0.25
Equipping wells	Combined	1.98	8.20	8.53	0.02	0.05	0.42	0.47	0.04	0.37	0.41	5,345.46	0.18
Equipping wells	Combined	1.98	8.20	8.53	0.02	0.05	0.42	0.47	0.04	0.37	0.41	5,345.46	0.18
Maximum daily emissions		62.12	96.10	74.90	0.19	5.83	4.47	9.92	2.13	4.02	6.16	64,791.08	1.57
Regional significance threshold		75	100	550	150	150	150	150	55	55	55	-	-

* Assumes emissions from desalter expansion are similar to booster station with exception of no architectural coating emissions.

Table III-23
MAXIMUM DAILY MITIGATED CONSTRUCTION EMISSIONS FOR TWO PRODUCTION WELLS AND ONE EQUIPPING WELL, lbs/day

Activity	Source	VOC	NOx	CO	SO2	PM10 (Dust)	PM10 (Exh)	PM10 (Total)	PM2.5 (Dust)	PM2.5 (Exh)	PM2.5 (Total)	CO2	CH4
Production well	Combined	6.14	44.27	26.35	0.08	1.44	1.93	3.36	0.60	1.90	2.50	9,640.64	0.52
Production well	Combined	6.14	44.27	26.35	0.08	1.44	1.93	3.36	0.60	1.90	2.50	9,640.64	0.52
Equipping wells	Combined	1.98	8.20	8.53	0.02	0.05	0.42	0.47	0.04	0.37	0.41	5,345.46	0.18
Maximum daily emissions		12.27	89	52.70	0.15	2.87	3.86	6.73	1.20	3.79	4.99	19,281.28	1.04
Regional significance threshold		75	100	550	150	150	150	150	55	55	55	-	-

Table III-25
ANNUAL MITIGATED CONSTRUCTION EMISSIONS (YEAR 1), tons/year

Activity	Source	Days	VOC	NOx	CO	SO2	PM10 (Dust)	PM10 (Exh)	PM10 (Total)	PM2.5 (Dust)	PM2.5 (Exh)	PM2.5 (Total)	CO2	CH4	NOx/VOC (Ozone)
Production well construction	Fugitive dust	193	0	0	0	0	0.09	0	0.09	0.02	0	0.02	0	0	0
Production well construction	Off-road equipment	193	0.51	3.37	2.19	6.23E-03	0	0.14	0.14	0	0.14	0.14	575.07	0.05	3.88
Production well construction	On-road equipment	193	0.07	0.90	0.29	1.03E-03	0.04	0.04	0.09	0.04	0.04	0.08	109.96	3.36E-03	0.97
Production well construction	Worker trips	193	6.58E-03	6.52E-03	0.06	8.32E-05	6.85E-04	0	6.85E-04	4.36E-04	0	4.36E-04	8.51	5.93E-04	0.01
Production well construction	Steel manufacturing	193	0	0	0	0	0	0	0	0	0	0	226.29	0	0
Production well construction	Concrete manufacturing	193	0	0	0	0	0	0	0	0	0	0	10.49	0	0
Total (tons/year)			0.59	4.27	2.54	0.01	0.14	0.19	0.32	0.06	0.18	0.24	930.32	0.05	4.86
De minimus threshold (tons/year)			-	100	100	-	-	-	70	-	-	100	-	-	10
Approximate South Coast Air Basin emissions (tons/year)			207,685	241,995	911,405	-	-	-	37,230	-	-	37,230	-	-	449,680

Table III-26
ANNUAL MITIGATED CONSTRUCTION EMISSIONS (YEAR 2), tons/year

Activity	Source	Days	VOC	NOx	CO	SO2	PM10 (Dust)	PM10 (Exh)	PM10 (Total)	PM2.5 (Dust)	PM2.5 (Exh)	PM2.5 (Total)	CO2	CH4	NOx/VOC (Ozone)
Production well construction	Fugitive dust	120	0	0	0	0	0.06	0	0.06	0.01	0	0.01	0	0	0
Production well construction	Off-road equipment	120	0.32	2.09	1.36	3.87E-03	0	0.09	0.09	0	0.09	0.09	357.55	0.03	2.41
Production well construction	On-road equipment	120	0.05	0.56	0.18	6.43E-04	0.03	0.03	0.05	0.02	0.03	0.05	68.37	2.09E-03	0.61
Production well construction	Worker trips	120	4.09E-03	4.05E-03	0.04	5.17E-05	4.26E-04	0	4.26E-04	2.71E-04	0	2.71E-04	5.29	3.69E-04	8.15E-03
Production well construction	Steel manufacturing	120	0	0	0	0	0	0	0	0	0	0	140.70	0	0
Production well construction	Off-gas	120	0	0	0	0	0	0	0	0	0	0	6.52	0	0
Equipping wells	Off-road equipment	132	0.12	0.48	0.44	9.90E-04	0	0.03	0.03	0	0.02	0.02	88.10	0.01	0.60
Equipping wells	On-road equipment	132	0.01	0.06	0.12	1.95E-04	3.36E-03	2.23E-03	5.59E-03	2.65E-03	2.05E-03	4.71E-03	20.12	1.18E-03	0.07
Equipping wells	Concrete manufacturing	132	0	0	0	0	0	0	0	0	0	0	244.58	0	0
Pipeline construction	Fugitive dust	258	0	0	0	0	0.25	0	0.25	0.05	0	0.05	0	0	0
Pipeline construction	Off-road equipment	258	0.41	1.77	1.41	3.59E-03	0	0.09	0.09	0	0.08	0.08	328.87	0.04	2.17
Pipeline construction	On-road equipment	258	0.10	1.25	0.40	1.43E-03	0.06	0.06	0.12	0.05	0.06	0.11	152.44	4.66E-03	1.35
Pipeline construction	Worker trips	258	0.05	0.05	0.51	6.67E-04	5.50E-03	0	5.50E-03	3.50E-03	0	3.50E-03	68.26	4.75E-03	0.11
Pipeline construction	Steel manufacturing	258	0	0	0	0	0	0	0	0	0	0	2,257.50	0	0
Pipeline construction	Off-gas	258	1.30E-03	0	0	0	0	0	0	0	0	0	0	0	1.30E-03
Booster station construction	Mass grading	8	0.01	0.05	0.04	1.08E-04	1.63E-03	1.66E-03	3.29E-03	3.73E-04	1.48E-03	1.85E-03	10.31	9.23E-04	0.06
Booster station construction	Foundation	38	0.06	0.31	0.21	6.24E-04	4.12E-03	0.01	0.02	3.51E-03	0.01	0.01	98.51	4.78E-03	0.36
Booster station construction	Trenching	8	2.18E-03	7.45E-03	0.01	2.10E-05	8.00E-05	4.62E-04	5.42E-04	4.00E-05	4.12E-04	4.52E-04	1.95	1.97E-04	9.64E-03
Booster station construction	Construction	38	0.04	0.20	0.16	3.57E-04	4.18E-03	0.01	0.01	3.42E-03	9.63E-03	0.01	100.51	3.07E-03	0.24

Table III-26
ANNUAL MITIGATED CONSTRUCTION EMISSIONS (YEAR 2), tons/year

Activity	Source	Days	VOC	NOx	CO	SO2	PM10 (Dust)	PM10 (Exh)	PM10 (Total)	PM2.5 (Dust)	PM2.5 (Exh)	PM2.5 (Total)	CO2	CH4	NOx/VOC (Ozone)
Booster station construction	Architectural coating	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Desalter facility expansion	Mass grading	7	8.96E-03	0.04	0.03	9.48E-05	1.43E-03	1.46E-03	2.88E-03	3.26E-04	1.30E-03	1.62E-03	9.02	8.08E-04	0.05
Desalter facility expansion	Foundation	8	0.01	0.06	0.04	1.31E-04	8.68E-04	2.65E-03	3.52E-03	7.39E-04	2.38E-03	3.12E-03	20.74	1.01E-03	0.08
Desalter facility expansion	Trenching	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Desalter facility expansion	Construction	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total (tons/year)			1.19	6.93	4.96	0.01	0.42	0.32	0.74	0.16	0.30	0.46	3,979.35	0.10	8.11
De minimus threshold (tons/year)			-	100	100	-	-	-	70	-	-	100	-	-	10
Approximate South Coast Air Basin emissions (tons/year)			207,685	241,995	911,405	-	-	-	37,230	-	-	37,230	-	-	449,680

Table III-27
ANNUAL MITIGATED CONSTRUCTION EMISSIONS (YEAR 3), tons/year

Activity	Source	Days	VOC	NOx	CO	SO2	PM10 (Dust)	PM10 (Exh)	PM10 (Total)	PM2.5 (Dust)	PM2.5 (Exh)	PM2.5 (Total)	CO2	CH4	NOx/VOC (Ozone)
Pipeline construction	Fugitive dust	370	0	0	0	0	0.36	0	0.36	0.08	0	0.08	0	0	0
Pipeline construction	Off-road equipment	370	0.58	2.53	2.02	5.15E-03	0	0.13	0.13	0	0.11	0.11	471.63	0.05	3.11
Pipeline construction	On-road equipment	370	0.14	1.79	0.58	2.06E-03	0.09	0.09	0.17	0.07	0.08	0.16	218.62	6.69E-03	1.93
Pipeline construction	Worker trips	370	0.08	0.08	0.73	9.57E-04	7.88E-03	0	7.88E-03	5.02E-03	0	5.02E-03	97.89	6.82E-03	0.15
Pipeline construction	Steel manufacturing	370	0	0	0	0	0	0	0	0	0	0	3,237.50	0	0
Pipeline construction	Off-gas	370	1.86E-03	0	0	0	0	0	0	0	0	0	0	0	1.86E-03
Equipping wells	Off-road equipment	132	0.12	0.48	0.44	9.90E-04	0	0.03	0.03	0	0.02	0.02	88.10	0.01	0.60
Equipping wells	On-road equipment	132	0.01	0.06	0.12	1.95E-04	3.36E-03	2.23E-03	5.59E-03	2.65E-03	2.05E-03	4.71E-03	20.12	1.18E-03	0.07
Equipping wells	Concrete manufacturing	132	0	0	0	0	0	0	0	0	0	0	244.58	0	0
Booster station construction	Mass grading	7	8.96E-03	0.04	0.03	9.48E-05	1.43E-03	1.46E-03	2.88E-03	3.26E-04	1.30E-03	1.62E-03	9.02	8.08E-04	0.05
Booster station construction	Foundation	33	0.05	0.27	0.18	5.42E-04	3.58E-03	0.01	0.01	3.05E-03	9.83E-03	0.01	85.55	4.15E-03	0.31
Booster station construction	Trenching	7	1.91E-03	6.52E-03	0.01	1.84E-05	7.00E-05	4.05E-04	4.75E-04	3.50E-05	3.60E-04	3.95E-04	1.71	1.72E-04	8.43E-03
Booster station construction	Construction	133	0.13	0.70	0.56	1.25E-03	0.01	0.04	0.05	0.01	0.03	0.05	351.78	0.01	0.83
Booster station construction	Architectural coating	15	0.37	1.28E-03	0.01	1.62E-05	1.50E-04	0	1.50E-04	7.50E-05	0	7.50E-05	1.65	1.15E-04	0.37
Desalter facility expansion	Mass grading	19	0.02	0.11	0.09	2.57E-04	3.87E-03	3.95E-03	7.82E-03	8.85E-04	3.52E-03	4.40E-03	24.49	2.19E-03	0.13
Desalter facility expansion	Foundation	120	0.18	0.96	0.65	1.97E-03	0.01	0.04	0.05	0.01	0.04	0.05	311.09	0.02	1.14
Desalter facility expansion	Trenching	26	7.09E-03	0.02	0.04	6.83E-05	2.60E-04	1.50E-03	1.76E-03	1.30E-04	1.34E-03	1.47E-03	6.34	6.40E-04	0.03
Desalter facility expansion	Construction	163	0.16	0.86	0.69	1.53E-03	0.02	0.05	0.06	0.01	0.04	0.06	431.12	0.01	1.02
Total (tons/year)			1.86	7.91	6.18	0.02	0.51	0.38	0.89	0.20	0.34	0.55	5,601.19	0.12	9.78
De minimus threshold (tons/year)			-	100	100	-	-	-	70	-	-	100	-	-	10
Approximate South Coast Air Basin emissions (tons/year)			207,685	241,995	911,405	-	-	-	37,230	-	-	37,230	-	-	449,680

Table III-28
ANNUAL MITIGATED CONSTRUCTION EMISSIONS (YEAR 4), tons/year

Activity	Source	Days	VOC	NOx	CO	SO2	PM10 (Dust)	PM10 (Exh)	PM10 (Total)	PM2.5 (Dust)	PM2.5 (Exh)	PM2.5 (Total)	CO2	CH4	NOx/VOC (Ozone)
Pipeline construction	Fugitive dust	32	0	0	0	0	0.03	0	0.03	6.55E-03	0	6.55E-03	0	0	0
Pipeline construction	Off-road equipment	32	0.05	0.22	0.17	4.45E-04	0	0.01	0.01	0	9.74E-03	9.74E-03	40.79	4.54E-03	0.27
Pipeline construction	On-road equipment	32	0.01	0.15	0.05	1.78E-04	7.44E-03	7.56E-03	0.02	6.47E-03	6.96E-03	0.01	18.91	5.78E-04	0.17
Pipeline construction	Worker trips	32	6.55E-03	6.49E-03	0.06	8.27E-05	6.82E-04	0	6.82E-04	4.34E-04	0	4.34E-04	8.47	5.90E-04	0.01
Pipeline construction	Steel manufacturing	32	0	0	0	0	0	0	0	0	0	0	280.00	0	0
Pipeline construction	Off-gas	32	1.61E-04	0	0	0	0	0	0	0	0	0	0	0	1.61E-04
Booster station construction	Mass grading	7	8.96E-03	0.04	0.03	9.48E-05	1.43E-03	1.46E-03	2.88E-03	3.26E-04	1.30E-03	1.62E-03	9.02	8.08E-04	0.05
Booster station construction	Foundation	33	0.05	0.27	0.18	5.42E-04	3.58E-03	0.01	0.01	3.05E-03	9.83E-03	0.01	85.55	4.15E-03	0.31
Booster station construction	Trenching	7	1.91E-03	6.52E-03	0.01	1.84E-05	7.00E-05	4.05E-04	4.75E-04	3.50E-05	3.60E-04	3.95E-04	1.71	1.72E-04	8.43E-03
Booster station construction	Construction	79	0.08	0.42	0.34	7.42E-04	8.69E-03	0.02	0.03	7.11E-03	0.02	0.03	208.95	6.39E-03	0.50
Booster station construction	Architectural coating	7	0.17	5.95E-04	5.78E-03	7.54E-06	7.00E-05	0	7.00E-05	3.50E-05	0	3.50E-05	0.77	5.37E-05	0.17
Desalter facility expansion	Mass grading	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Desalter facility expansion	Foundation	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Desalter facility expansion	Trenching	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Desalter facility expansion	Construction	142	0.14	0.75	0.60	1.33E-03	0.02	0.04	0.06	0.01	0.04	0.05	375.58	0.01	0.89
Total (tons/year)			0.52	1.86	1.46	0.00	0.07	0.09	0.16	0.04	0.08	0.12	1,029.74	0.03	2.38
De minimus threshold (tons/year)			-	100	100	-	-	-	70	-	-	100	-	-	10
Approximate South Coast Air Basin emissions (tons/year)			207,685	241,995	911,405	-	-	-	37,230	-	-	37,230	-	-	449,680

Table III-29
ANNUAL UNMITIGATED OPERATIONAL EMISSIONS, tons/year

Activity	Source	Days	VOC	NOx	CO	SO2	PM10 (Dust)	PM10 (Exh)	PM10 (Total)	PM2.5 (Dust)	PM2.5 (Exh)	PM2.5 (Total)	CO2	CH4	NOx/VOC (Ozone)
Production well operation	Vehicle trips	365	3.65E-03	3.65E-03	0.03	4.02E-05	3.25E-04	0	3.25E-04	2.06E-04	0	2.06E-04	4.02	2.80E-04	7.30E-03
Desalter operation	Electricity consumption	365	0	0	0	0	0	0	0	0	0	0	8,859.73	0.37	0
Desalter operation	Vehicle trips	365	0.02	0.02	0.18	2.35E-04	1.95E-03	0	1.95E-03	1.24E-03	0	1.24E-03	24.14	1.68E-03	0.04
Desalter operation	NaCl delivery	208	0.03	0.36	0.12	4.13E-04	0.02	0.02	0.04	0.01	0.02	0.03	43.89	1.04E-03	0.39
Desalter operation	Resin delivery	52	7.28E-03	0.09	0.03	1.03E-04	4.42E-03	4.42E-03	8.84E-03	3.64E-03	4.16E-03	7.80E-03	10.97	2.60E-04	0.10
Desalter operation	Resin transfer offsite	2	2.80E-04	3.46E-03	1.11E-03	3.97E-06	1.70E-04	1.70E-04	3.40E-04	1.40E-04	1.60E-04	3.00E-04	0.42	1.00E-05	3.74E-03
Reservoir operation	Architectural coating	365	8.20E-03	0	0	0	0	0	0	0	0	0	0	0	8.20E-03
Booster station operation	Vehicle trips	365	3.65E-03	3.65E-03	0.03	4.02E-05	3.25E-04	0	3.25E-04	2.06E-04	0	2.06E-04	4.02	2.80E-04	7.30E-03
Booster station operation	Architectural coating	365	4.93E-03	0	0	0	0	0	0	0	0	0	0	0	4.93E-03
Total (tons/year)			0.08	0.48	0.39	8.36E-04	0.02	0.02	0.05	0.02	0.02	0.04	8,947.21	0.37	0.55
De minimus threshold (tons/year)			-	100	100	-	-	-	70	-	-	100	-	-	10
Approximate South Coast Air Basin emissions (tons/year)			207,685	241,995	911,405	-	-	-	37,230	-	-	37,230	-	-	449,680

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
IV. BIOLOGICAL RESOURCES – 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 or policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?		■		
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural communities identified in local or regional plans, policies, regulations, or by the State of California Department of Fish and Game or U.S. Fish and Wildlife Service?		■		
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?		■		
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridor, or impede the use of native wildlife nursery sites?			■	
e) Conflict with any local policies or ordinances protecting biological resources, such as tree preservation policy or ordinance?				■
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?				■

Substantiation:

Phase 3 Desalter Expansion facilities will be implemented in a modified environment regarding Chino Basin biological resources. Native biological resources located within the Riverside County portion of the Chino Basin are managed under the Western Riverside County Multiple Species Habitat Management Plan (MSHCP).

The project impacts will occur on land that has been previously developed or disturbed by human activity for agricultural, residential, commercial or industrial uses.

The Prado Reservoir area comprises 9,741 acres northwest of Corona and south of Chino. Approximately 4,000 acres of this area can be classified as riparian woodland vegetation, of which 2,000 to 2,500 acres is dense riparian habitat dominated by large stands of willow woodland. This is one of the largest remaining riparian woodlands in southern California. This area supports a wide array of sensitive species, both floral and faunal. According to the Biological Resources section for the Chino Basin Groundwater Storage Program Draft Environmental Impact Report for Metropolitan Water District of Southern California, a total of 311 species of vascular plants, belonging to 65 families, were identified in the Basin area. That document identified three major vegetational communities within the Basin: riparian, coastal sage scrub and aquatic.

Riparian habitat occurs in low lying sections of the Basin including along the Santa Ana River and the streams that flow into the Basin, including Cucamonga/Mill Creek and San Antonio/Chino Creek. The riparian habitat is dominated by extensive stands of black willow and smaller stands of arroyo willow and to a lesser extent by cottonwoods and sycamores. Coastal sage scrub habitat, which can include grasses and exotic weeds, is typical of upland areas within the Basin. Much of the uplands in the Basin have been heavily impacted by agriculture and grazing activities. Aquatic and semi-aquatic communities occur in permanent streams, artificial ponds and intermittently filled reservoirs and streams within the Basin.

The Santa Ana River and its tributaries within the Chino Basin are significant areas for biological resources as they provide refugia and breeding grounds for both resident and migrant species as well as habitat linkages and movement corridors connecting various large blocks of relatively undisturbed habitat areas.

The following plant community types occur within or immediately adjacent to the project areas of impact.

- Riversidean sage scrub
- Riparian/Wetland areas
- Non-Native Grassland

a. *Less Than Significant with Mitigation Incorporation* –The proposed Desalter Phase 3 Expansion Project includes the following types of facilities: new wells, both production and monitoring; pipelines; expansion of desalter treatment equipment at the Desalter 2 site in Mira Loma and possibly at Desalter 1; new booster pumps; and a new reservoir. See the Project Description for a detailed description of the proposed new facilities. A survey of biological resources for the proposed project facility locations was conducted by TDA and Natural Resources Assessment, Inc biologists. Pamela Wright drove portions of the pipeline alignments that are located within existing roadways on May 13 and 27, 2010. Roadway right-of-ways include the full spectrum from fully developed landscaped areas with curb and gutter to gravel edges without curb and gutter with ruderal edges. No habitat for sensitive biological resources was found within the existing roadway right-of-ways. Assuming all impacts can be kept within the existing road right-of-ways, no impact to significant biological resources is expected from activities within roadways. Natural Resources Assessment, Inc (NRA) was contracted to review pipeline portions located outside of existing roadways and all potential well and intertie pump stations sites as indicated on Figures 13 and 7. NRA also reviewed the staging areas for the Santa Ana River Crossing as depicted in Figure 12. The report of findings is provided in Appendix 4 to this document.

   NRA, Inc found that the majority of project impacts reviewed under their scope would occur in developed or disturbed locations where biological resource values are extremely limited, and where there is no suitable habitat for sensitive species. Three locations where impacts may occur were found to have the potential to support sensitive resources, as detailed below.

- Chino 1 Well C: area contains a weedy wetland and the site is adjacent to wetland habitat. Mitigation will be required to avoid impacts to wetland habitat. Mitigation described below.
- Santa Ana River North Staging Area: assumed to be located in the denuded lot adjacent to a horse stable area. Adjacent to sensitive habitat. Will require mitigation as described below.
- Santa Ana River South Staging area: probably located on upper terrace of Santa Ana River where minimal biological values exist. Adjacent to sensitive habitat. Will require mitigation as described below.

Mitigation proposed for the three sensitive habitat sites:

IV-1 To avoid an illegal take of active bird nests, any grubbing, brushing or tree removal will be conducted outside of the State identified nesting season (nesting season is approximately from March 1 through September 1 of a given calendar year). In any case, it is illegal to take active bird nests of native birds and when present at a project site, no take is allowed. Alternatively, project impact areas will be evaluated by a qualified biologist prior to initiation of ground disturbance to demonstrate that no bird nests will be disturbed by project construction activities.

IV-2 Prior to commencement of construction activity in locations that are not fully developed, a clearance survey will be conducted by a qualified biologist to determine if any burrowing owl burrows are located within the potential area of impact. If occupied burrows may be impacted, an impact minimization plan shall be developed by the biologist that will protect the burrow in place or provide for relocation to an alternate burrow within the vicinity but outside of the project footprint in accordance with current CDFG guidelines. Active nests must be avoided until all nestlings have fledged.

IV-3 Following construction activities within or adjacent to any natural area, the disturbed areas shall be revegetated using a plant mix of native plant species that are suitable for long term vegetation management. which shall be implemented in cooperation with regulatory agencies and with oversight from a qualified biologist or landscape architect. The seeds mix shall be verified to contain the minimum amount of invasive plant species seeds reasonably available for the project area.

IV-4 Within the three areas identified as containing potentially sensitive biological resource habitat, the well or other facility shall be located in adjacent disturbed areas or relocated to nearby disturbed areas.

IV-5 Where relocation is not feasible within the three sensitive areas, a follow-on detailed site survey shall be conducted 30-days prior to initiating construction to verify that no sensitive species occur within the unavoidable impact area. Where such sensitive resources occur and cannot be avoided, a compensatory mitigation plan shall be implemented that permanently preserves comparable or better habitat based on the findings of a qualified biologist and the California Department of Fish and Game.

IV-6 It is not anticipated that any discharge of fill or streambed alteration will result from installing project-related pipelines. However, if it becomes necessary to discharge fill or alter a streambed in conjunction with the Desalter Phase 3 Expansion Project, CDA shall, prior to discharge of fill or streambed alteration of jurisdictional areas, obtain regulatory permits from the U.S. Army Corps of

Engineers, Santa Ana Regional Water Quality Control Board and the California Department of Fish and Game. Any future project that must discharge fill into a channel or otherwise alter a streambed shall be mitigated. Mitigation can be provided by purchasing into any authorized mitigation bank; by selecting a site of comparable acreage near the site and enhancing it with a native riparian habitat or invasive species removal in accordance with a habitat mitigation plan approved by regulatory agencies; or be acquiring sufficient compensating habitat to meet regulatory agency requirements. Typically, regulatory agencies require mitigation for jurisdictional waters without any riparian or wetland habitat to be mitigated at a 1:1 ratio. For loss of any riparian or other wetland areas, the mitigation ratio will begin at 2:1 and the ratio will rise based on the type of habitat, habitat quality, and presence of sensitive or listed plants or animals in the affected area. A revegetation plan using native riparian vegetation common to the project area shall be prepared and reviewed and approved by the appropriate regulatory agencies. The project proponent will also obtain permits from the regulatory agencies (U.S. Army Corps of Engineers, Santa Ana Regional Water Quality Control Board and CDFG) if any impacts to jurisdictional areas will occur. These agencies can impose greater mitigation requirements in their permits, but the CDA will utilize the ratios outlined above as the minimum required to offset or compensate for impacts to jurisdictional waters, riparian areas or other wetlands.

In addition to the potential for direct impacts to sensitive species and habitats, the Chino Desalter Phase 3 Expansion Project also has a potential to indirectly and adversely impact riparian habitats in Prado Basin, and the numerous sensitive species that depend upon them, through alteration of the groundwater hydrology of the Chino Basin. The Desalter 3 Expansion would result in withdrawing an additional 7,000 acre-feet of groundwater from the upper aquifer in the Chino Creek Wellfield (this is based on the balance between extractions of about 12,000 acre-feet of new groundwater and the capture of about 5,000 acre-feet of flow from the Santa Ana River. In addition to these extractions, the Re-operation component of the Peace II Agreement would the increase the controlled overdraft, as defined in the Judgment, from a cumulative total of 200,000 acre-ft over the period of 1978 through 2017, to a cumulative total of 600,000 acre-ft through 2040.

These two programs are designed to achieve two objectives: first, to expand desalter related groundwater production to the anticipated 40,000 acre-feet envisioned in the Optimum Basin Management Program; and second, to achieve hydraulic control of the Chino Basin so that rising water will not enter the surface flows that pass into Orange County through Prado Dam. The potential cumulative impacts of these groundwater management programs has been evaluated in a report prepared by Wildermuth Environmental Inc. (WEI) titled "2009 *Production Optimization and Evaluation of the Peace II Project Description," which was prepared for the Chino Basin Watermaster. The following information is abstracted from the Draft Peace II SEIR and the WEI 2009 report. The WEI 2009 report is provided as Appendix 3 to this Initial Study.*

The amount of water that enters into the Prado Basin is an issue that must be analyzed in relation to biological resources that occupy this area. The water level within the Prado Basin has a great potential to affect the surrounding riparian resources within this area, thus it must be closely regulated. According to the 1978 Judgment, Orange County Water District (OCWD) has a legal entitlement to 42,000 acre-feet per year (acre-ft/year) of water from the Prado Reservoir, in addition to all stormwater flows that reach the Prado Basin. As a five year moving average, the baseflow at Prado has ranged from approximately 250,000 to 410,000 acre-ft/year since 1992. The past diversion of a portion of wastewater and stormwater flows upstream of Prado Basin, which prevented such flows from discharging into recharge locations within Chino Basin that flow into the Prado Basin, has been determined not to adversely impact the ability to meet any downstream entitlements since the baseflow remained significantly greater than OCWD's entitlement in the

OBMP PEIR evaluation. Potential future increased diversions will be measured against the same benchmark.

Several factors in the future will contribute to increases in the baseflow quantity. As the baseflow increases in volume, the diversion of a portion of stormwater or wastewater flows would be even less substantial proportionally, and impacts to the Prado Basin area and to OCWD would be expected to be minimal. The factors that will contribute to future base flow increases are increases in surface runoff due to greater urbanization, and increases in total amounts of wastewater generated within the project area. The impacts of the OBMP to the riparian resources at Prado Dam were considered to be less than significant based upon the expected increase in baseflow. Historically and currently, regulators appear to be more concerned with the possibility that too much water, rather than not enough, was reaching the Prado Basin (PEIR for Proposed Regional Plan Number 5 Project, May 1999). As the OBMP was expected to cause a decrease in wastewater flows reaching the Prado area, the net impacts were considered to be beneficial over the life of the program, as opposed to adverse, for biological resources in the Prado Basin area.

Any future shift of stormwater or wastewater from discharge to reuse or recharge will occur gradually over the course of the Peace II implementation time frame. As diversion or reuse is implemented, wastewater and stormwater flows would be expected to increase to the Prado Basin area due to population growth within the Chino Basin. The following analysis provides data for both current and 2020 projected wastewater volumes. The Los Angeles County Sanitation District predicts an increase in wastewater discharge for the cities of Pomona and Upland from 22,000 to 40,000 acre-ft/year. The IEUA service area generation of wastewater flow is forecast to increase from 57,000 acre-ft/year to 112,000 acre-ft/year. Project areas within Riverside County are forecast to increase wastewater generation by 5,000 acre-ft/year, an increase from 10,000 acre-ft/year to 15,000 acre-ft/year.

In total, wastewater discharges will increase, regardless of the proposed OBMP project, by approximately 68,000 acre-ft/year. Consequently, even with the diversion of 40,000 acre-ft/year of wastewater flows, there will still be a net increase in flows to Prado Dam, potentially estimated to be on the order of 28,000 acre-ft/year (the relative amount will ultimately depend on the amount of direct beneficial use by industrial and irrigation users in the future). Regardless, however, the OBMP project has the potential to reduce the 2020 volume of water tributary to Prado Dam by 40,000 acre-ft/year of recycled water, and this action is not forecast to cause any significant environmental impacts.

Biologist Tony Bomkamp provided written testimony on April 12, 2007 to address whether OBMP diversion of a percentage of storm flows would adversely impact the riparian habitat in Prado Basin, including limited portions of Chino Creek and Cucamonga Creek within Prado Basin. Mr. Bomkamp indicated that Chino Creek and Cucamonga Creek are concrete lined upstream of the Prado Basin, San Sevaine is concrete-lined and Day Creek is concrete lined until it flows through a golf course just before entering SAR. Mr. Bomkamp's testimony was specifically focused on riparian habitat which supports LBV and other sensitive bird species; concrete-lined channels offer no habitat value to these species. Mr. Bomkamp's testimony was designed to address whether diversion of a portion of storm flows would dewater LBV habitat and lead to stress and/or death of plant species that constitute suitable LBV habitat. Water quality and sediment transport changes were also considered, but were determined to be inconsequential to LBV habitat.

Based upon empirical data regarding the water consumption of willow habitat, Mr. Bomkamp determined that the 6,121 acres of willow-dominated riparian habitat would require up to 25,257 acre-ft of water per year. He considered this estimate to be conservative as more drought tolerant components of Prado Basin riparian habitat, such as mule fat, are expected to require less water. Based upon hydrological information provided by WEI, Mr. Bomkamp concluded that more than ten times the amount of water necessary to support the willow habitat is discharged below the Prado

Dam, indicating that more than sufficient surplus surface flows were available to support the riparian habitat with the diversion of an estimated 17,691 acre-ft of stormwater flows per year.

Mr. Bomkamp's testimony, as provided in the Technical Appendices, is instructive for the analysis of the potential impacts of Re-operation on willow riparian habitat in the Prado Basin. Re-operation is expected to result in induced recharge into the Chino Basin from the Santa Ana River such that surface water flows in the Santa Ana River are expected to decrease by about 7,000 acre-ft/yr by the year 2049/2050. Prior to the diversion of 17,691 acre-ft/yr of storm flows, an average of 426,001 acre-ft/yr flowed into the Prado Basin. A further reduction in flows of about 7,000 acre-ft/year (total of 24,691 acre-ft) would only reduce inflows to the Prado Basin to an average of 401,410 acre-ft/yr. Based on Mr. Bomkamp's analysis, such a reduction in flows would not impact the willow habitat because willow habitat water requirements would only constitute about 8% of the remaining water flowing into the Prado Basin.

Mr. Bomkamp also considered a slightly more conservative estimate based upon outflows from Prado Basin, which averaged 299,972 acre-ft/yr from 1995-1999. This estimate already excludes water consumed by vegetation in Prado Basin. He concluded that reduction in the outflow by both the stormwater diversion and expected induced recharge from the Santa Ana River would leave 275,281 acre-ft/year to flow out of the Prado Basin.

Utilizing the data summarized above results in the following findings: the Prado Basin wetland requires approximately 26,000 acre-feet of water to maintain the current range and extent of habitat; after all other reductions in flows are assessed, an estimated 275,281 acre-feet of surface water flows into Orange County through Prado Dam (a combination of natural flows and discharges from wastewater treatment plants, as rising groundwater will be eliminated as part of the desalter expansion program); it is assumed that the estimated discharge downstream of Prado Dam (275,281 acre-feet) already includes the water consumed by the Prado Basin wetland habitat; and, even if it does not, the estimated utilization of approximately 26,000 acre-feet by Prado Basin habitat would leave a residual discharge downstream of Prado Dam of about 249,000 acre-feet, more than sufficient to meet Orange County's 42,000 acre-feet allocation under the adjudication.

Based on these findings, more than sufficient surface water will be available to support the Prado Basin wetland habitat each year. Thus, on an annual basis, an adequate supply of water is available to support Prado Basin wetland habitat, and the Desalter Phase 3 Expansion project in conjunction with the Peace II proposed Re-operation actions are, therefore, not forecast to cause a significant adverse impact on these critical habitat resources.

Because the Desalter Phase 3 program in conjunction with Re-operation would remove groundwater and is designed to minimize the flow of groundwater out of the Basin by lowering the groundwater table, particular attention needs to be paid to the potential reduction in the groundwater level in Prado Basin itself. Many riparian plant species are phreatophytes, meaning their roots tap directly into the groundwater table or the soil just above the saturated layer rather than depending upon rainfall or other sources of water. If Re-operation were to lower the groundwater table in locations that support riparian habitat but are not fed by surface flows, habitat could be adversely impacted. Similarly, if surface flows were reduced such that the water levels along streams were reduced, habitat could be adversely impacted.

Recent research both in the laboratory and in Arizona riparian habitat has focused on the impacts of hydrology changes on riparian plants. Absent available information specific to Prado Basin region, the Arizona research provides information regarding the adaptability of willow (*Salix* spp.*)* and cottonwood (*Populus* spp.) to changes in hydrology. The research into *P. fremontii* (Fremont's cottonwood) and *S. gooddingii* (black willow) responses are particularly useful as these species are common in the Prado Basin. A field study along two Arizona rivers found that increased canopy die back occurred with increased depth to groundwater in mature *P. fremontii* and *S. gooddingii*,

especially when depth to groundwater exceeded 4 meters, when mortality increased (Horton et al, 2001b).

Another field study along one of the same rivers found that *P. fremontii* and *S. gooddingii* sapling mortality was higher in locations that showed a greater decline in water table depth than it was in locations with greater absolute depth to ground water (Shafroth et al, 2000.) This study found that where the water table dropped by 1.11 m in a year's period, nearly all *P. fremontii* and *S. gooddingii* saplings died, even though the same species were surviving at another location where groundwater was at a greater depth but had experienced less decline. Root excavation conducted as part of this study found root distribution depended upon the water table conditions under which the roots developed. An example of a practical application of this information could be intentional fluctuations in water levels during vegetation restoration establishment in order to mimic fluctuations that plants might encounter during drought conditions, in order to improve survivorship during actual drought conditions.

Laboratory evaluation simulating water table declines at rates of 0, 1, 2 and 4 cm/day found that *S. gooddingii* seedlings had increasing mortality and decreasing growth with increasing rates of water table decline, and survived and grew the most when there was no decline in water table (Horton et al, 2001a). This research speculates that *S. gooddingii* may prioritize lateral root growth in order to survive in habitats with late summer scouring floods. This adaptation is less suited for sapling survival when exposed to changes in the depth to groundwater.

Another laboratory study simulated water table declines of 0 to 12 cm/day and 1 to 8 cm/day in saplings of *S. exigua* and *S. drummondiana, P. angustifolia* and *P. balsamifera* (Amlin et al, 2002.) This study found that gradual declines in the water table between 1 and 2 cm/day promoted root elongation whereas declines greater than 2.5 cm/day increased death and die back in both genera. The comparison of the laboratory research by Horton and Amlin suggests that there is variation within *Salix* species in response to groundwater table decline, with some species potentially more adaptable to gradual declines than others as has been documented in past research (Bryan 1928, Stromberg et al. 1996 as cited in Shafroth et al, 2000.) However, it is also important to consider that both studies found that gradual groundwater drawdown (1 cm/day) is less likely to result in adverse impacts to riparian vegetation than more rapid drawdown (4 cm/day.) Shafroth et al also discuss the implications of different soil textures on tolerance groundwater depth and variation, with courser grained soils associated with less tolerance of depth or variation. They also mention that climate (humidity, temperatures, rainfall, etc) could change the depth at which ground water table alteration would have adverse impacts.

The Desalter Phase 3 Expansion Project would be expected to lower groundwater levels, in conjunction with Re-operation. Another effect could be a reduction of high storm flows if increased stormwater management is implemented, including Low Impact Design methods. The findings by Mr. Bomkamp clearly indicate that sufficient surface flows will continue to enter Prado Basin over the long term under the OBMP and Peace II Agreement operating conditions. Further, since a good portion of this surface flow into Prado consists of treated effluent which is maintained throughout the year, there does not appear to be a potential for significant stress to affect the Prado wetland during the summer.

The WEI report examines the potential effect of Desalter Phase 3 groundwater extractions in the Chino Creek Wellfield and Re-operation to achieve hydraulic control, on groundwater resources within the Prado wetlands/riparian habitat. The following information is abstracted from the WEI report in the Technical Appendices and applies to the Baseline Alternative conditions. Note that the figure and table numbers in these abstracted sections of the WEI report have been changed to reflect table and figure number sequences in this section of the Initial Study.

In the southern Chino Basin and the Prado Basin, riparian habitat is supported by the infiltration of surface water and groundwater. In 2006, vegetation maps were digitized from 1974, 1984, and 2006 aerial photographs at a scale of 1:12,000 for the development of the 2007 Watermaster Model. This work was completed by Merkel and Associates and is documented in Appendix C of 2007 CBWM Groundwater Model Documentation and Evaluation of the Peace II Project Description (WEI, 2007a). For 2006, digitizing was completed using a color orthorectified aerial photograph with a 1-meter resolution. Ground truthing of the 2006 vegetation map was carried out and included on-site observations of each vegetation type. A total of 13 unique vegetation types were identified within the study area, including:

- *Un-vegetated Sandbar*
- *Disturbed Habitat*
- *Dry Land Agriculture*
- *Irrigated Agriculture*
- *Turf Irrigated*
- *Non-native Grassland*
- *Non-native Trees*
- *Olive Grove*
- *Emergent Wetland*
- *Freshwater Marsh*
- *Recharge Pond/Treatment Wetlands*
- *Southern Cottonwood Willow Riparian Forest (Riparian Forest)*
- *Southern Willow Scrub*

Of these, Emergent Wetland, Freshwater Marsh, Riparian Forest, and Southern Willow Scrub are riparian habitats. The Emergent Wetland vegetation unit is a minor cover class within the Prado Basin and exists as a result of extended periods of inundation and resulting anaerobic conditions. The dominant vegetation of this unit within the Prado Basin includes typical perennial monocots as well as several opportunistic, facultative species, which occur in less saturated areas. The Freshwater Marsh vegetation unit is a minor coverage class within the Prado Basin. Freshwater Marsh is classified as having prolonged periods of inundation, which permits the accumulation of peaty soils, and is dominated by perennial macrophytes. Areas mapped as Freshwater Marsh occur within the highly managed constructed wetlands. Riparian Forest is the dominant cover class within the Prado Basin. Throughout the basin, Riparian Forest exists predominantly as a mature forest with a solid canopy of mature deciduous trees and a patchy understory comprised of lower stature species, resulting from scouring created by periodic natural and anthropogenic activities, such as river channel maintenance. Southern Willow Scrub is minor cover class within Prado Basin and is often found in very dense thickets adjacent to creeks and ponded areas.

Figure IV-1 shows the Emergent Wetland, Freshwater Marsh, Riparian Forest, and Southern Willow Scrub vegetation units, grouped and mapped as riparian vegetation, and the July 2005 depth to water in the riparian vegetation area. Figure IV-2 shows the change in depth to water between 2005 and 2030 for the Baseline Alternative. North of the Santa Ana River, changes in depth to water range from zero feet for most of the riparian vegetation area to less than 3 feet. South and east of the Santa Ana River, depth to water changes are attributable to groundwater production in the Temescal Basin. The consumptive use by riparian vegetation is projected to decline by a total of about 1,900 acre-ft/yr, based on the water budget for the Baseline Alternative (see Table IV-1).

The following additional findings from the modeling effort were reached regarding the Peace II Alternative.

Figure IV-3 shows the change in depth to water between 2005 and 2030 for the Peace II Alternative. North of the Santa Ana River, changes in depth to water range from zero feet for most of the riparian vegetation area to less than 3 feet. South and east of the Santa Ana River, depth to water changes are attributable to groundwater production in the Temescal Basin. Changes in groundwater elevations relative to the Baseline Alternative range from zero feet near the streams to about 1 foot over the riparian areas away from the streams.

The groundwater table in the Prado Basin area is at the ground surface or only a few feet below ground level. The model forecasts a net reduction in the groundwater elevation of three feet (approximately 91 centimeters) at Prado Basin over the next 20 years. This forecast change in groundwater elevation will occur gradually, about 4.6 centimeters per year (or about 1-2 millimeters per day). When considered in the context of the data regarding the adverse impact to riparian plants due to the change in groundwater table presented above, the potential impact is forecast to be a less than significant impact to the Prado Basin wetland/riparian habitat. Also, based on these data, the riparian plants in Prado Basin are capable of extending roots at a rate sufficient to adapt to the overall change in groundwater levels over the 20 year period (up to 3 feet). Therefore, implementation of the proposed Peace II Agreement will not cause a cumulatively considerable effect on the Prado Basin riparian habitat over the planning period.

Also note, according to the evaluation of annual surface flows into Prado Basin presented above, a continuous supply of surface water will reach Prado Basin and will continue to percolate through the soil above the groundwater table, ensuring an adequate supply of water to support the Prado Basin wetland/riparian resources. Data available from WEI shows projected wastewater discharges into the SAR for 2010 and 2020 based upon agency calculations made in 2008 show total projected effluent discharged into the SAR is 188.1 MGD (210,698 AF/yr) in 2010 and 196.4 MGD (219,995 AF/yr) in 2020. Annual discharge projections provide insight into the expected average annual discharges. Because effluent would be discharged regardless of rainfall, unlike storm flows, the current and future surface water discharges provide further perspective on the minimum expected annual flows into the SAR and Prado Basin.

Indirect impacts to riparian habitats could result if Desalter Phase 3 Expansion operations combined with Re-operation were to reduce groundwater levels such that vegetation requiring shallow groundwater was adversely impacted. Based on the findings and conclusions presented above, no significant indirect effect on riparian habitat in the Prado Basin is forecast to occur from implementation of the Desalter Phase 3 Expansion Project. On an individual stream basis, in the northern portion of the Chino Basin flows are not diverted or captured until they enter recharge basins or concrete-lined channels. Thus, no potential for direct significant impact to riparian resources is forecast to occur in these areas.

b. *Less Than Significant with Mitigation Incorporation* — Based on the evaluation of the proposed Desalter Phase 3 Expansion Project presented in Section a. above, no riparian or other sensitive habitat communities will experience potentially significant direct or indirect adverse impact. Mitigation is provided to address the contingency where sensitive habitat, a sensitive species, or riparian habitat cannot be avoided (refer to Measures IV-4 through IV-6). With implementation of these mitigation measures, no significant unavoidable adverse impact on riparian habitat is forecast to occur from implementing the proposed project.

c. *Less Than Significant with Mitigation Incorporation — Please refer to the discussion under issues a. and b. above.*

d. *Less Than Significant Impact* — Pipelines will be placed below the ground surface and have no potential to adversely impact any wildlife movement or migration of fish. All other facilities will be located on specific sites and have do not occur in areas with any kind of species migration. No mitigation is required.

e. *No Impact* – No species covered by local jurisdiction policies or ordinances will be affected by this proposed project.

f. *No Impact* – Within the project area, no adopted conservation plans affect the project sites.

Conclusion

Based on field surveys of all the potential Desalter Phase 3 Expansion Project sites and alignments, the potential biological resource impacts are forecast to be less than significant. For all but three of the site/facility locations, no sensitive biological resources occur. For the three locations with limited biological resource values, mitigation is identified to reduce such impacts before construction begins on that facility. For most of the facilities where sensitive resources can occur, avoidance should be feasible. Three contingency mitigation measures are identified to address circumstances where avoidance is not feasible. Finally, the groundwater extractions that will result from implementing Desalter Phase 3 Expansion have been evaluated as part of the cumulative Peace II Agreement programs. Detailed modeling data conducted to evaluate potential indirect effects of groundwater extractions on Prado Basin riparian habitat concluded that such extractions will not cause significant adverse changes in groundwater levels. Thus, based on these findings, the biological resource impacts can be controlled/mitigated to a less than significant impact level.

Table IV-1
WATER BUDGET FOR CHINO NORTH, CHINO EAST, CHINO SOUTH, AND PRADO BASIN MANAGEMENT ZONES
PEACE II ALTERNATIVE
(acre-ft)

	Inflows								Outflows						
					Artificial Recharge										
	Boundary Inflow	Temescal to PBMZ	Deep Percolation of Precipitation and Applied Water	Stream Recharge	Storm	Imported Water	Recycled Water	Subtotal Inflows	Production	PBMZ to Temescal	ET	Rising Groundwater	Subtotal Outflow	Change in Storage	Cumulative Change in Storage
2006	32,703	6,294	86,301	25,502	11,646	24,759	2,980	190,185	151,206	2,069	14,799	15,663	183,737	6,448	6,448
2007	32,703	6,355	82,094	28,349	11,646	0	2,340	163,486	174,244	2,058	14,469	14,283	205,053	-41,567	-35,119
2008	32,703	5,925	83,013	30,165	11,646	0	5,000	168,452	167,173	2,013	14,335	13,868	197,389	-28,937	-64,056
2009	32,703	5,418	83,671	31,743	11,646	0	5,000	170,181	181,868	1,986	14,132	13,299	211,285	-41,104	-105,160
2010	32,703	5,566	82,150	33,576	11,646	0	10,000	175,641	188,574	2,235	13,944	12,462	217,216	-41,575	-146,735
2011	32,703	5,509	81,850	34,952	11,646	0	10,500	177,159	186,659	2,305	13,835	12,006	214,806	-37,647	-184,382
2012	32,703	5,263	79,177	35,988	11,646	0	11,000	175,776	184,744	2,310	13,720	11,692	212,465	-36,689	-221,072
2013	32,703	4,987	78,267	36,703	11,646	0	11,500	175,806	182,828	2,304	13,614	11,453	210,198	-34,392	-255,464
2014	32,703	4,710	77,834	37,934	11,646	12,000	12,000	188,826	187,393	2,297	13,429	10,958	214,076	-25,250	-280,714
2015	32,703	4,441	77,243	39,030	11,646	77,556	12,500	255,119	185,477	2,289	13,243	10,498	211,507	43,612	-237,102
2016	32,703	4,181	76,196	39,207	11,646	77,056	13,000	253,989	186,953	2,284	13,148	10,337	212,721	41,268	-195,834
2017	32,703	3,937	75,761	39,045	11,646	76,556	13,500	253,148	188,429	2,278	13,109	10,312	214,128	39,020	-156,814
2018	32,703	3,709	74,232	38,761	11,646	76,056	14,000	251,107	189,905	2,273	13,101	10,352	215,631	35,476	-121,338
2019	32,703	3,499	73,531	38,551	11,646	0	14,500	174,430	191,380	2,268	13,108	10,416	217,172	-42,742	-164,080
2020	32,703	3,305	71,573	38,807	11,646	0	15,000	173,034	192,856	2,265	13,109	10,407	218,637	-45,603	-209,682
2021	32,703	3,123	71,111	39,222	11,646	0	15,900	173,705	195,925	2,262	13,090	10,346	221,624	-47,919	-257,601
2022	32,703	2,953	70,147	39,853	11,646	0	16,800	174,102	198,994	2,260	13,043	10,200	224,497	-50,395	-307,997
2023	32,703	2,792	68,772	40,458	11,646	72,356	17,700	246,427	202,064	2,257	12,979	10,023	227,323	19,104	-288,893
2024	32,703	2,643	67,887	40,762	11,646	71,456	18,600	245,696	205,133	2,256	12,926	9,903	230,218	15,478	-273,415
2025	32,703	2,501	66,934	41,110	11,646	70,556	19,500	244,949	208,202	2,254	12,880	9,797	233,133	11,816	-261,599
2026	32,703	2,369	66,058	41,464	11,646	69,656	20,400	244,295	210,632	2,247	12,824	9,684	235,387	8,908	-252,690
2027	32,703	2,243	65,444	41,819	11,646	68,756	21,300	243,911	213,062	2,239	12,765	9,558	237,623	6,288	-246,402
2028	32,703	2,122	64,550	42,301	11,646	36,000	22,200	211,521	215,492	2,232	12,715	9,440	239,879	-28,358	-274,760
2029	32,703	2,009	64,037	43,098	11,646	0	23,100	176,594	217,922	2,226	12,654	9,267	242,069	-65,475	-340,236
2030	32,703	1,906	63,215	43,919	11,646	0	24,000	177,388	220,852	2,221	12,581	9,081	244,735	-67,347	-407,583
Total	817,567	97,759	1,851,046	942,320	291,150	732,765	352,320	5,084,927	4,827,967	55,686	333,549	275,308	5,492,510	-407,583	
Average	32,703	3,910	74,042	37,693	11,646	29,311	14,093	203,397	193,119	2,227	13,342	11,012	219,700	-16,303	
Maximum	32,703	6,355	86,301	43,919	11,646	77,556	24,000	255,119	220,852	2,310	14,799	15,663	244,735	43,612	
Minimum	32,703	1,906	63,215	25,502	11,646	0	2,340	163,486	151,206	1,986	12,581	9,081	183,737	-67,347	

Source: Wildermuth Environmental, Inc. "2009 Production Optimization and Evaluation of the Peace II Project Description (Final Report)", November 2009

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
V. CULTURAL RESOURCES – Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?				■
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?		■		
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?		■		
d) Disturb any human remains, including those interred outside of formal cemeteries?			■	

Substantiation:

In order to identify and evaluate cultural resources within the Desalter Phase 3 Expansion Project area of potential effect (APE), CRM TECH conducted a historical/archaeological resources records search, pursued historical background research, contacted Native American representatives, and carried out a systematic field survey. The results of the records search indicate that two previously identified cultural resources, Sites 33-016029 (prehistoric artifact scatter) and 33-016681/36-013627 (historic-period power transmission lines), were located partially within the APE. As a result of further research, including the field survey, it was ascertained that Site 33-016029 no longer exists in the project vicinity, which Site 33016681/36-013627 remains present at its recorded location. Due to lack of sufficient historic integrity, Site 33-016681/36-013627 was previous determined not to qualify as a "historic property" or a "historical resource." Furthermore, since no physical components of the site other than the overhead wires are located within the APE, the proposed undertaking has no potential to affect the site.

a. *No Impact* – A cultural resources survey/evaluation of the project site was prepared by CRM TECH. A copy of this study is provided as Appendix 5 to this document. None of the pipeline alignments or other identified facility locations has any surface resources and given their location the potential for historic resources to occur on the site is negligible. Thus, the conversion of these disturbed sites to water infrastructure facilities has no potential to cause substantial adverse impact to any historical resources. No mitigation is required.

b. *Less Than Significant With Mitigation Incorporation* – A cultural resources survey and evaluation of the project site was prepared by CRM TECH. A copy of this study is provided as Appendix 5 to this document. Based on the detailed investigation, the CRM TECH report concluded that the project pipeline alignments and facility sites do not contain any significant surface cultural resources. A contingency mitigation measure is recommended to address any subsurface resources that may be exposed during excavations for project-related facilities during construction. The following contingency mitigation measure will be implemented.

V-1 In the event that cultural resources not previously identified are encountered during ground disturbing activities, such activities shall be halted until a qualified archaeologist/historian can evaluate the nature and significance of the funds. The CDA and/or contractor shall implement the management recommen-

dations of the archaeologist/historian that examines any accidentally exposed cultural resources.

With implementation of this measure, any cultural resources of significance will be properly managed or avoided to a level of less than significant impact.

c. *Less Than Significant With Mitigation Incorporation* – No paleontological survey of the alignment was conducted, but general paleontological mitigation measures are identified for the project area in the Facility Master Plans Program Environmental Impact Report. The following mitigation measure will be implemented to reduce potentially significant impacts to paleontological resources to a less than significant impact level.

V-2 When excavations (not well drilling) extend below ten feet or encounter older alluvial sediments, the contractor shall have a qualified paleontological consulting firm conduct a review of the sediments and determine whether monitoring during additional initial ground disturbing is required during continuing excavation activities. Monitoring may be periodic or continuous during excavation activities in sensitive paleontological area. If paleontological resources are discovered, excavation activities in the area of the find shall be halted until the qualified paleontologist can evaluate the nature and significance of the finds. The CDA and/or contractor shall implement the management recommendations of the paleontologist monitoring and evaluating any resource exposed during construction activities.

With implementation of this measure, any paleontological resources of significance will be properly managed or avoided to a level of less than significant impact.

d. *Less Than Significant Impact* – There are no formal cemeteries known to occur on or near the proposed Phase 3 facilities. It is considered a very low probability that human remains will be discovered during construction. In the unlikely event that human remains should be encountered during the well drilling, all excavation activity must cease and the San Bernardino County Coroner's Office must be contacted immediately. State Health and Safety Code 7050.5 requires that no further disturbance shall occur until the county coroner has made a determination of origin and disposition pursuant to Public Resources Code Section 5097.98. If the coroner determines that the burial is prehistoric, the Native American Heritage Commission must be contacted and appropriate disposition of the human remains determined. As this is State law, no further mitigation is required.

Conclusion

The above analysis concludes that the proposed Phase 3 Desalter Expansion facilities would have no significant impact with incorporation of the proposed mitigation on cultural resources. Further the analysis finds that the potential to encounter human remains is very low and that existing regulations provide sufficient mitigation to ensure that exposure of unknown human remains will not result in significant adverse impacts. No further analysis of cultural or human resource impacts is required.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
VI. GEOLOGY AND SOILS – Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.			■	
ii) Strong seismic groundshaking?		■		
iii) Seismic-related ground failure, including liquefaction?		■		
iv) Landslides?			■	
b) Result in substantial soil erosion or the loss of topsoil?		■		
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on or offsite landslide, lateral spreading, subsidence, liquefaction or collapse?			■	
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risk to life or property?			■	
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?				■

Substantiation:

a. *Less Than Significant With Mitigation Incorporation* – The Phase 3 Desalter Expansion project is located within a seismically active area, as is most of southern California. A review of *California Division of Mines and Geology from CD-ROM 2000-00x (2000), Official Map of Alquist-Priolo Earthquake Fault Zones* for Riverside and San Bernardino counties found no Alquist-Priolo fault zones in the topographical quadrangles within which proposed project facilities will be located. California Geological Survey Official Seismic Hazard Zone Maps have not been published for the area within which the proposed project facilities would be located. The San Bernardino County Official Land Use Plan General Plan Geologic Hazard Overlay maps (FH27 C Ontario) show no

geologic hazards in the immediate vicinity of the proposed project facilities. The Riverside County General Plan Eastvale Area Plan recognizes that there are no known seismic faults within the Eastvale planning area, which includes a portion of the project area of impact.

While no faults have been identified within the area of impact of the proposed project, faults located outside of the project area of impact, such as the San Andreas and San Jacinto Faults, pose significant seismic threat to the area of the proposed project. Major quakes on regional faults could result in ground displacements along the fault scarps and intense groundshaking that would be expected to damage vulnerable structures and could result in localized ground failure.

No human occupancy structures are proposed as part of the project. The facility designs will incorporate design standards to withstand the local groundshaking predicted for the area as a result of the regional fault zones. Incorporating such design standards will prevent catastrophic failure of the facilities in the event of an earthquake or other disaster, based on a reasonable standard of professional design care. Due to the nature of the project, the project is not expected to expose people or property to a substantial risk of adverse effects from seismic hazards, including fault rupture and groundshaking. However, implementation of the following mitigation measure is incorporated to reduce potential impacts to any structures from groundshaking to a less than significant level.

VI-1 The structural design and construction of new structures will, at a minimum, be in accordance with the requirements of the most recent Uniform Building Code (UBC) and California Building Code (CBC) including the latest supplements for Groundshaking Zone 4 as described in the 2001 California Building Code Vol. 28 and all other applicable City, County, State and Federal laws, regulations and guidelines.

VI-2 Future construction shall be designed in accordance with results in order to meet the following performance standard for Risk Class I & II, e.g., public facilities, as identified below:

Risk Class I & II, Structures Critically Needed after Disaster: Structures which are critically needed after a disaster include important utility centers, fire stations, police stations, emergency communication facilities, hospitals, and critical transportation elements such as bridges and overpasses and smaller dams.

<u>Acceptable Damage</u>: Minor non-structural; facility should remain operational and safe, or be suitable for quick restoration of service.

The potential for liquefaction to occur in an area is a function of soil type and depth of groundwater. Soils that are poorly consolidated combined with near surface groundwater during an earthquake lose their shear strength and take on the properties of a heavy liquid. Liquefaction can result in the loss of foundation support, ground failure due to lateral spreading, and settlement of affected soils. Figure 10 of the Eastvale Area Plan of the Riverside County Integrated Plan shows that portions of the project within Riverside County are susceptible to high or very high liquefaction hazard.

The San Bernardino General Plan Update (2006) includes a Safety Background Report that identifies potential liquefaction zones throughout the County, including the Valley portion of the County. Page 7-43 contains the discussion of liquefaction. The document states: “The impacts of liquefaction to the County pose the greatest consequence in the Valley Region. Portions of the Valley Region are comprised of relatively loose near-surface alluvial sediments that are susceptible to liquefaction.” Figure 7-4A shows those liquefaction hazard areas in the Valley, and no such hazards are identified for the West Valley area that overlies the Chino Basin, within which the

project is proposed. Although the southern portion of the Basin has a high groundwater table, the sediment in this area does not appear to be coarse enough to contribute to a potential for liquefaction.

The Phase 3 Desalter Expansion would contribute to Re-Operation of the Chino Basin, which would result in removing ~400,000 acre-ft of groundwater and thereby lowering groundwater levels in portions of the Basin which has the potential to contribute to onsite or offsite subsidence. Watermaster has conducted intensive monitoring, mitigation and management of the area of subsidence since implementation of the OBMP. The impacts of Re-Operation have been evaluated in the Peace II SEIR and will not be revisited here. Implementation of the following mitigation measure will reduce potential impacts due to subsidence or liquefaction to a less than significant level.

VI-3 The OBMP Implementation Plan (Peace Agreement, Exhibit B, page 26) states "The occurrence of subsidence in Management Zone 1 is not acceptable and should be reduced to tolerable levels or abated." Watermaster has developed and implemented an adaptive management program of pumping and recharge in MZ1 to identify subsidence-related hazards and mitigate them to "tolerable levels." This adaptive management program is described in the MZ1 Subsidence Management Plan (MZ1 Plan). The Court approved the MZ-1 Plan in November 2007 and ordered its implementation. Watermaster plans to expand this program as a mitigation measure for subsidence-related hazards that could occur as a result of the Peace II project. Similar to current practice, Watermaster will collect, compile, review, and report annually on the monitoring program data. The annual reports will include recommendations for adaptive management to mitigate any measured subsidence that the MZ1 Technical Committee (that will include CDA representatives) identifies as "intolerable" as determined by CDA. Adaptive management may come in the form of the establishment of threshold water levels at index wells, reduced pumping at specific wells, sealing of well screens at specific depth intervals at specific wells, adjustment of pumping schedules, cessation of pumping at certain wells, installation of additional wells in alternate locations, and other appropriate measures, as determined by CDA.

A review of the proposed sites and applicable land use plans, including Figure 12 Eastvale Area Plan Slope Stability of the Riverside County Integrated Plan, indicates that the only proposed portion of the Phase 3 Desalter Project that would be located on or adjacent to slopes that could lead to instability is the Santa Ana River crossing of the Hamner Avenue pipeline. The staging areas for the boring and jacking of the pipeline, and the other aspects of pipeline construction and operation shall be required to comply with the following measure.

VI-4 Apply provisions of hillside erosion and sediment control that reduce volume and velocity of flows and content of sediment to levels that do not cause significant rill or gully erosion in susceptible areas. In addition, provide for restoration of areas that do become eroded.

With implementation of the above mitigation measures, the proposed project should not expose people or structures to potential substantial adverse geologic constraints/hazards.

b. *Less Than Significant With Mitigation Incorporation* – In the short term, construction activities associated with the Phase 3 Expansion Project have some potential to increase soil erosion from specific project sites. Implementation of the following mitigation measures as well as mitigation measure VIII-2 (Hydrology and Water Quality) is considered sufficient to reduce potential impacts a less than significant level. Please refer to Section VIII, Hydrology for a full discussion of the

hydrology and water quality issue. By meeting these requirements, potential erosion impacts related to installing the facilities will not cause any significant adverse erosion or sedimentation impacts.

Mitigation measures are available to minimize erosion problems associated with wind and water, especially during the construction phase when trenches and cut slopes are exposed. During construction, the length of time vegetation and other cover is absent should be minimized. When cut slopes are exposed, any of the following measures may be useful in limiting erosion.

VI-5 Add protective covering of mulch, straw or synthetic material (erosion control blankets, tacking will be required). Mulch or straw must be certified to be free of invasive plant seed.

VI-6 Limit the amount of area disturbed and the length of time slopes and barren ground are left exposed. After pipeline installation, soil shall be compacted to an elevation and density similar to pre-construction conditions. Backfill over pipes must be 90% density.

VI-7 Construct diversion dikes and interceptor ditches to divert water away from construction areas.

VI-8 Install slope drains (conduits) and/or water-velocity-control devices to reduce concentrated high-velocity streams from developing.

After the construction phase, long-term erosion control can be accomplished by keeping soils under vegetative cover, hardscape (pavement, gravel, or other hard cover) and planting wind breaks. The type of vegetation used as wind breaks must comply with SCAQMD's standards. After construction, soils underlying facilities and pavements will not be subject to erosion.

Mitigation measures identified above shall be employed within the proposed project area where construction disturbance has exposed underlying soils.

c. *Less Than Significant Impact* – Please refer to item a under this section.

d. *Less Than Significant Impact* – The entire Chino Basin generally has soils with low to moderate shrink-swell potential. Therefore, the proposed project sites are unlikely to be located on expansive soils, as defined in Table 18 1-B of the Uniform Building Code (1994). Implementation of mitigation measures VI-4 and VI-5 can reduce the potential for Phase 3 Expansion facilities to create substantial risks to life or property to a less than significant level. No additional mitigation measures are required.

e. *No Impact* – The proposed project being evaluated does not include the use of septic tanks or other onsite subsurface disposal systems not associated with municipal sewer collection and disposal systems. Therefore, the issue of soil not capable of adequately supporting septic or other alternative wastewater disposal systems requires no further analysis.

Conclusion

Based on the analysis presented above, geology and soil issues will not experience significant adverse impacts from project implementation with implementation of the proposed mitigation measures.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
VII. HAZARDS AND HAZARDOUS MATERIALS - Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?		■		
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?			■	
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?		■		
d) Be located on a site which is included on a list of hazardous material sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?		■		
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?		■		
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?				■
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?			■	
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?			■	

Substantiation:

a. *Less Than Significant Impact With Mitigation Incorporation* – Phase 3 Desalter Expansion facilities include wells, pipelines, treatment facilities and support facilities. In most instances these facilities do not involve the routine transport, use, or disposal of hazardous materials. However in certain instances, hazardous materials are used routinely in support of treatment operations, and thus, some activities of the proposed project may generate hazardous wastes. Although CDA and other stakeholders are required to manage both use of and disposal of hazardous or toxic materials in accordance with existing laws and regulations, implementation of the following mitigation measures can ensure that the use and generation of hazardous substances does not pose a significant hazard to workers or adjacent land uses.

VII-1 For Phase 3 Desalter Expansion facilities that handle hazardous materials or generate hazardous waste, the Business Plan prepared and submitted to the county or local city shall incorporate best management practices (BMPs) designed to minimize the potential for accidental release of such chemicals. These BMPs can be incorporated into the Business Plan or a Spill Prevention Control Countermeasures Plan (SPCC) prepared for the Desalter facilities. The facility managers shall implement these measures to reduce the potential for accidental releases of hazardous materials or wastes.

VII-2 The Business Plan or SPCC Plan shall assess the potential accidental release scenarios and identify the equipment and response capabilities required to provide immediate containment, control and collection of any released material. Adequate funding shall be provided to acquire the necessary equipment, to train personnel in responses and to obtain sufficient resources to control and prevent the spread of any accidentally released hazardous or toxic materials.

VII-3 For the storage of any acutely hazardous material at a Phase 3 Desalter Expansion facility, such as chlorine gas, modeling of pathways of release and potential exposure of the public to any released material shall be completed and specific measures, such as secondary containment, shall be implemented to ensure that sensitive receptors will not be exposed to significant health threats based on the toxic substance involved.

VII-4 All contaminated material shall be delivered to a licensed treatment, disposal or recycling facility that has the appropriate systems to manage the contaminated material without significant impact on the environment.

VII-5 Before determining that an area contaminated as a result of an accidental release is fully remediated, specific thresholds of acceptable clean-up shall be established and sufficient samples shall be taken within the contaminated area to verify that these clean-up thresholds have been met.

b. *Less Than Significant Impact* -- Both during construction and at specific facilities, such as water treatment facilities, a potential exists for accidental release of hazardous materials. Accidental releases of hazardous materials during construction or operations are readily controlled to a less than significant level of hazard through control or remediation of the material accidentally released. Implementation of mitigation measures VII-1 through VII-5 can prevent any significant exposures to hazardous or toxic materials by the public or employees at the location of an accidental spill. These measures are sufficient to control or limit the adverse impact of accidental releases to a less than significant impact level.

c. *Less Than Significant Impact With Mitigation Incorporation* - Phase 3 Desalter Expansion facilities include proposed locations within the vicinity of existing schools or school district properties. A review of Google Earth and the California Department of Toxic Substances Control (DTSC) Envirostor Database found the following school sites, some with associated hazard information.

Option 1 of the Raw Water Pipeline is within ¼ mile of the Rosa Parks Elementary School at 6701 Harrison Avenue. The approximately 10-acre property associated with the school was historically used for agriculture and for dairy operations. The presence of biogenic methane gas in soil at the site required implementation of a methane mitigation system designed to prevent and/or monitor methane accumulation, which was installed on June 8, 2006 with approval by DTSC. The Removal Action Completion Report, which documents installation of the methane mitigation system and methane monitoring results, was approved by DTSC on February 2, 2009.

The Augustine Ramirez Intermediate School located at 6851 Harrison Avenue is also within one-quarter mile of Option 1 of the Raw Water Pipeline. The site was used historically for agricultural purposes, including dairy. The site was investigated for organochlorine pesticides, metals, volatile organic compounds, and methane. Elevated levels of methane were detected as high as 710,000 parts per million in August 2005 and a methane mitigation system was proposed, but no action was taken. Subsequent methane sampling in November and December 2009 found methane levels below the DTSC action level in the area of the proposed methane mitigation system and elevated levels in the southwestern area of the site. The portion of the site with methane concentrations above action levels required further methane monitoring and restrictions preventing land uses at the site that could result in methane accumulations.

The Chino Creek Raw Water Pipeline is within ¼ mile of the Kimball Avenue Crash Site, an approximately 3,000 square-foot site of vacant, graded land historically occupied by agricultural and dairy operations. The site was intended to be developed as a park for the Kimball school site. Some unexploded ordinances were discovered during grading operations and it was determined that a World War II plane crashed on the site during the 1940s. The site was certified March 25, 2004.

Jurupa Valley High School is located northeast of the intersection of Etiwanda Ave and Bellegrave Ave, within one-quarter mile of the SARI outlet and the potential new SARI connection that would flow from Chino II if the concentrate reduction treatment option were not selected. No other school sites were identified within one-quarter mile of proposed Phase 3 Desalter Expansion facilities.

In general, the location of water pipeline facilities within ¼ mile of a school facility would not pose a hazard. However, it is possible that facilities that use and/or store chlorine, sodium or calcium hypochlorite or other hazardous substances, which could include expanded treatment facilities at the existing Desalters or possible treatment facilities at well or booster stations, may be located within a quarter-mile of a school. Measures VII-1 through VII-3 contain specific programs that can be used to control hazardous emissions or accidental releases of hazardous substances from operations at a facility located within one-quarter mile of a school. These measures would be considered sufficient to prevent exposure of students and teachers at such a school to significant concentrations of hazardous substances. However, in addition to these measures, the following measures shall also be implemented to ensure potential impacts are reduced to a less than significant impact level.

VII-6 Engineering controls over any hazardous emissions or accidental releases of hazardous substances shall be comprehensive, redundant and state of the art to minimize emissions from the facility or to minimize the potential for an accidental release. A report verifying the adequacy of such controls shall be provided to decision-makers before authorization to initiate operations at Phase 3 Desalter Expansion facilities.

VII-7 Where the location of a Phase 3 Desalter Expansion facility other than a pipeline will be located within 1/4 mile of a school, the CDA shall confer with the local school district. The notice to the school district shall define the type of controls over hazardous substances that will be implemented and request the district to provide review and input on the design controls for such substances.

With the incorporation of these mitigation measures, project impacts can be reduced to a less than significant level of hazard.

d. *Less Than Significant Impact With Mitigation Incorporation* - There is the potential for Phase 3 Desalter Expansion facilities to be located on sites that have been contaminated by hazardous materials. As noted in the hazard investigation reports reviewed under item c above, there are numerous sources of contamination in the project area, including from agriculture and dairy activities. Review of available data (site appearance, USGS map, DTSC Envirostor Database (Including the Hazardous Waste and Substances Site List, or Cortese List, and the Leaking Underground Storage Tank Information System) and the U.S. Environmental Protection Agency (EPA) Enviromapper (including Superfund, toxic releases, water discharges, air emissions and hazardous waste handlers) indicates the following information regarding past uses in the project area or immediate vicinity that may have involved hazardous materials.

The Chino Airport Radium Dials Site located at 7000 Merrill Avenue is listed as a Cerclis/Superfund site. Several sites are listed as Leaking Underground Fuel Tank (LUFT) Sites. Excelsior Farms located at 7401 Hamner Avenue in Corona is listed as a completed case that was closed as of 2/6/2003. Crossroad Classic Mustang at 12421 Riverside Avenue in Mira Loma is listed as a completed case that was closed as of 2/27/2006. Hadley Auto Transport at 4500 Etiwanda Avenue in Mira Loma has been under ongoing review since 2003 for substantial releases of diesel fuel into the soil. The plume was delineated in 2004, and soil excavation was conducted in April 2005.

In addition to the known hazard sites under regulatory review, there are known contamination plumes in the groundwater within the Basin that are discussed in greater detail in Section VIII Hydrology. Groundwater from wells likely to be impacted from these plumes is tested under regulatory oversight, and groundwater extracted from the proposed well facilities would be tested for possible contaminants. Engineering design has taken into consideration likely expected contaminants, based upon test well and modeling information, and treatment options under consideration are those expected to be necessary to remediate contaminants to regulatory standards. The following mitigation is deemed sufficient to reduce potential adverse impacts associated with intercepting the plumes to a less than significant level.

VII-8 In coordination with the Watermaster, if any well intercepts a contamination plume, the affected well will be connected to a treatment unit to remove the plume pollutants to a level that meets potable/drinking water quality standards. Alternatively, the well owner may blend the produced water with other water sources to meet potable/drinking water quality standards, or another method that achieves the same performance standard. If this performance standard cannot be achieved, the well will be removed from production.

To minimize the potential for creating a significant hazard to the public or the environment from selecting or developing a site with historic or existing contamination, the following measures will be implemented.

VII-9 Before acquiring a Phase 3 Desalter facility site, the project proponent shall have a Phase 1 property evaluation completed. If a potential for contamination exists, a Phase 2 property evaluation shall be completed. If contamination of the site is identified, the project proponent shall avoid the site, or shall prepare

a work plan for developing the site and have this work plan reviewed and approved by the local CUPA or DTSC. The approved work plan for the site shall be implemented in a manner that does not cause a significant health risk for the public or employees.

VII-10 Where contamination of a site is accidentally discovered after development is initiated, the CDA shall retain a qualified industrial hygienist to characterize the type and extent of the contamination, contain the contamination and oversee the proper removal and disposal of contamination in accordance with an approved work plan, and all applicable laws, regulations and standards.

Implementation of these measures can ensure that Phase 3 Desalter facilities will not be developed in a manner that could cause significant hazards to the public or environment from historic or existing contamination.

e. *Less Than Significant Impact With Mitigation Incorporation* - Ontario International Airport, and Chino Airport are public airports within the vicinity of proposed project activities. The Federal Aviation Administration (FAA) has jurisdiction over the permitting of airports and establishes standards for their construction and operation. These standards include limiting obstructions in the vicinity of the airport that could adversely impact the operation of aircraft.

Review of the Comprehensive Land Use Plan for the Chino Airport prepared for the San Bernardino County Airport Land Use Commission in 1991 indicates that Chino I Desalter and most of the potential locations for the CCWF wells are within Safety Zone III for the Chino Airport. A small area of potential well locations south of Kimball Avenue immediately south of the runway are within the Runway Protection Zone (RPZ). Additional potential well locations are within Safety Zone II. The Plan describes the requirements of each zone as follows.

RPZ - Land uses shall be prohibited which might create glare and misleading lights or lead to the construction of residences, fuel handling and storage facilities, smoke generating activities, and places of assembly. While it is desirable to clear all objects from the RPZ, uses such as agricultural operations, provided they do not attract birds, and golf courses are normally acceptable outside of the Object Free Area.

Safety Zone II – Density restrictions are needed to ensure that large concentrations of people are not located within this safety zone. Recommended density limits are as follows:

- uses in structures: no more than 25 persons per acre at any one time; no more than 15 people in any one building.
- uses not in structures; no more than 50 persons per acre at any one time

Safety Zone III - Strong emphasis is still placed on limiting large assemblies of people. Additionally, land use activities which may present visual, electronic, or physical hazards to aircraft in flight should be avoided in this and all other safety zones. Visual hazards include distracting lights (particularly lights which can be confused with airfield lights), glare, and sources of smoke. Electronic hazards include any uses which interfere with aircraft radio communications. The principal physical hazards, other than the height of structures, are bird strikes. Any land use which can attract birds should be avoided.

The proposed project facilities would not employ large numbers of people after completion of construction activities. None of the facilities created would attract large numbers of people who might be at risk in the event of an aircraft accident. Facilities may include electronic devices and lighting that would be required to comply with FAA regulations. None of the project facilities are expected to attract birds.

The proposed Milliken Pump Station is within the influence area of the Ontario International Airport according to Figure LU-6 of the Ontario Plan. The site is within the area shown as FAR Part 77. The proposed pipeline at the intersection of Riverside Drive and Hamner Avenue would be just within the Part 77 and influence area as well. The Part 77 is concerned primarily with obstructions into airspace. Given that most of the project facilities will be located underground after construction, and the remaining facilities would not exceed existing, surrounding structure heights, no conflict is expected.

To ensure that there is no conflict between FAA regulations and with facility placement or electronic devices and lighting, the following mitigation measure will be implemented to prevent any hazards and conflicts between aircraft operations and the proposed project:

VII-11 Prior to installing any above ground structures or facilities within FAA Restricted Use, Development and Height Area or within two miles of a public airport, a final determination will be made on the acceptability of such facilities within this zone or area. If it is not permitted, such structures or facilities will be relocated out of the zone on adjacent parcels of land. Final locations for such facilities within FAA Restricted Use, Development and Height Area (ACLUP Referral Area "B") will be reviewed with the Airport Manager, and any exceptions will be obtained in accordance with FAA regulations.

Implementation of this measure will be sufficient to prevent any significant conflicts or hazards with public airport operations.

f. *No Impact* - There are no known private airstrips within the project vicinity; therefore, this land use has no potential to cause safety hazards for people residing or working in the project area. No mitigation measures are required.

g. *Less Than Significant Impact* - Major evacuation routes are located within the Chino Basin along major interstates, freeways and major north-south and east-west roads. The proposed project activities and facilities have no potential to permanently impact emergency evacuation plans or emergency response plans over the long-term. In the short-term, construction activities related to pipeline and other infrastructure system improvements located within existing road rights-of-way have a potential to interfere with such plans. Mitigation measure XV-1 identified in Section XV Traffic and Transportation can ensure that roads under construction remain passable or that alternative routes are available both during daily construction and at the end of the day after construction is completed. This measure ensures that the proposed project will not significantly interfere with the existing emergency response plans or the emergency evacuation plans maintained by the local jurisdictions. No additional mitigation is required under this item.

h. *Less than Significant impact* - The project facilities are proposed within generally developed or maintained lands. The Riverside County General Plan Eastvale Area Plan, which includes the southern portion of the pipeline located in Hamner Avenue, states that there is a high risk of wildfire along the Santa Ana River. The subsurface pipeline would neither be impacted by nor contribute to wildfire. No other facilities are proposed for locations known to have high wildfire hazard. Project facilities will not increase risk of wildfire. No impact is identified, and no mitigation is required.

Conclusion

Based on the analysis presented above, the hazard and hazardous material issues will not experience significant adverse impacts from project implementation with implementation of the proposed mitigation measures. No further analysis is required.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
VIII. HYDROLOGY AND WATER QUALITY – Would the project:				
a) Violate any water quality standards or waste discharge requirements?			■	
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?		■		
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on or offsite?		■		
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding onsite or offsite?			■	
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?			■	
f) Otherwise substantially degrade water quality?		■		
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?				■
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?			■	
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?			■	

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
j) Inundation by seiche, tsunami, or mudflow?			■	

Substantiation:

a. *Less than Significant Impact* - The specific objective of the Phase 3 Desalter Expansion program is to expand desalter production to the full 40,000 acre ft per year envisioned by the Optimum Basin Management Program, i.e., Peace I Agreement. The Peace II Program, in conjunction with the proposed project, would implement re-operation to lower the groundwater table through removal of approximately 400,000 acre-ft of storage in the Basin, which would achieve hydraulic control for the Chino Basin. Hydraulic control is a requirement of the Regional Water Quality Control Board Basin Plan for the Chino Basin that is intended to protect water quality downstream of the Basin.

Thus, it is partially through implementation of the proposed project that IEUA, Watermaster and other Chino Basin stakeholders can avoid violating any water quality standards or waste discharge requirements. The specific actions of the Phase 3 Desalter Expansion program would be required to comply with water quality standards. The quality of product water and contamination level of brine discharged to the SARI line or elsewhere is required to comply with regulatory standards. Implementation of the proposed project would be beneficial to the water quality of the Basin because it would remove contaminated groundwater from the Basin, and it would treat and dispose of the contaminants through the SARI brine line or through creation of concentrate pellets. Therefore, implementation of the project as proposed is not forecast to cause any significant adverse water quality impacts relative to water quality standards and waste discharge requirements. No mitigation is required.

b. *Less Than Significant Impact With Mitigation Incorporation* – As stated above, the proposed project would expand the desalter production to 40,000 AF/yr and is intended to contribute to lowering the groundwater table in the project area to prevent contaminated groundwater from discharging downstream. The lowered groundwater associated with the proposed project's increased groundwater extraction could impact some area wells. This finding is based on a detailed evaluation of the groundwater aquifer in the Chino Basin provided by Wildermuth Environmental Inc. (WEI).

WEI has been compiling data and preparing reports on the groundwater resources of the Chino Basin, including detailed models, for the past ten years. The specific model report that is provided as Appendix 3 to this document is titled: "*2009 Production Optimization and Evaluation of the Peace II Project Description."* The following summary is presented of the report's findings regarding groundwater extractions (depletion) and how groundwater extractions in support of the Desalter Phase 3 Expansion Project may adversely impact the groundwater table in the vicinity of the proposed wells required to support the 40,000 AF/yr groundwater extractions that will result from implementing this Project.

First, the WEI report in Appendix 3 addresses the cumulative groundwater extractions within the Chino Basin, including the proposed Desalter Phase 3 Expansion and the other major program envisioned by the Peace II Agreement, Reoperation. As stated in the report (page 2-1), *"Two main hydrologic features of the Peace II Project Description, which is contained in the Peace II Agreement, were investigated and are reported on herein: 1) the expansion of the desalter program such that desalter groundwater production reaches about 40,000 acre-ft/yr and occurs in amounts and at locations that contribute to the achievement of hydraulic control and 2) a strategic reduction in groundwater storage (re-operation) that, along with the expanded desalter program, will achieve*

hydraulic control." Reoperation consists of a program to reduce the amount of groundwater in storage in the Chino Basin by approximately 400,000 acre-feet relative to existing conditions. The purpose of Re-operation is to achieve hydraulic control of the Chino Basin, which can be simply defined as control over (elimination of) high TDS rising groundwater immediately upstream of Prado Dam. It is contemplated that the Desalter Phase 3 Expansion Project will contribute to hydraulic control

The WEI report provides the following information regarding projected groundwater levels related to implementation of the Desalter Phase 3 Expansion Project, in the context of Re-operation and ongoing groundwater extractions within the Chino Basin to meet future water supply demand as defined by the various potable water supply agencies over the period from the present to 2030. This information is abstracted directly from the WEI report. Figure numbers have been revised to be consistent with this Initial Study text, but the WEI report numbers are provided for reference to Appendix 3.

Figures VIII-1 (4-10a) and VIII-2 (4-10b) show the estimated groundwater elevation contours for July 2005 for model layers 1 and 2, respectively. These maps show the initial groundwater elevations throughout the basin and illustrate the initial groundwater levels for the planning period. Figures VIII-3 (5-1a) and VIII-4 (5-1b) show the projected groundwater elevations in June 2030, the end of the planning period, for model layers 1 and 2, respectively. Figures VIII-5 (5-2a) and VIII-6 (5-2b) show the change in groundwater levels across the basin over the planning period for model layers 1 and 2, respectively….. Figures VIII-5 through VIII-6 also show the appropriators' water service area boundaries.

The direction of groundwater flow in the Chino Basin in 2005 and 2030 is generally the same with groundwater flowing from the northeast and north to the southwest and south. Figure 4-9 (Appendix 3) shows the locations of appropriator wells that were used in the production and replenishment optimization that was discussed in Section 4.3 (WEI, Technical Appendices) *and for which groundwater level projections were extracted from the Peace II Alternative simulation. Appendix B* (WEI, Technical Appendices) *contains charts that illustrate the projected groundwater elevation time series for these 98 wells. Figures 4-13a through 4-13j (Appendix 3) illustrate projected groundwater elevations at some of these appropriator wells. And, Table 4-8 (Appendix 3) characterizes the average, maximum, and minimum changes in groundwater elevations across the water service areas of appropriators that overlie the Chino Basin for the Baseline and Peace II Alternatives from 2005 through 2030.*

The groundwater elevation projections in Appendix B and in Figures 4-13 a through 4-13j (Appendix 3) show that groundwater production is sustainable for the Baseline and Peace II Alternatives. At some wells, the groundwater elevation falls below constraints prescribed by the appropriators. For these cases, it was assumed that the pumps would be lowered to maintain production. It is also the case that, under 2005 and the years immediately following, the constraint established by the appropriator was violated and yet those wells were in use.

As shown in Table 4.8 (Appendix 3), the average changes in layers 1 and 2 were essentially identical in eastern half of the basin but were significantly different in the western half of the basin. In layer 1, the average change in groundwater elevation ranges from a low of -14 feet for the Pomona service area to -34 feet for the CVWD service area; in layer 2, it ranges from a low of -19 feet for the FWC service area to -52 feet for the MVWD service area. Relative to the Baseline Alternative, in 2030, the average change in groundwater elevation ranges from a low of -8 feet for the JCSD service area to -25 feet for the Pomona service area; in layer 2, it ranges from a low of -10 feet for the JCSD service area to -23 feet for the MVWD, Pomona, and Upland service areas.

In layer 1, the maximum change in groundwater elevation ranges from a low of -41 feet for the FWC service area to -71 feet for the MVWD service area; in layer 2, it ranges from a low of -41 feet

for the FWC service area to -80 feet for the Chino service area. In layer 1, the minimum change in groundwater elevation ranges from a low of +1 feet for the JCSD service area to -14 feet for the Upland service area; in layer 2, it ranges from a low of zero feet for the Chino service area to -38 feet for the Pomona and MVWD service areas.

Relative to the Baseline Alternative, in 2030, the maximum change in groundwater elevation ranges from a low of -18 feet for the FWC service area to -28 feet for the Pomona, Upland, and MVWD service areas; in layer 2, it ranges from a low of -18 feet for the FWC service area to -27 feet for the Upland and MVWD service areas. In layer 1, the minimum change in groundwater elevation relative to the Baseline Alternative ranges from a low of zero feet for the Chino and the JCSD service areas to -21 feet for the Pomona service area; in layer 2, it ranges from a low of zero feet for the Chino and JCSD service areas to -20 feet for the Pomona service area.

For the Desalter Phase 3 Expansion Project area, the decline in groundwater level is forecast to be approximately 30 feet for both layers relative to the current groundwater levels. Refer to Figures VIII-1 through VIII-6. As noted in the text above, this change may require lowering of the pumps to maintain current groundwater production levels. For the water serving agencies (WSAs) that are stakeholders in the Peace II Agreement in the Chino Basin, this change in groundwater elevation is expected and should not require mitigation by CDA. However, for the local water producer in the vicinity of the new Chino Creek Wellfield (where the new CDA wells will be installed), an adverse impact may occur. The following mitigation is required to reduce such potential impacts to a less than significant level.

VIII-1 Mitigation will be provided to the estimated eight (8) private well owners/operators within the Chino Creek Wellfield area when the well owner/operator cannot produce enough groundwater to meet their needs and the cause of reduced production can be demonstrated to be the expansion of the desalter program. The mitigation will restore the lost production capacity to ensure that the well owner/operator can produce enough groundwater to meet the owner's needs or provide an alternate source of water to replace the lost production capacity. The method of mitigation will be determined at the discretion of the CDA taking into account the historical fluctuations in the water table, the depth to water, the pump and well efficiency and the reasonableness of the well owner's expectation that the existing well configuration (pump, well and water table) should be protected. As a pre-requisite to receiving mitigation, every well owner will be expected to engage in reasonable self-help measures to address inefficient groundwater withdrawal practices.

With implementation of the above measure, any potential significant adverse impacts to local wells in the vicinity of the new CDA wells (Chino Creek Wellfield) can be controlled to a less than significant impact level.

c. *Less Than Significant Impact With Mitigation Incorporation* – The process of installing the Phase 3 Desalter Expansion facilities (water treatment facilities, new wells and associated pipelines) involves construction activities that could result in erosion and sedimentation. The SWRCB adopted the General Construction Activity Storm Water NPDES (General Permit) in 1992 thereby regulating construction activity that would result in the disturbance of 5 acres or more. Water Quality Order 99-08-DWQ lowered threshold of regulated activity to one acre in 2002. The current General Construction Permit (Order No. 2009-0009-DWQ) also regulates projects greater than one acre. The proposed Phase 3 Desalter Expansion facilities would impact more than one acre of land and therefore, must electronically file all required permit registration documents with the SWRCB prior to initiation of construction activity. The General Permit requires that the project developer electronically submit a site map, Notice of Intent (NOI), SWPPP and certification

statement to the SWRCB and authorizes discharge of stormwater associated with construction given implementation of a Storm Water Pollution Prevention Plan (SWPPP) that eliminates or reduces non-stormwater discharges to storm sewer systems and other "Waters" as defined by the Clean Water Act. The General Permit prohibits the discharge of material other than stormwater and all discharges that contain hazardous substances in excess of reportable quantities established at 40 Code of Federal Regulations 117.3 or CFR 302.4, unless a separate NPDES permit has been issued to regulate those discharges. Regardless of the need for a construction NPDES permit, the project must implement Best Management Practices (BMPs) as part of the SWPPP to reduce the potential for soil erosion or pollutants leaving a construction site and adversely affecting surface water.

The San Bernardino County Flood Control District, the County of San Bernardino, and the Incorporated Cities of San Bernardino County are co-permittees within the Santa Ana Region Area-wide Urban Storm Water Runoff NPDES Permit (NPDES No. CAS618036, Order No. R8-2010-0036.) The Riverside County Flood Control and Water Conservation District, the County of Riverside and the incorporated Cities of Riverside County are co-permittees within the Santa Ana Region Areawide Urban Storm Water Runoff NPDES Permit (NPDES No. CAS618033, Order No. R8-2010-0037.) The Stormwater NPDES Permits require implementation of a Water Quality Management Plan (WQMP, also termed a Standard Urban Storm Water Mitigation Plan in other jurisdictions) with numerical design standards for BMPs, adopted in 2010. The BMPs to infiltrate and/or treat stormwater pollution are required to be incorporated into the design phase of new development and redevelopment, in order to minimize the discharge of pollutants of concern. Numerical design standards ensure that stormwater runoff is managed for water quality and quantity concerns.

The following measure shall be implemented to reduce the effects of potential impacts from stormwater pollution to a less than significant level.

VIII-2 The construction contractor shall prepare and implement a Storm Water Pollution Prevention Plan (SWPPP) which specifies Best Management Practices that will be implemented to prevent construction pollutants from contacting stormwater with the intent of keeping all products of erosion from moving offsite. The SWPPP shall be developed with the goal of achieving controlling all pollutants and their sources, including sediment and non-stormwater discharges both during and following construction to the maximum extent practicable based on available, feasible best management practices. The SWPPP and the monitoring program for the construction projects shall be consistent with the requirements of the latest version of the State's General Construction Activity Storm Water Permit and NPDES Permit No. CAS618036, Order No. R8-2010-0036 for projects within San Bernardino County or NPDES No. CAS618033, Order No. R8-2010-0037 for projects within Riverside County.

The following items should be included in the SWPPP:

- ***The length of trenches which can be left open at any given time should be limited to that needed to reasonably perform construction activities. This will serve to reduce the amount of backfill stored onsite at any given time.***
- ***Backfill material should not be stored in areas which are subject to the erosive flows of water.***
- ***Erosion control measures, such as scheduling, hydraulic mulch, soil binder applications, earth dikes and drainage swales.***

- ***Sediment control measures such as the use of straw bales, sandbags, silt fencing or detention basins shall be used to capture and hold eroded material for future cleanup.***

- ***Rainfall will be prevented from entering material and waste storage areas and pollution-laden surfaces.***

- ***Construction-related contaminants will be prevented from leaving the site and polluting waterways.***

- ***Replanting and hydroseeding of native vegetation will be implemented to reduce slope erosion and filter runoff, for final stabilization of a site.***

- ***A spill prevention control and remediation plan to control release of hazardous substances.***

VIII-3 Phase 3 Desalter Expansion facilities shall prepare and implement a Water Quality Management Plan (WQMP) which specifies Best Management Practices that will be implemented after construction to prevent post construction surface runoff containing pollutants from the site after construction has been completed. The WQMP shall also be developed with the goal of achieving a reduction in post-development surface runoff, to control urban runoff pollution and downstream impacts to the maximum extent practicable based on the requirements of the WQMP for each county.

With implementation of Mitigation Measures VIII-2 and VIII-3 and the applicable jurisdictions' adopted BMPs designed to control discharges of pollution that could cause a significant adverse impact to surface water quality, potential impacts are reduced to a less than significant level. Due to the proposed landscaped or hard-surfaced nature of the majority of the areas of impact after construction, the potential for substantial long-term soil erosion to occur is considered less than significant with implementation of Mitigation Measures VIII-2 and VIII-3.

d&e. *Less Than Significant Impact* – Implementation of the proposed Phase 3 Desalter Expansion project would result in minor changes to absorption rates and the amount of runoff from the project sites associated with minor increases in hardscape because most of the infrastructure will be located in areas that are already developed and hardscaped. In general, most pipelines would be placed within existing roadways and would not alter the area of impermeable surface within such roadways. Also, many proposed facilities would be located within existing compounds that are already hard-sided such that any decrease in absorption rates would be minimal. Some of the proposed Phase 3 Desalter Expansion facilities, such as well sites and booster pump stations, would incorporate impermeable surfaces that can generate additional runoff. These facilities are small in size and would only have the potential to contribute small amounts of increased runoff to area stormwater drainage systems. The proposed project would not create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.

The proposed project would not substantially alter the existing drainage pattern of the individual sites or areas, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding onsite or offsite. The proposed Hamner Avenue product water pipeline would bore and jack the pipeline under the Santa Ana River from staging areas outside of the waterway, thereby avoiding potentially significant impacts to the River. No mitigation is required.

f. One of the issues of concern related to implementation of the Desalter Phase 3 Expansion Project is the possibility of mobilizing existing contaminated groundwater plumes located within the Chino Basin. The WEI study examined the potential impacts to each of the plumes and the potential adverse impacts to the contaminated plumes are described in the following text. The estimated 2008 location of contaminated plumes (water quality anomalies) is presented in Figures 4.17a and 4.16b (refer to Appendix 3). Each of the plumes is discussed below and an evaluation of how they may be affected by implementation of the CDA wells is provided. The analysis is directly abstracted from the WEI study and the study text is shown in italics.

Groundwater Plume Descriptions

Chino Airport. The Chino Airport is located approximately four miles east of Chino and six miles south of Ontario International Airport and occupies about 895 acres. From the early 1940s until 1948, the Airport was owned by the Department of Defense and used for flight training, aircraft storage and maintenance, and aircraft salvage operations. The County of San Bernardino acquired the airport in 1948 and has since operated and/or leased portions of the facility. Past and present businesses and activities at the airport since 1948 have included the modification of military aircraft; crop-dusting; aircraft-engine repair; aircraft painting, stripping, and washing; dispensing of fire-retardant chemicals to fight forest fires; and general aircraft maintenance. The use of organic solvents for various manufacturing and industrial purposes is widespread throughout the airport's history (RWQCB, 1990). From 1986 to 1988, a number of groundwater quality investigations were performed in the vicinity of Chino Airport. Analytical results from groundwater sampling revealed the presence of VOCs above MCLs in six wells down gradient of the Chino Airport. The most common VOC detected above its MCL was TCE with concentrations ranging from 6 to 75 µg/L. The plume is elongate in shape, up to 3,600 feet wide, and extends approximately 14,200 feet from the airport's northern boundary in a south to southwestern direction.

General Electric Flatiron Facility. The General Electric Flatiron Facility (Flatiron Facility) occupied the site at 234 East Main Street, Ontario, California from the early 1900s to 1982. Its operations primarily consisted of manufacturing clothes irons. Currently, the site is occupied by an industrial park. The RWQCB issued an investigative order to General Electric (GE) in 1987 after an inactive well in Ontario was found to contain TCE and chromium above drinking water standards. Analytical results from groundwater sampling have indicated that VOCs and total dissolved chromium are the major groundwater contaminants in this plume. The most common VOC detected at levels significantly above its MCL is TCE, which reached a measured maximum concentration of 3,700 µg/L. Other VOCs—including PCE, toluene, and total xylenes—are periodically detected but commonly below MCLs (Geomatrix Consultants, 1997). The plume is up to 3,400 feet wide and extends about 9,000 feet south-southwest (hydraulically down gradient) from the southern border of the site. From 2001 to 2006, the maximum TCE concentration in groundwater detected at an individual well within the Flatiron Facility plume was 3,200 µg/L. The plume is currently being remediated by GE and is considered fully contained by a well extraction system.

General Electric Test Cell Facility. The GE Engine Maintenance Center Test Cell Facility (Test Cell Facility) is located at 1923 East Avon, Ontario, California. Primary operations at the Test Cell Facility included the testing and maintenance of aircraft engines. A soil and groundwater investigation, followed by a subsequent quarterly groundwater monitoring program, began in 1991 (Dames & Moore, 1996). The results of these investigations showed that VOCs exist in the soil and groundwater beneath the Test Cell Facility and that the released VOCs had migrated offsite. Analytical results from subsequent investigations indicated that the most common and abundant VOC detected in groundwater beneath the Test Cell Facility was TCE. The historical maximum TCE concentration measured at an onsite monitoring well (directly beneath the Test Cell Facility) was 1,240 µg/L. The historical maximum TCE concentration measured at an offsite monitoring well (down gradient) was 190 µg/L (BDM International, 1997). Other VOCs that have been detected include PCE, cis-1,2-DCE, 1,2-dicholoropropane, 1,1-DCE, 1,1-DCA, benzene, toluene, xylenes,

and others. The plume is elongate in shape, up to 2,400 feet wide, and extends approximately 10,300 feet from the Test Cell Facility in a southwesterly direction. From 2001 to 2006, the maximum TCE and PCE concentrations in groundwater detected at an individual well within the Test Cell Facility plume were 900 µg/L and 17 µg/L, respectively.

Kaiser Steel, Fontana Steel Site. Between 1943 and 1983, the Kaiser Steel Corporation (Kaiser) operated an integrated steel manufacturing facility in Fontana. During the first 30 years of operations (1945-1974), a portion of Kaiser's brine wastewater was discharged to surface impoundments and allowed to percolate into the soil. In the early 1970s, the surface impoundments were lined to eliminate percolation to groundwater (Mark J. Wildermuth, 1991). In July 1983, Kaiser initiated a groundwater investigation that revealed the presence of a plume of degraded groundwater under the facility. In August 1987, the RWQCB issued CAO Number 87-121, which required additional groundwater investigations and remediation activities. The results of these investigations showed that the major constituents of release to groundwater were inorganic dissolved solids and low molecular weight organic compounds. The wells sampled during the groundwater investigations had TDS concentrations ranging from 500 to 1,200 mg/L and TOC concentrations ranging from 1 to 70 mg/L. As of November 1991, the plume had migrated almost entirely off the Kaiser site. Based on a limited number of wells, including City of Ontario Well No. 30, the plume is up to 3,400 feet wide and extends about 17,500 feet from northeast to southwest.

Milliken Landfill. The Milliken Sanitary Landfill (MSL) is a Class III Municipal Solid Waste Management Unit, located near the intersections of Milliken Avenue and Mission Boulevard in Ontario. This facility is owned by the County of San Bernardino and managed by the County's Waste System Division. The facility was opened in 1958 and continues to accept waste within an approximate 140-acre portion of the 196-acre permitted area (GeoLogic Associates, 1998). Groundwater monitoring at the MSL began in 1987 with five monitoring wells as part of a Solid Waste Assessment Test investigation (IT, 1989). The results of this investigation indicated that the MSL had released organic and inorganic compounds to the underlying groundwater. Due to the presence of such compounds, the MSL conducted an evaluation monitoring program investigation. Following the completion of the evaluation monitoring program, a total of 29 monitoring wells were drilled to evaluate the nature and extent of the groundwater impacts identified in the vicinity of the MSL (GeoLogic Associates, 1998). Analytical results from groundwater sampling have indicated that VOCs are the major constituents of release. The most common VOCs detected are TCE, PCE, and dichlorodifluoromethane. Other VOCs detected above their MCLs include vinyl chloride, benzene, 1,1-dichloroethane, and 1,2-dichloropropane. The historical maximum total VOC concentration detected at an individual monitoring well is 159.6 µg/L (GeoLogic Associates, 1998). The plume is up to 1,800 feet wide and extends about 2,100 feet south of the MSL's southern border. From 2001 to 2006, the maximum TCE and PCE concentrations detected at an individual well within the MSL plume were 96 µg/L and 44 µg/L, respectively.

Ontario International Airport. A VOC plume, primarily containing TCE, exists south of the Ontario Airport. This plume extends approximately from State Route 60 on the north and Haven Avenue on the east to Cloverdale Road on the south and South Grove Avenue on the west. In July 2005, draft CAOs were issued by the RWQCB. These CAOs were presented to the companies that they named in August 2005. From 2001 to 2006, the maximum TCE concentration detected at an individual well within this plume was 38 µg/L. The plume is up to 17,700 feet wide and 20,450 feet long.

Pomona Area Plume. This VOC plume is uncharacterized. It extends approximately from Holt Boulevard on the north and East End Avenue on the east to Philadelphia Street on the south and Towne Avenue on the west. From 2000 to 2008, the maximum TCE concentration within this plume was 46 µg/L. The plume is up to 5,000 feet wide and 7,900 feet long.

Stringfellow NPL Site. The Stringfellow site is on the current NPL of Superfund Sites. This site is located in Pyrite Canyon north of Highway 60 near the community of Glen Avon in Riverside County (see Figure 4-17a). From 1956 until 1972, this 17-acre site was operated as a hazardous waste disposal facility. More than 34-million gallons of industrial waste—primarily from metal finishing, electroplating, and pesticide production—were deposited at the site (US EPA, 2001). A groundwater plume of site-related contaminants exists underneath portions of the Glen Avon area. Groundwater at the site contains various VOCs, perchlorate, NDMA, and trace metals, such as cadmium, nickel, chromium, and manganese. In the original disposal area, soil is contaminated with pesticides, polychlorinated biphenyls (PCBs), sulfates, perchlorate, and trace metals. The original disposal area is covered by a clay cap, fenced, and guarded by security services.

Contamination at the Stringfellow site has been addressed by cleanup remedies described in four EPA RODs. Since 1986, cleanup actions have focused on controlling the source of contamination, installing an onsite pretreatment plant, the cleanup of the lower part of Pyrite Canyon, and the cleanup of the community groundwater area below Highway 60. In 1996, the DTSC assumed responsibility for the maintenance of the Stringfellow Superfund Site through a Cooperative Agreement with the USEPA. In December 2007, the DTSC submitted the Draft Final Supplemental Feasibility Study (SFS), which identified and evaluated the final remedial alternatives for cleanup. The 2007 Draft SFS is a revised version of an earlier 2000 draft; reconsideration was required after perchlorate and other new contaminates were discovered in 2001. Once finalized, the SFS will be used by the US EPA to select a final remedial strategy and prepare a draft ROD. The draft ROD is anticipated in December 2009.

Figure 4-17a shows the approximate areal extent of the Stringfellow VOC plume as of 2008. The VOC plume is elongate in shape, up to 1,500 feet wide, and extends approximately 14,500 feet from the original disposal area in a southwesterly direction. The most common VOC detected at levels above the MCL is TCE. There are approximately 70 extraction wells throughout the length of the plume, which have been effective in stopping plume migration and removing TCE contamination. South of Highway 60, there are only a few isolated areas where TCE exceeds 5 µg/L (DTSC, 2008). During the 2003 to 2008 period, the maximum TCE concentration detected in the Stringfellow plume was 170 µg/L.

High levels of perchlorate associated with the Stringfellow site were detected south of Highway 60 in 2001. Residents connected to JCSD water service were provided bottled water, and the DTSC contracted to install water mains and hookups at each residence. Concurrent with the SFS, the DTSC is conducting a Remedial Investigation and Feasibility Study of remedial alternatives for perchlorate in the downgradient community area. As with TCE, the operation of the groundwater treatment system has resulted in a reduction of perchlorate. Since its discovery in 2001, perchlorate concentrations have been reduced by 30% to 50% throughout the monitored area (DTSC, 2008). Figure 4.3-66a shows the approximate areal extent of perchlorate concentrations exceeding the Notification Level (6 µg/L) as of 2008. The perchlorate plume is elongate in shape, up to 2,000 feet wide, and extends approximately 25,000 feet to the southwest from the original disposal area. During the 2003 to 2008 period, the maximum perchlorate concentration detected in the Stringfellow plume was 870 µg/L.

Of the above described water quality anomalies (plumes) only two appear to be of concern to the Desalter Phase 3 Expansion Project, the Chino Airport and the Ontario International Airport Plume.

Projected Plume Movement under the Baseline Alternative

Figure 4.17a illustrates the locations of these groundwater contaminant plumes, with the exception of the Kaiser Plume, at the beginning of the planning period and their estimated locations at the end of the planning period for the Baseline Alternative. Figure 4.17b is a similar map for the Kaiser Plume. The plume locations at the start of the planning period were mapped from recent data

*(2006). Initial concentrations were prepared as input files for MT3D (Zheng & Wang, 1999). MT3D is a 3-dimensional solute transport model code for the simulation of advection, dispersion, and chemical reactions of dissolved constituents in groundwater systems. This code, in conjunction with the 2007 Watermaster Model, was used to simulate plume movement during the planning period. The simulation results for the Baseline Alternative are discussed below for each contaminant plume: (*Note the data brought forward is only for the two plumes assumed to be affected by the proposed project.)

- *Chino Airport – At the beginning of the planning period, the Chino Airport plume underlies and extends southwest of the Chino Airport. In the Baseline Alternative simulation, the leading edge of the plume travels approximately 1.0 miles in a southeasterly direction. The primary factors that affected plume migration were regional hydraulic gradient and desalter groundwater production. At the end of the planning period, the plume is south and east of Pine and Euclid Avenues, underlying the northern reaches of the Prado Flood Control Basin. A significant part of the plume is captured in the CCWF (Chino Creek Wellfield).*

- *Ontario International Airport Plume – At the beginning of the planning period, the plume underlies a broad area south of Riverside Drive, north of Kimball Avenue, west of Grove Avenue, and east of Archibald Avenue. In the Baseline Alternative simulation, the leading edge of the plume is completely intercepted by the Desalter I well field. The primary factors that affected plume migration in the simulation were regional hydraulic gradient, local groundwater production, and the Desalter I well field.*

The modeling analysis indicates that the contaminated plumes will migrate as a result of natural groundwater flows within the Basin, but that the proposed Peace II Agreement program actions, including the Desalter Phase 3 Expansion Project, will induce additional directional migration from existing locations (for the Ontario International Airport Plume and Chino Airport Plume) to those locations identified in the analysis presented above and shown on Figure 4-17a. The exceptions to this finding are based on facilities, such as the General Electric Flatiron Facility, that already have an active capture and treatment system. The two plumes of interest are forecast to intercept the new Desalter Phase 3 wells in the Chino Creek Wellfield where the groundwater extractions will be delivered to treatment facilities that can remove the contaminants.

Figure 4.17a illustrates the locations of all the groundwater contaminant plumes, with the exception of the Kaiser Plume, at the beginning of the planning period and their estimated locations at the end of the planning period for the Baseline and Peace II Alternatives. Figure 4-27b is a similar map for the Kaiser Plume. The plume locations at the start of the planning period were mapped from recent data (2006). The projected plume paths, timing and geographic extent are essentially identical for the Baseline and Peace II Alternatives. That is, the implementation of the Peace II Alternative has no significant effect on the movement of these contaminant plumes.

Regardless, the proposed project is forecast to mobilize the plumes and contaminate a greater volume of groundwater with a variety of contaminants, ranging from heavy metals to volatile organic compounds. To mitigate this impact the CDA in conjunction with the Watermaster will need to continue its program actions including the following: continue to monitor the plumes and annually verify where concentrations of contaminants exceed Maximum Contaminant Levels (MCLs) or regulatory agency Action Levels, where pertinent; if they spread as forecast, the Chino Basin Watermaster and Chino Desalter Authority (CDA) shall ensure that desalter systems are equipped to treat groundwater extracted above acceptable thresholds and remove contaminants to acceptable regulatory thresholds; and where individual stakeholder wells are adversely impacted by contaminant concentrations above acceptable thresholds, the Watermaster shall assist in reducing such contaminant concentrations to acceptable regulatory thresholds as outlined in mitigation measure VII-8.

The validity of the above mitigation approach is that the Desalter wells and other wells within the contaminant plumes already extract contaminated groundwater; treat it to acceptable levels; and deliver the potable water to local drinking water purveyors. With the implementation of mitigation measure VII-8, that potential adverse impact to existing contaminated plumes can be controlled to a less than significant impact level.

g. *No Impact* – The Phase 3 Desalter Expansion facilities do not directly or indirectly involve housing or housing resources. Therefore, it has no potential to expose housing to 100-flood hazards. No impact is identified, and no mitigation is required.

h. *Less Than Significant Impact* – According to a review of FEMA flood hazard maps, the Phase 3 Desalter Expansion facilities would not place structures that would impede or redirect flood flows within a "100-flood zone", more accurately described as within an area that has a 1-percent chance of flooding each year (base flood). The pipeline in Hamner Avenue would be bored and jacked under the Santa Ana River. Hamner Avenue is located within Zone A, which is within the 100-year flood zone, from north of citrus to the south end of the proposed pipeline just south of the River. The Santa Ana River is also within Zone A. The pipeline would be placed within the roadway and under the River and would not change the interface with flood waters.

The western portion of the proposed project infrastructure, including improvements proposed at Chino I and the CCWF and pipelines, are within Zone D, which indicates possible flood risk that is undetermined. Portions of the proposed product water pipeline and SARI connector would be located in shaded Zone X. Zone X is defined as having a .2% chance of flooding each year or as having a 1% chance of flooding to a depth of less than one foot each year. These facilities would be located within existing roadways and compounds or within vacant lands in an urbanizing area. None of the proposed facilities would create a barrier to flood waters because they would either be located below ground, would be located within an existing facility, or would be small and located away from flood source waters.

Because of the types and locations of facilities, the proposed project facilities have no potential to impede or redirect flood flows. No impact is identified, and no mitigation is required.

i. *Less Than Significant Impact* - Figure 7-9A: Dam Inundation – Valley Region of the San Bernardino County General Plan Safety Background Report shows that the portion of the proposed project facilities located within San Bernardino County are not within a dam inundation zone. Figure 8 – Eastvale Area Plan Flood Hazards of the Riverside County Integrated Project indicates that the Hamner Avenue Santa Ana River crossing is not in a dam inundation zone. The proposed project facilities would not expose people or structures to a significant risk of loss, injury or death involving flooding as a result of the failure of a levee or dam. No impact is identified, and no mitigation is required.

j. *Less than significant impact* – There are no water bodies within the project area, or upstream, that can cause a seiche or tsunami. There are areas at the mouth of streams exiting area mountains that have historically been exposed to mudflows and could be again, but the proposed facilities are many miles downstream of the mountains. Only the Hamner Avenue pipeline would actually cross a stream or river where mudflows may occur upstream, but the pipeline will be located below the surface of the riverbed and is sufficiently downstream from likely mudflow areas that no impact is expected.

Conclusion

Based on the analysis presented above, the hydrology and water quality issues will not experience significant adverse impacts from project implementation with implementation of the proposed mitigation measures. No further analysis is required.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
IX. LAND USE AND PLANNING – Would the project:				
a) Physically divide an established community?				■
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?			■	
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?			■	

Substantiation:

a. *No Impact* – At the general plan level, the Phase 3 Desalter Expansion would not affect any existing land use designations and, therefore, its implementation has no potential to contribute to area divisions of the physical arrangements of existing communities in the project area.

At the project specific level, many of the Phase 3 Desalter Expansion related improvements would be located at existing water utility sites, specifically at the existing Chino I and Chino II Desalter sites. As such, they have dedicated uses and the installation of the new Phase 3 Desalter improvements at these sites has no potential to physically divide an established human community. Other new facilities, such as the wells, reservoirs and pump stations, take up a small amount of space or can be placed below ground level.

The only proposed Phase 3 Desalter Expansion facilities large enough to create any physical divisions in the physical arrangement of communities would be pipelines. The pipelines will be placed underground, and therefore have no potential to cause any long-term physical divisions in communities. No mitigation is required.

b. *Less Than Significant Impact* – The proposed Phase 3 Desalter Expansion facilities would be required to abide with the applicable environmental plans and policies of other agencies with regulatory authority over environmental resources. These agencies include the Air Quality Management District, Army Corps of Engineers, Regional Water Quality Control Board, U.S. Fish and Wildlife Service, California Department of Fish and Game, and the State Water Resources Control Board. The project must also prepare and submit a Notice of Intent to the State Water Resources Control Board and prepare a Storm Water Pollution Prevention Plan.

The implementation of the Phase 3 Desalter Expansion would not cause any changes in existing land uses or existing land use designations as defined in the general plans of the local jurisdictions in the project area. Fundamentally, each general plan assigns each parcel of land a specific land use and, in those limited instances where potentially incompatible land uses are located adjacent to one another, the general plans define those measures that must be implemented to ensure compatibility between such uses. Thus, where commercial uses and residential uses abut one

another, specific lighting and noise incompatibilities posed by such juxtaposition are controlled by implementing controls on the intensity and direction of lighting and by implementing noise buffers that attenuate noise from commercial activities. Since the Phase 3 Desalter Expansion will not alter any existing general plans or land use designations, its implementation has no potential to cause any incompatibilities at the general plan level.

At the project level, the Phase 3 Desalter Expansion facilities have a limited potential to cause incompatibilities. For example, if a production well or pump station would be sited adjacent to residential uses, the location of the facility may be moved, thus totally avoiding the incompatibility, or specific measures may be implemented to attenuate an impact. For the example given, the well pump could cause an incompatibility between a production well and residential uses due to noise impacts. Instead of relocating the well, the pump motor could be placed in a structure that would provide sufficient noise attenuation or in the well to ensure that the pump noise would not conflict with the adjacent residential use. For each of the major environmental issues addressed in this Initial Study, specific measures have been identified that can reduce the impacts from implementing the proposed project to a non-significant level of impact, using the thresholds of significance identified for that issue (i.e,. noise attenuation for residential uses to below 50 decibel (dB) Community Noise Equivalent Level (CNEL) during evening hours, as discussed in detail in the Noise Section of this document).

Potential production well incompatibilities have already been discussed for residential uses. But the same incompatibility may occur if a pump station must be placed near a biologically sensitive site, such as the Santa Ana River. Impacts may be mitigated by attenuating sound levels to at or near background conditions. Regardless, mitigation is available to ensure that the potential incompatibilities are avoided, prevented or controlled to less than significant levels of impact.

The construction of Phase 3 Desalter Expansion facilities will generate noise and fugitive dust during construction. Specific measures to control fugitive dust and noise are addressed in the Air Quality and Noise sections of this document, so that a nuisance incompatibility will not be caused while construction is in progress. During operation, the activity of delivering and treating water does not pose any known direct conflicts, even when facilities are located adjacent to sensitive land uses. Pipelines are generally placed underground and do not pose any potential incompatibility with surface uses overlying their location or with adjacent uses. The vast majority of the pipeline alignment is proposed within road or other utility rights-of-way, which may result in short-term disruption of traffic flow and creation of traffic hazards during construction. Again, mitigation measures are identified in the Traffic section of this document to ensure that pipeline construction activities do not create significant adverse impacts related to these conflicts in activities.

The desalter(s) proposed for expansion are in essence, water treatment facilities that generate a modest amount of noise; that use hazardous materials; that serve to increase local traffic due to employment; and that are constructed in a manner to resemble a light industrial facility. Although desalter facilities and operations do not encompass activities typical of those associated with heavy industry or large commercial operations, the activities associated with a desalter would be considered incompatible where adjacent uses include residential uses or sensitive biological resource habitat. However, the Phase 3 Desalter Expansion proposes all new operations specific to desalting (rather than to water extraction and conveyance) within existing desalter compounds that are compatible with adjacent land uses.

The facilities that would be installed as part of the proposed project are water utility facilities designed to produce, convey or treat water. Such facilities are not subject to zoning ordinances in accordance with the California Government Code Section 53091. Each of these facilities would be consistent with the general goals, objectives and policies of general plans within the Study area that an “adequate supply of safe water” be provided for residents and that consumption of water be properly managed. With the possible exception of direct conflicts with adjacent land uses,

discussed above, implementation of The Phase 3 Desalter Expansion is not forecast to cause any significant conflicts with general plans or zoning designations for those jurisdictions within the project area. This conclusion is based on the findings outlined above and the recognition in the general plans for communities in the project area that adequate water system infrastructure is an essential component of future growth, just as are adequate roads, utilities, wastewater and other infrastructure systems.

c. *Less Than Significant Impact* – The Western Riverside County Multiple Species Habitat Conservation Plan (WRC MSHCP) applies to portions of the project that will be located within Riverside County, including portions of the Hamner Avenue pipeline and the Santa Ana River pipeline crossing. No other adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan is known to apply to the specific project locations. The compatibility of the proposed project with the WRC MSHCP is discussed in the Biological Resources section of this document. No mitigation is required under this item.

Conclusion

Based on the analysis presented above, land use and planning resources will not experience significant adverse impacts from project implementation. No further analysis of impacts on land use and planning resources is required.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
X. MINERAL RESOURCES – Would the project:				
a) Result in the loss of availability of any known mineral resource that would be of value to the region and the residents of the state?			■	
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?			■	

Substantiation:

a&b. *Less Than Significant Impact* – The State of California has established mineral resource categories that are applied to areas studied within the state. These are:

MRZ-1 – Areas where adequate information indicates that no significant mineral deposits are present, or where it is judged that little likelihood exists for their presence.

MRZ-2a –Areas where adequate information indicates that significant mineral deposits are present.

MRZ-2b –Areas where information indicates that significant mineral deposits are likely.

MRZ-3 – Areas containing mineral deposits, the significance of which cannot be evaluated from available data.

MRZ-4 – Areas where geologic information does not rule out the presence or absence of mineral deposits.

Figure 6-11A Mines - Valley Region of the San Bernardino County Conservation Element Background Report shows the location of active mines within the County. There are no active mines shown in the project area.

Figure 4.12.1 of the Riverside County General Plan EIR identifies the areas within Riverside County having potential mineral resource deposits, according to the State of California MRZ classifications. It shows the Riverside County portion of the Study Area as located within the MRZ-2 and MRZ-3 zones.

The OBMP PEIR identifies locations of mineral resources in and around the Chino Basin in Figures 4.4-8 through 4.4-11. Figure 4.4-9 is from a 1981 USGS map that provides the most comprehensive and detailed mineral resource map of the entire project area. This document used a slightly different set of categories from the more recent documents that uses a "P" rather than an "M" to indicate preliminary data. It classifies the Chino Basin primarily classified as PRZ-3, with localized areas designated PRZ-2, MRZ-1, and MRZ-3. PRZ-3 areas contain construction aggregate deposits, the significance of which cannot be evaluated from preliminary data. PRZ-2 areas are those where preliminary data indicates that significant construction aggregate resources could be present. The MRZ-3 area located within the Chino Basin is in the City of Chino west of Highway 71. A small portion of an area designated MRZ-1 is located within the eastern extremes of the City of Chino.

A graphical representation of the mineral resources described for San Bernardino and surrounding counties is included in the OBMP PEIR as Figure 4.4-7. This map shows the distribution of non-metallic mineral resource locations within southern California. The only significant mineral resources that occur within or near the project area are limestone, sand and gravel, crushed rock and rip rap. The location of these resources is primarily in the Jurupa and Pedley Hills, and also near the Santa Ana River.

At the general plan level, the Phase 3 Desalter Expansion will not cause or contribute to the transition of land with mineral resources to urban uses. Increasing water production and enhancing water quality through treatment and dilution have no identifiable potential to cause or contribute to this transition in uses.

At the project specific level, the Phase 3 Desalter Expansion may have a very small impact on mineral resources. Most of the new treatment facilities, wells, and conveyance facilities will be installed within the footprints of existing water utilities sites or within roadway right-of-ways or will be located within areas that are already developed with residential, commercial, industrial or open space uses. Facilities in these types of locations would have no potential to adversely impact mineral resources because the resources would already be covered with facilities that would make recovery unlikely, and because mineral resource recovery is generally not a compatible land use adjacent to residential and commercial development.

Therefore, the installation and operation of the Phase 3 Desalter Expansion facilities has little potential to have a direct adverse impact on mineral resources. No mitigation is required.

Conclusion

Based on the analysis presented above, mineral resources will not experience significant adverse impacts from project implementation. No further analysis of impacts to mineral resources is required.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
XI. NOISE – Would the project result in:				
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?		■		
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?		■		
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?		■		
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?		■		
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?		■		
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?				■

Substantiation:

The existing background noise level of the project area varies somewhat depending upon the portion of the project area where an individual improvement may be located. Figure XI-1 provides an overview of different sound levels that could be encountered throughout the project area. Figure XI-2 provides a summary of the California Land Use/Noise Guidelines for exposure of specific land uses to community noise exposure. These exhibits provide background information on noise that can be used to evaluate noise impacts from future development. All of the affected jurisdictions have adopted a land use matrix for community noise standards that reflect the noise guidelines contained in Figure XI-2.

City of Chino: The noise environment in Chino is dominated by motor vehicle transportation noise sources, including Interstate 10 and Highway 60 and major east-west and north-south arterials. According to its General Plan, the City of Chino is impacted by the east-west railroad tracks (Union Pacific), which traverse the City and create noise impacts that exceed 70 dBA CNEL adjacent to the track. The City is also impacted by aircraft operations at Chino Airport.

City of Ontario: The noise environment in Ontario is dominated by motor vehicle transportation noise sources, including Interstate 10 and Highway 60 and major east-west and north-south arterials.

According to its General Plan, the City of Ontario is impacted by the east-west railroad tracks (Union Pacific) which traverse the City and create noise impacts that exceed 70 dBA CNEL adjacent to the track. The City is also impacted by aircraft operations at Ontario Airport and at Chino Airport.

San Bernardino County: The Noise Background Report (November 1, 2005) prepared for the County of San Bernardino General Plan included noise measurement data that identified the predominant noise sources within the Valley region of the County as traffic, air and rail. Some areas were impacted by industrial noise while all areas sampled experienced noise levels due to typical residential sources (e.g., children playing, dogs barking, birds, wind chimes, school public announcement systems and ice cream trucks.) The Background Report includes noise modeling that predicts the 65 dBA Ldn contour line for rail roads is 500 feet from the railroad center line with 8 trains per hour traveling at 45 mph. The noise model predicts that the 65 dBA Ldn contour line for rail roads is 350 feet from the railroad center line with 4 trains per hour traveling at 45 mph.

The roadway traffic noise model provided by the Noise Background Report model predicts that the 65 dBA Ldn contour line for freeways is 360 feet from the roadway center line with 28,000 ADT and 1,770 feet for 225,000 ADT. The noise model predicts that the 65 dBA Ldn contour line for arterial roadways is 30 feet from the roadway center line with 5,000 ADT and average speed of 35 mph and 250 feet for 55,000 ADT and average speed of 45 mph.

Riverside County and Norco: The noise environment in this area is also dominated by motor vehicle transportation noise sources, including the Intestate 15, Highway 60 and major east-west and north-south arterials. Noise from three airports, Corona, Ontario and Chino impact this portion of the project area. Major railway tracks traverse this area contributing to the noise environment adjacent to tracks.

a. *Less Than Significant With Mitigation Incorporation*

Construction (Short-Term) Noise

Implementation of the Phase 3 Desalter Expansion would require construction of pipelines, pump stations, wells, desalter modifications and support facilities and potentially reservoirs. Major construction activities are anticipated to include grading, excavation, installation of pipelines, concrete forming, mechanical equipment installation, and associated electrical installation. Construction activities within or adjacent to areas where sensitive receptors are located could increase the noise exposure at sensitive receptor locations and have an intermittent short-term impact on ambient noise levels. Using a standard mix of equipment and construction activities, as outlined above, construction noise levels at distances of 50, 200, and 400 feet from anticipated construction activities would be approximately 86, 74, and 68 dBA Leq, respectively.

During the period of construction, noise levels would be increased over that of the ambient noise levels intermittently when the equipment is operating. However, this increase in noise levels would only be temporary. The temporary increase in noise exposure would cease immediately at the completion of construction.

Since construction noise is of a temporary nature, most jurisdictions do not require such noise to be mitigated to the specific threshold levels outlined above. However, they do require operational considerations (i.e., limitation of construction hours, the muffling of construction equipment, noise complaint response programs, etc.) to minimize noise impacts during the construction process. Construction noise levels affecting sensitive receptors may exceed the significance thresholds during the day, but eliminating this source of noise at night can reduce these short-term impacts to a non-significant level. Also, the short-term effects of well drilling must be addressed because once well drilling starts it proceeds until the well is completed. In addition to well installation, the proposed boring and jacking of the pipeline under the Santa Ana River has the greatest potential to generate noise levels that could cause conflicts.

Mitigation measures are identified below which can ensure that construction activities do not intrude on sensitive receptors in the evening or expose such receptors to damaging levels of noise at any time. The most effective method of controlling construction noise is generally by limiting construction hours to normal weekday working hours, typically from daylight to dusk. With implementation of these measures, short-term construction activities are not forecast to cause significant adverse noise impact.

XI-1 Construction shall be limited to the hours of 7 a.m. to 7 p.m. on Monday through Friday, and between 9 a.m. to 6 p.m. on Saturday, and shall be prohibited on Sundays and federal holidays. Alternatively, the construction shall meet the construction noise requirements of the local jurisdiction (city or county). Exceptions are for well drilling or declared emergency circumstances. Where construction is located in areas with no sensitive receptors, night work shall be allowed if acceptable to the local jurisdiction.

XI-2 All construction vehicles and fixed or mobile equipment shall be equipped with properly operating and maintained mufflers.

XI-3 All employees that will be exposed to noise levels greater than 75 dB over an 8-hour period shall be provided with adequate hearing protection devices to ensure no hearing damage will result from construction activities.

XI-4 If equipment is being used that can cause hearing damage at adjacent noise receptor locations (distance attenuation shall be taken into account), portable noise barriers shall be installed that are demonstrated to be adequate to reduce noise levels at receptor locations below hearing damage thresholds. Alternatively, the construction shall meet the construction noise requirements of the local jurisdiction (city or county).

XI-5 All production wells or booster pumps shall have their noise levels attenuated to 50 dBA CNEL at the adjacent property boundary, when noise sensitive uses occur on such property. Alternatively, the construction shall meet the construction noise requirements of the local jurisdiction (city or county).

XI-6 Project design will include measures which assure adequate interior noise levels as required by Title 25 (California Noise Insulation Standards). Alternatively, the construction shall meet the construction noise requirements of the local jurisdiction (city or county).

XI-7 Construction staging areas shall be located as far from adjacent sensitive receptor locations as possible at each facility. Alternatively, the construction shall meet the construction noise requirements of the local jurisdiction (city or county).

XI-8 Good relations with the local community shall be maintained where construction is scheduled, such as by keeping people informed of the schedule, duration, and progress of the construction to minimize the public objections of unavoidable noise. Communities should be notified in advance of the construction and the expected temporary and intermittent noise increases during the construction period.

<u>Operational (Long-Term or Permanent) Noise</u>
Under normal operating conditions the noise levels generated by the facilities required to support the Phase 3 Desalter Expansion are generally not expected to increase the ambient noise levels to

a level of significance that would impact sensitive receptors. Pipelines typically produce no noise after operation, except for the periodic maintenance visit to inspect pipeline facilities. Such activities are not forecast to exceed the sound levels of surrounding activities, such as traffic or urban activities (typically about 55 dB) from children playing, music playing, or gardening activities. The operation of monitoring wells is also a fairly passive source of noise generation. Once installed such wells either have automatic monitoring equipment or are visited periodically to obtain the desired data. However, the operation of both production wells and booster pumps can generate noise levels greater than the 60-65 dBA CNEL values that are considered acceptable for noise sensitive uses if sited in proximity and if noise mitigating measures are not implemented. Sound attenuation structures are available to reduce sounds from production wells and booster pumps to levels well within the significant noise impact thresholds, including those noise levels protective of sleep during nighttime hours. Mitigation is provided below to ensure that future production well and booster pump noise is reduced below a significance threshold in each of the affected communities.

Modifications to desalter facilities can increase local noise levels from operation of pumps and other equipment; however, the two existing desalters (Chino I and Chino II) are located within industrial areas where no sensitive noise receptors exist. No desalter facilities are proposed by the Phase 3 Desalter Expansion outside of the existing Chino I and Chino II compounds.

The following mitigation measure can reduce noise impacts to below a level of significance.

XI-9 All above ground well pumps or booster pump stations shall have their noise levels attenuated to 50 dBA CNEL at the property boundary when adjacent to a noise sensitive land use.

Implementation of the above measure is considered sufficient to control noise from the Phase 3 Desalter Expansion to a less than significant impact level.

b. *Less Than Significant With Mitigation Incorporation* – Please refer to the discussion under XI.a above. Mitigation is provided to control potential noise and vibration from Phase 3 Desalter Expansion activities to a less than significant impact level.

c. *Less Than Significant With Mitigation Incorporation* – Please refer to the discussion under XI.a above. Mitigation is provided to control potential permanent noise generated by Phase 3 Desalter Expansion activities to a less than significant impact level.

d. *Less Than Significant With Mitigation Incorporation* – Please refer to the discussion under XI.a above. Mitigation is provided to control potential temporary noise generated by Phase 3 Desalter Expansion activities to a less than significant impact level.

e. *Less Than Significant With Mitigation Incorporation* – Several public airports occur within the Chino Basin. It is possible that construction in support of Phase 3 Desalter Expansion could expose construction personnel to excessive noise where facilities would be installed within areas exposed to high levels of airport noise. Mitigation measure XI-3 is sufficient to protect such construction personnel from exposure to excessive noise when working in an area exposed to high levels of airports. The Phase 3 Desalter Expansion would not have any impact on airport operations and would therefore not expose any residents or residences to an increase in public airport noise.

f. *No Impact* – There are no known private airports located within the project area, thus there is no potential to expose people to this noise hazard.

Conclusion

Based on the analysis presented above, the noise issues will not experience significant adverse impacts from project implementation with implementation of the recommended mitigation measures. No further analysis of noise issues is required.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
XII. POPULATION AND HOUSING – Would the project:				
a) Induce substantial growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?			■	
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?				■
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?				■

Substantiation:

The project area is located in portions of the cities of Chino, Ontario and Norco as well as in unincorporated areas of both Riverside and San Bernardino Counties. The rational presented below relies heavily on the OBMP PEIR discussion.

a. *Less Than Significant Impact* – The Phase 3 Desalter Expansion will not contribute to significant growth, specifically growth beyond that permitted by the general plans of land use jurisdictions within the project area or growth beyond that allocated in regional planning documents. Growth decisions are made by local agencies governing land use decisions. The water serving agencies (WSA's) are responsible for the development and provision of adequate water supplies to serve the existing and planned for populations within their service areas. The Phase 3 Desalter Expansion may reduce costs and provide for a greater quantity of local water for the water serving agencies (WSA's), but it does not alter the existing requirement of the WSA's to provide water for the ultimate build-out population within their jurisdiction. The Phase 3 Desalter Expansion does not remove any existing constraint on future development because existing WSA's have alternative means other than desalter expansion to meet future water demands, although the alternate means may not be as cost effective and may cause greater environmental impact. This concept is embodied in policy principles adopted by the Metropolitan Water District of Southern California's Board of Directors and restated as part of the Regional Comprehensive Plan and Guide's Water Resources evaluation for southern California. These policy principles state:

   1. *Water supply is not a reason in and of itself to limit or control growth in California. There are sufficient water resources to accommodate continued population and economic growth through better management, including conservation, voluntary transfers and additional storage and conveyance facilities. Water supply for urban, agricultural and environmental uses will be adequate and reliable.*

2. *Growth management and the allocation and direction of development should be the responsibility of general purpose government. Utilities, including water purveyors, should provide adequate facilities to serve the projected growth at the state, regional and local levels.*

The implementation of the Phase 3 Desalter Expansion will not cause or accommodate growth nor cause the related environmental impacts caused by an increased population occupying the project area in the future. As noted above, the regional water planning documentation indicates that adequate water supplies are available to meet future demand. The land use planning process determines the vision of the region at build-out, as defined by general plans with jurisdiction over the project area. It is assumed in these general plans that the WSA's have identified the infrastructure required to support the population which will be in place as growth occurs in the future. The net effect of these general plans is to create a set of expectations regarding future land use and growth that may or may not occur depending upon the actual carrying capacity of the various utility and service resources required to meet future growth. The established planning process and the overall growth pressures in southern California are the primary causes of future growth, i.e. they induce the actual growth that occurs. The various utilities, such as the WSA's, are effectively forced to create urban water management plans that can accommodate such growth, at least within the limits of current or future resources that may be available. As the policy statements on water resources indicate, there are sufficient water resources to meet future demand for the foreseeable future.

The utility planning process plays a passive (accommodating) role, not an active (inducing) role, in future growth that is dictated by local land use plans. If communities within the project area chose to restrict growth and maintain a certain vision of the future as a static or slowly growing entity, the land use planning agencies (cities and counties) have the opportunity during the general planning process to establish such plans. Under such circumstances, the utility providers, including the WSA's, would design their future service plans to accommodate a level of future growth consistent with such plans.

The WSA's, acting as responsible water planning agencies, must plan for growth forecast in the general plan documents. When locally available water resources are insufficient to meet the projected demand of the population, alternate sources of supply, such as water importation, must be relied upon. The Phase 3 Desalter Expansion provides a source of local water supply that would not be available without the implementation of the expansion. The expansion will reduce reliance on imported water and still allow the WSA to accommodate growth as envisioned in the project area general plans. Based on this analysis, implementation of the Phase 3 Desalter Expansion is not considered to be a significant growth inducing action.

b. *No Impact* – The proposed Phase 3 Desalter Expansion would not displace any existing housing and would therefore not necessitate the construction of replacement housing elsewhere. No impacts to housing resources are forecast to result from implementing the proposed project, and no mitigation is required.

c. *No Impact* – The proposed Phase 3 Desalter Expansion would not displace substantial numbers of people and would therefore not necessitate the construction of replacement housing elsewhere. No impacts to housing resources are forecast to result from implementing the proposed project, and no mitigation is required.

Conclusion

Based on the analysis presented above, the population and housing issues will not experience significant adverse impacts from project implementation. No mitigation measures are necessary to reduce population and housing impacts to a less than significant level.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
XIII. PUBLIC SERVICES – Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
a) Fire protection?			■	
b) Police protection?		■		
c) Schools?			■	
d) Recreation/Parks?			■	
e) Other public facilities?			■	

Substantiation:

a-e. *Less Than Significant With Mitigation Incorporation* – The proposed project includes the development of public facilities. Implementation of the Phase 3 Desalter Expansion will contribute to an adequate water supply to meet long-term growth and development projections within the project area. Implementation of Phase 3 Desalter Expansion is not forecast to change land uses, increase the number of residential units, cause an increase in population or otherwise create activities that would increase demand for public services beyond that anticipated in each jurisdiction's General Plan. (Please refer to Section XII Population and Housing for a full discussion of this issue.)

The project area is currently served by public services and agencies (police and fire departments, school districts, libraries) under authority of the various jurisdictions that comprise the project area. Overall levels of public services will be increased based upon the future population based demands of the local agencies. Because this project will have no significant impact on population, this project has no potential to impact the need or demand for schools, parks, and other public facilities such as libraries. Some small facilities (e.g., wells, pump stations) may be located at schools, parks or other public facilities; however any such installation would not affect more than ~0.5 acre, and would therefore be considered a less than significant impact.

Any Phase 3 Desalter Expansion related structure will be required to meet or exceed the minimum standards for the applicable building codes by state law. All local fire ordinances will be followed in design, construction and operation of the proposed project facilities, which have a very low fire hazard associated with their construction and operation. No potential for any significant demand for fire protection services is identified. Aside from a threat of trespass, the type of facilities being proposed by Phase 3 Desalter Expansion do not have a potential to create new demand for police services. Although probably not significant, illegal trespass can be minimized by controlling access to Phase 3 Desalter Expansion construction areas and operating facilities, such as desalters and well sites. No potential for any significant demand for police protection services is identified. The

following mitigation measure will be implemented to reduce the proposed project's impact on police protection services to a less than significant level.

XIII-1 Phase 3 Desalter Expansion facilities shall be fenced or otherwise have access controlled to prevent illegal trespass to attractive nuisances, such as construction sites.

This measure addresses security fencing for construction areas and built facility sites. Construction activities associated with the implementation of Phase 3 Desalter Expansion facilities have some potential to adversely impact public services, primarily through construction-related road impacts. Please refer to analysis and mitigation measures provided in the appropriate sections (Section VII, Hazards; Section XI, Noise; Section IX, Traffic, etc.).

Conclusion

Based on the analysis presented above, public services will not experience significant adverse impacts from project implementation.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
XIV. RECREATION –				
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?				■
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?			■	

Substantiation:

a. *No Impact* – The proposed project does not include housing, an increase in population, or a new place of employment that would create a substantial number of new employees after construction that would have a potential to increase the use of existing neighborhood parks or other recreation facilities. No significant impact to park facilities is identified, and no mitigation is required.

b. *Less than Significant Impact* – The project does not propose recreational facilities or require the construction or expansion of recreational facilities. As mentioned in Section XIII Public Services, some small facilities (e.g., wells, pump stations) may be located at schools, parks or other public facilities. Any such installation would not affect more than ~0.5 acre at any site, and would therefore be considered a less than significant impact. No mitigation is required.

Conclusion

Based on the analysis presented above, recreation will not experience significant adverse impacts from project implementation.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
XV. TRANSPORTATION / TRAFFIC – Would the project:				
a) Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?		■		
b) Exceed, either individually or cumulatively, level of service standards established by local or regional agencies for designated roads or highways?		■		
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?				■
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?		■		
e) Result in inadequate emergency access?		■		
f) Result in inadequate parking capacity?			■	
g) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?			■	

Substantiation:

a,b &d. *Less Than Significant With Mitigation Incorporation* – Implementation of the Phase 3 Desalter Expansion is not anticipated to substantially increase the traffic load or alter the carrying capacity of street systems within the project area. The Phase 3 Desalter Expansion project area is extensively developed with residential, commercial, agricultural and industrial uses that already utilize an established circulation pattern throughout the project area. The General Plans identify a circulation system designed to meet the buildout traffic generation of their respective jurisdictions. The General Plan EIRs have concluded that their local circulation systems, with planned improvements, will be adequate to meet the forecast traffic volumes at build-out without any significant adverse circulation system impacts. The facilities that would be implemented in support of the Phase 3 Desalter Expansion include desalting facilities, monitoring/production wells, booster stations and pipelines. There are no Phase 3 Desalter Expansion facilities that would substantially alter existing or future traffic generation and destination activities. None of the physical changes in the environment resulting from the Phase 3 Desalter Expansion implementation are forecast to directly or indirectly cause any permanent changes in any transportation or circulation systems.

Of the facilities that would be implemented in support of the Phase 3 Desalter Expansion, the installation and construction of pipelines will generate the greatest potential for short-term construction impacts to the existing circulation system. Phase 3 Desalter Expansion project construction activities would create traffic hazards, particularly where pipeline routes traverse major trafficked highways and cross intersections. Pipelines will be placed underground (except possibly within the Desalter compounds) and there will be short-term disruptions of traffic flows and the potential creation of traffic hazards as a result of the construction within road rights-of-way. Mitigation measures are identified to ensure that pipeline construction activities do not create significant adverse impacts related to these conflicts in activities. The following mitigation measures will be required to minimize project-related construction impacts on traffic and circulation.

XV-1 The construction contractor will provide adequate traffic management resources, as determined by the applicable jurisdiction, to ensure adequate access to all occupied properties on a daily basis, including emergency access. The applicable jurisdiction shall require a construction traffic management plan for work in public roads that complies with the CMUTCD, Part 6, Temporary Traffic Controls, or other agencies' applicable standard, to provide adequate traffic control and safety during construction activities. The traffic management plan shall be prepared and approved by the applicable jurisdiction prior to initiation of construction within a traveled roadway alignment. At a minimum this plan shall include how to minimize the amount of time spent on construction activities; how to minimize disruption of vehicle and alternative modes of transport traffic at all times, but particularly during periods of high traffic volumes; how to maintain safe traffic flow on local streets affected by construction at all times, including through the use of adequate signage, protective devices, flag persons or police assistance to ensure that traffic can flow adequately during construction; the identification of alternative routes that can meet the traffic flow requirements of a specific area, including communication (signs, webpages, etc.) with drivers and neighborhoods where construction activities will occur; and at the end of each construction day roadways shall be prepared for continued utilization without any significant roadway hazards remaining.

XV-2 The applicable jurisdiction shall require that all disturbances to public roadways be repaired in a manner that complies with the Standard Specifications for Public Works Construction (green book) or other applicable jurisdiction standards.

XV-3 The construction contractor will time the construction activities to minimize obstruction of through traffic lanes adjacent to project sites and/or along project alignments during peak hours.

During short-term construction projects to install pipelines and construct facilities, the project has a potential to create traffic hazards for pedestrians or bicyclists. Mitigation is required that can reduce potential project-related hazards to a non-significant level of impact.

XV-4 During construction the applicable jurisdiction shall require that traffic hazards for vehicles, bicycles, and pedestrians be adequately identified and controlled to minimize hazards.

XV-5 The applicable jurisdiction shall require the contractor to ensure that no open trenches or traffic safety hazards are left in roadways during periods of time when construction personnel are not present (nighttime, weekends, etc.)

School sites were identified within one-quarter mile of proposed Phase 3 Desalter Expansion facilities. The Augustine Ramirez Intermediate School located at 6851 Harrison Avenue and the Rosa Parks Elementary School at 6701 Harrison Avenue are located within one-quarter mile of Option 1 of the Raw Water Pipeline. Jurupa Valley High School is located northeast of the intersection of Etiwanda Ave and Bellegrave Ave, within one-quarter mile of the SARI outlet and the potential new SARI connection that would flow from Chino II if the concentrate reduction treatment option were not selected. Facilities within one-quarter of a mile of schools will be required to comply with the following mitigation measure:

XV-6 Phase 3 Desalter Expansion facilities located within one-quarter mile of a school will be required to prepare a traffic management plan for review and comment by the appropriate school district. The minimum performance standard for the traffic plan will be to provide sufficient traffic management resources to protect pedestrian and vehicle safety in the vicinity of school sites.

Aside from the short-term construction related trips, the proposed project is not forecast to cause any adverse impacts on the project area circulation system. Implementation of the Phase 3 Desalter Expansion could modestly increase local traffic due to employment. An estimated three new employees may be required to operate all of the proposed facilities. Assuming 10 trips per day per employee family per day in the context of millions of trip ends within the project area, the proposed project has no potential to cause or contribute to any project specific or cumulative significant traffic impacts.

After construction, periodic deliveries of salt (sodium chloride) to regenerable IX facilities and other treatment units at the desalters are required to maintain continuous operation. If the concentrate reduction process is implemented, additional materials would need to be delivered to the facilities and pellets would need to be removed from the facility. The materials would be delivered or removed in bulk by trucks. It is conservatively estimated that a maximum of four truck visits per day per facility would be required. The frequency of resin change-out at the non-regenerable facilities could vary between 6 and 12 months, depending on contaminant concentration and throughput of raw water of the facility. In addition a limited number of trips per day are required to provide maintenance and operation support for the Phase 3 Desalter Expansion facilities. Again, in the context of millions of trip ends within the project area, the proposed project is not forecast to create significant new traffic generation.

The proposed mitigaiton measures ensure that implementation of Phase 3 Desalter Expansion will not cause significant impacts to the circulation system or to street users by creating uncontrolled safety hazards. Based on the proposed project's anticipated activities, the potential circulation system impacts associated with Phase 3 Desalter Expansion facilities can be reduced to a non-significant level by implementing the above recommended mitigation measures.

c. *No impact* – The proposed Phase 3 Desalter Expansion facilities have no potential to result in a change of air traffic patterns either in location or in traffic levels. Because no impact can be identified, no mitigation is required.

e. *Less Than Significant With Mitigation Incorporation* – The proposed Phase 3 Desalter Expansion traffic over the long-term will not substantially increase at those sites where there are existing facilities. These sites are secured and fenced and gated, and are subject to emergency access through existing agency operations plans. Where there are new facility sites, emergency access must be provided in a manner that does not conflict with traffic flow on adjacent or proximate roadways. Mitigation measures XV-1 through XV-6 previously required in this section can ensure that adequate emergency access is maintained at all times.

The proposed project may create short-term detours related to construction activities of Phase 3 Desalter Expansion facilities and pipelines. To limit reductions in emergency access, all affected public safety providers shall be notified prior to the construction of Phase 3 Desalter Expansion facilities or the closure of a public street in accordance with the following mitigation measure.

XV-7 To the extent feasible, installation of pipelines or other construction activities in support of the Phase 3 Desalter Expansion shall not be located on major evacuation or emergency response routes. Where construction on such routes is necessary, local emergency response providers shall be contacted and emergency access and evacuation requirements shall be maintained at a level sufficient to meet their needs.

With implementation of the above mitigation measures, no significant impact is expected.

f. *Less Than Significant Impact* – The proposed Phase 3 Desalter Expansion facilities will result in a demand for parking for construction, maintenance and delivery vehicles, as well as for employees. Adequate parking is available at existing facility sites. For pipeline construction, the CDA will require construction contractors to identify staging areas with adequate parking as part of the traffic management plans prior to initiating construction activities within affected roadways.

Phase 3 Desalter Expansion facilities will be constructed in compliance with the municipal codes where the projects will be constructed. No mitigation for long-term parking of operating facilities is necessary because provision of adequate parking onsite in accordance with municipal codes will meet the needs of the facilities.

g. *Less than Significant With Mitigation Incorporation* – Implementation of the Phase 3 Desalter Expansion is not envisioned to create conflicts with adopted policies supporting alternative transportation. An estimated three employees may be required to operate the proposed Phase 3 Desalter Expansion facilities.

The Hamner Avenue product water pipeline will cross the Santa Ana River by bore and jacking that will require staging areas on either side of the River for construction activities. The Santa Ana River Trail is located along the south side of the River at the location where construction will occur according to Figure 7 Eastvale Area Plan Trails and Bikeways of the Riverside County General Plan. The following mitigation will be required to ensure no significant impact to the bikeway occurs during project construction.

XV-8 Access to the Santa Ana River Trail and through-traffic bicycle access on the trail will be maintained during construction activities for the Hamner Avenue pipeline.

Implementation of the above mitigation measure, together with measures XV-1 and XV-4, are sufficient to reduce impacts to alternative transportation methods to a less than significant level. No further mitigation is required.

Conclusion

Based on the analysis presented above, transportation and traffic will not experience significant adverse impacts from project implementation. The proposed mitigation measures can reduce transportation and traffic impacts to a less than significant level.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
XVII. UTILITIES AND SERVICE SYSTEMS – Would the project:				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?			■	
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?			■	
c) Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?			■	
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?			■	
e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has inadequate capacity to serve the project's projected demand in addition to the provider's existing commitments?			■	
f) Be served by a landfill(s) with sufficient permitted capacity to accommodate the project's solid waste disposal needs?			■	
g) Comply with federal, state, and local statutes and regulations related to solid waste?			■	

Substantiation:

a&b. *Less Than Significant Impact* – The proposed project includes the construction of new water treatment, pumping and conveyance facilities. The water system improvements have been sized based upon existing, planned for or approved development and are not being constructed to support a new or unplanned-for population or water user. Construction of the new facilities could result in significant adverse impacts, but these impacts are addressed in the appropriate sections of this document (e.g., Sections III Air Quality, IV Biological Resources, VI Geology and Soils, and VIII Hydrology and Water Quality.)

The proposed water facilities have the potential to generate wastewater both directly and indirectly. Proposed wells may require treatment to remove excess salts (contaminants) prior to consumption.

The contaminants would be tested and would either be disposed of at an appropriate waste treatment facility, or more likely would be transferred to an existing brine wastewater system or treated through the proposed concentrate reduction process. The concentrate reduction process, if implemented, would reduce the overall dissolved solids mass loading to the SARI pipeline because of the removal of large quantities of calcium carbonate and silica from the brine stream as solid precipitates. In other words, a smaller portion of dissolved solids removed from the groundwater basin would be discharged to the SARI pipeline as a liquid waste and a significant amount of solids would leave the desalter site by truck in the form of solid pellets.

SARI capacity can be purchased, sold or transferred through Santa Ana Watershed Project Authority (SAWPA) to accommodate the increase in brine discharged to SARI from the Phase 3 Desalter Expansion if the concentrate reduction process is not implemented. Similarly, additional treatment capacity could be contracted with Orange County Sanitation District (OCSD) for the increased quantity of brine. As of June 30, 2008, WMWD owned 1.148 MGD of unused SARI pipeline capacity and 0.630 MGD of unused treatment capacity (Jack Safely, WMWD, pers. com.) Thus WMWD has sufficient excess treatment capacity that, subject to WMWD Board approval, could be bought, sold or transferred to treat the additional brine produced by the desalter expansion. JCSD also has unused capacity that, subject to JCSD Board approval, could be bought, sold or transferred to treat the additional brine produced by the desalter expansion (Michelle Lauffer, JCSD, pers com.) The proposed Phase 3 Desalter Expansion would require the purchase of approximately 0.77 MGD of SARI pipeline and treatment capacity for brine discharge without concentrate reduction. If the concentrate reduction process is implemented, CDA would have an excess SARI pipeline and treatment capacity of 1.20 MGD that could be sold or transferred to other entities.

The project could conceivably indirectly contribute to domestic wastewater generation if it increased the quantity of available potable water beyond that which is currently available. Access to an increased quantity of local groundwater supplies would offset the need to import water. Water has historically been imported to the Chino Basin from the State Water Project (SWP). However, because of drought, Sacramento delta water quality, and endangered species issues, Metropolitan has been unable to reliably provide recharge water (SWP) to southern California in recent years. While SWP was previously projected to be available to provide the requested water 70-80% of the time, Metropolitan recently reduced its projected ability to meet demand to 30% of the time. The increase in groundwater withdrawal associated with the Phase 3 Desalter Expansion could serve to replace a portion of the water that was previously supplied by SWP. Also, the Governor has called for a 20 percent reduction in per capita water use by 2020, and therefore, overall water use in the project service area is not expected to increase significantly from current annual water demands. Thus, the increase in groundwater extraction in accordance with Phase 3 Desalter Expansion is not expected to create new water demand, but rather to supply replacement water to meet existing and projected water demands.

No water/wastewater systems are expected to be significantly and adversely affected by the proposed project. The proposed Phase 3 Desalter Expansion project would not exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board. In fact, Phase 3 Desalter Expansion would contribute to achieving hydraulic control for the Chino Basin, which will facilitate meeting the new Basin standards established by the Board in 2004. No mitigation is required.

c. *Less Than Significant Impact* – The proposed project has the potential to temporarily adversely impact stormwater facilities during construction. Implementation of mitigation measure VIII-2 in Section VIII Hydrology and Water Quality of this Initial Study, which addresses construction stormwater management, will ensure that potential impacts to stormwater drainage facilities during construction are less than significant. Increased impervious area associated with the installation of the proposed above ground facilities has a potential to impact stormwater facilities after

construction. The proposed facilities would either be very small (well sites) or located within areas that are already entirely impervious (pipelines within roads) such that the adverse impact associated with implementing the proposed project would be less than significant. Implementation of the mitigation measures listed under the Hydrology and Water Quality section of this Initial Study, VIII-2 and VIII-3, can reduce impacts to a less than significant level.

d. *Less Than Significant Impact* – Implementation of the proposed Phase 3 Desalter Expansion project would be conducted as envisioned in the OBMP and as mandated under the Judgment and Peace II Agreement overseen by the Chino Basin Watermaster. Any approved, planned for or proposed development that would be served water by the proposed project facilities must demonstrate that sufficient water supplies are available to serve the project as required by SB 610 and SB 221. This is accomplished in one of two ways: 1) within the Urban Water Management Plan compiled by the WSA for its service area; and 2) in the appropriate environmental evaluation for said project. No mitigation is required.

e. *Less Than Significant Impact* – The only wastewater treatment provider of concern is the OCSD capacity to treat the brine that would be created by the proposed desalter expansion. Please refer to item (b) of this Section for a full discussion of this topic. Adequate capacity is available to serve the needs of the Desalter 3 Expansion Project.

f&g. *Less Than Significant Impact* – The proposed project would generate minor amounts of construction wastes and minor operational solid waste typically consistent with commercial use, unless concentrate reduction is implemented. The concentrate reduction process would generate nearly 40 tons of calcium carbonate pellets per day. Because of the large amount of pellets generated, it may be possible to find a market for them rather than paying for their disposal in an appropriately licensed landfill. Potential markets could include cement manufacturing or other uses requiring high purity calcium carbonate (limestone) with sand.

The California Integrated Waste Management Act of 1989 mandates a 50 percent diversion goal. The Board announced compliance with the goal in 2006 based on averaging statewide diversion rates. The proposed project impacts would occur within San Bernardino and Riverside Counties. San Bernardino County has identified sufficient disposal capacity to meet the short- and long-term needs of County per Table 2-56 of the County General Plan Circulation and Infrastructure Background Report. The Riverside Countywide Integrated Waste Management Plan Siting Element outlines strategies for meeting the disposal needs of all Riverside County residents and enabling the County to provide a minimum of 15 years of disposal capacity, based on projected growth in disposal with a 50 percent diversion rate.

Based on the availability of adequate disposal and recycling capacity, disposal of solid waste generated in association with implementing the proposed project is not forecast to result in significant impacts to the environment. Since AB939 mandates 50% diversion of waste stream, and because of the strong financial incentive for the CDA to find a market to reuse the calcium carbonate pellets if possible, no mitigation is required to transport waste to recycling facilities where feasible or to comply with solid waste regulations.

Conclusion

Based on the analysis presented above, utilities and service system resources will not experience significant adverse impacts from project implementation.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact or Does Not Apply
XVIII. MANDATORY FINDINGS OF SIGNIFICANCE –				
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?		■		
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?		■		
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?		■		

Substantiation:

Although the Chino Desalter 3 Expansion Project is complex to implement as characterized in the project description, the facilities that will cause physical changes in the environment from installation and operation are standard water supply, distribution and treatment facilities. These facilities include: new wells; new pipelines to move the extracted groundwater to the treatment facilities; treatment units to produce the product water for delivery to water serving agencies (WSAs); new pipelines to deliver the product water to WSAs; a storage reservoir to assist in managing the delivery of product water to the WSA systems in a reasonable manner; pump stations to deliver the product water to WSA customers; and a reject water (brine) disposal system. All of these system components are already operating at the Chino 1 and 2 Desalters in a successful manner with only limited identified environmental impacts. The analysis in this Initial Study and the findings reached indicate that the proposed Desalter 3 Expansion Project can be implemented without causing any new or cumulative unavoidable significant adverse environmental impacts. Extensive mitigation is required to control potential Expansion Project environmental impacts to a less than significant impact level. The following findings are based on the detailed analysis in the Initial Study of all environmental topics and the implementation of the mitigation measures identified in the previous text.

a. *Less Than Significant With Mitigation Incorporation* – This project will result in the new facilities that have the potential to impact biological and cultural resources at site specific locations in the future. Based on the analysis of condition, adequate mitigation is available to reduce impacts to cultural

resources and biological resources to a less than significant impact level and is provided in the appropriate sections of this document. No further mitigation is required.

b. *Less Than Significant With Mitigation Incorporation* – The project will construct a variety of facilities, some of which will generate impacts during operations. Based on the analysis in this Initial Study, the installation of and operation of these new facilities will not cause impacts that are individually or cumulatively considerable. The issues of air quality, biology, cultural resources, geology and soils, hazards and hazardous materials, hydrology and water quality, noise, public services and transportation and traffic require the implementation of mitigation measures to reduce impacts to a less than significant level. The issues of agriculture, land use and planning, mineral resources, population and housing, recreation and utilities and services were found to have no significant impacts without implementation of mitigation. The potential cumulative environmental effects of implementing the Desalter 3 Expansion project have been determined to be less than consideration and, thus, less than significant impacts.

c. *Less Than Significant With Mitigation Incorporation* – The provision of an adequate water supply through production, treatment and conveyance of groundwater resources is considered a benefit to public health and safety and has no potential to cause substantial adverse effects on human beings.

Conclusion

This document evaluated all CEQA issues contained in the latest Initial Study Checklist form. The evaluation determined that either no impact or less than significant impacts would be associated with the issues of agriculture, land use and planning, mineral resources, population and housing, recreation and utilities and services. The issues of air quality, biology, cultural resources, geology and soils, hazards and hazardous materials, hydrology and water quality, noise, public services and transportation and traffic require the implementation of mitigation measures to reduce impacts to a less than significant level. Extensive mitigation has been proposed in this Initial Study to reduce impacts for these issues to a less than significant impact level.

Based on the findings in this Initial Study, the CDA proposes to adopt a Mitigated Negative Declaration (MND) for the Chino Desalter Phase 3 Expansion Project. A Notice of Intent to Adopt a Mitigated Negative Declaration (NOI) will be issued for this project. The Initial Study and NOI will be circulated for 30 days of public comment, including through the State Clearinghouse because of the involvement of State responsible and trustee agencies (such as the Department of Public Health, the Santa Ana Regional Water Quality Control Board, and the Department of Fish and Game. At the end of the 30-day review period, a final MND package will be prepared and it will be reviewed by the CDA for possible adoption at a future Board meeting, the date for which has yet to be determined. If you or your agency comments on the MND/NOI for this project, you will be notified about the meeting date in accordance with the requirements in Section 21092.5 of CEQA (statute).

SUMMARY OF MITIGATION MEASURES

I-1 All surface areas disturbed by Phase 3 Desalter Expansion construction activities, except those areas occupied by structures or hardscapes, shall be revegetated, either with native vegetation in natural landscapes or in accordance with a landscape plan in man-made landscape areas. In non-native landscape areas, landscaping shall prioritize the use of native species or drought tolerant non-invasive species. Once construction is completed revegetation shall begin immediately. Where a formal landscape plan is to be implemented, it shall be coordinated with the local agency and the local design guidelines for consistency. Where a native landscape is to be restored, it shall be implemented in cooperation with regulatory agencies with oversight from a qualified biologist or landscape architect.

I-2 All utility connections for Phase 3 Desalter Expansion facilities shall be placed underground unless technically infeasible.

I-3 Where facilities are proposed to be located adjacent to scenic highways, corridors or other scenic features identified in local agency planning documents, Phase 3 Desalter Expansion facility implementation will conform with design requirements established in these planning documents.

I-4 Fencing, landscaping and/or architectural design will be incorporated in project design to reduce the visual impact of facilities in a manner consistent with the surrounding development and with the local agency design guidelines to the extent that such measures do not conflict with the engineering and budget constraints established for the facility.

I-5 Future project review and implementation shall implement the following:

- Use of low pressure sodium lights where security needs require such lighting to minimize impacts of glare.
- Height of lighting fixtures shall be lowered to the lowest level consistent with the purpose of the lighting to reduce unwanted illumination.
- Directing light and shielding shall be used to minimize off-site illumination.
- No light shall be allowed to intrude into sensitive light receptor areas off of a specific project site.

III-1 The project is restricted to the maximum mix of construction activities listed in Tables III-22 and III-23, although alternative construction activities may be conducted concurrently as long as the SCAQMD daily significance thresholds are not exceeded.

III-2 All offroad construction equipment shall be either Tier 3 or Tier 4 certified for this project.

III-3 All active pipeline construction areas shall be watered a minimum of three times daily (61% reduction in PM2.5 and PM10 emissions).

III-4 Active grading for a reservoir, if constructed, shall not exceed an area greater than 1.5 acres per day.

III-5 Production and monitoring wells shall be located at least 50 meters from the nearest sensitive receptor.

III-6 Reservoirs must be located at least 50 meters from the nearest sensitive receptor.

IV-1 To avoid an illegal take of active bird nests, any grubbing, brushing or tree removal will be conducted outside of the State identified nesting season (nesting season is approximately from March 1 through September 1 of a given calendar year). In any case, it is illegal to take active bird nests of native birds and when present at a project site, no take is allowed. Alternatively, project impact areas will be evaluated by a qualified biologist prior to initiation of ground disturbance to demonstrate that no bird nests will be disturbed by project construction activities.

IV-2 Prior to commencement of construction activity in locations that are not fully developed, a clearance survey will be conducted by a qualified biologist to determine if any burrowing owl burrows are located within the potential area of impact. If occupied burrows may be impacted, an impact minimization plan shall be developed by the biologist that will protect the burrow in place or provide for relocation to an alternate burrow within the vicinity but outside of the project footprint in accordance with current CDFG guidelines. Active nests must be avoided until all nestlings have fledged.

IV-3 Following construction activities within or adjacent to any natural area, the disturbed areas shall be revegetated using a plant mix of native plant species that are suitable for long term vegetation management. which shall be implemented in cooperation with regulatory agencies and with oversight from a qualified biologist or landscape architect. The seeds mix shall be verified to contain the minimum amount of invasive plant species seeds reasonably available for the project area.

IV-4 Within the three areas identified as containing potentially sensitive biological resource habitat, the well or other facility shall be located in adjacent disturbed areas or relocated to nearby disturbed areas.

IV-5 Where relocation is not feasible within the three sensitive areas, a follow-on detailed site survey shall be conducted 30-days prior to initiating construction to verify that no sensitive species occur within the unavoidable impact area. Where such sensitive resources occur and cannot be avoided, a compensatory mitigation plan shall be implemented that permanently preserves comparable or better habitat based on the findings of a qualified biologist and the California Department of Fish and Game.

IV-6 It is not anticipated that any discharge of fill or streambed alteration will result from installing project-related pipelines. However, if it becomes necessary to discharge fill or alter a streambed in conjunction with the Desalter Phase 3 Expansion Project, CDA shall, prior to discharge of fill or streambed alteration of jurisdictional areas, obtain regulatory permits from the U.S. Army Corps of Engineers, Santa Ana Regional Water Quality Control Board and the California Department of Fish and Game. Any future project that must discharge fill into a channel or otherwise alter a streambed shall be mitigated. Mitigation can be provided by purchasing into any authorized mitigation bank; by selecting a site of comparable acreage near the site and enhancing it with a native riparian habitat or invasive species removal in accordance with a habitat mitigation plan approved by regulatory agencies; or be acquiring sufficient compensating habitat to meet regulatory agency requirements. Typically, regulatory agencies require mitigation for jurisdictional waters without any riparian or wetland habitat to be mitigated at a 1:1 ratio. For loss of any riparian or other wetland areas, the mitigation ratio will begin at 2:1 and the ratio will rise based on the type of habitat, habitat quality, and presence of sensitive or listed plants or animals in the affected area. A revegetation plan using native riparian vegetation common to the project area shall be prepared and reviewed and approved by the appropriate regulatory agencies. The project proponent will also obtain permits from the regulatory agencies (U.S. Army Corps of Engineers, Santa Ana Regional Water Quality Control Board and CDFG) if any impacts to jurisdictional areas will occur. These agencies can impose greater mitigation requirements in their permits, but the CDA will utilize the ratios outlined above as the minimum required to offset or compensate for impacts to jurisdictional waters, riparian areas or other wetlands.

V-1 In the event that cultural resources not previously identified are encountered during ground disturbing activities, such activities shall be halted until a qualified archaeologist/historian can evaluate the nature and significance of the funds. The CDA and/or contractor shall implement the management recommendations of the archaeologist/historian that examines any accidentally exposed cultural resources.

V-2 When excavations (not well drilling) extend below ten feet or encounter older alluvial sediments, the contractor shall have a qualified paleontological consulting firm conduct a review of the sediments and determine whether monitoring during additional initial ground disturbing is required during continuing excavation activities. Monitoring may be periodic or continuous during excavation activities in sensitive paleontological area. If paleontological resources are discovered, excavation activities in the area of the find shall be halted until the qualified paleontologist can evaluate the nature and significance of the finds. The CDA and/or contractor shall implement the management recommendations of the paleontologist monitoring and evaluating any resource exposed during construction activities.

VI-1 The structural design and construction of new structures will, at a minimum, be in accordance with the requirements of the most recent Uniform Building Code (UBC) and California Building Code (CBC) including the latest supplements for Groundshaking Zone 4 as described in the 2001 California Building Code Vol. 28 and all other applicable City, County, State and Federal laws, regulations and guidelines.

VI-2 Future construction shall be designed in accordance with results in order to meet the following performance standard for Risk Class I & II, e.g., public facilities, as identified below:

Risk Class I & II, Structures Critically Needed after Disaster: Structures which are critically needed after a disaster include important utility centers, fire stations, police stations, emergency communication facilities, hospitals, and critical transportation elements such as bridges and overpasses and smaller dams.

Acceptable Damage: Minor non-structural; facility should remain operational and safe, or be suitable for quick restoration of service.

VI-3 The OBMP Implementation Plan (Peace Agreement, Exhibit B, page 26) states “The occurrence of subsidence in Management Zone 1 is not acceptable and should be reduced to tolerable levels or abated.” Watermaster has developed and implemented an adaptive management program of pumping and recharge in MZ1 to identify subsidence-related hazards and mitigate them to “tolerable levels.” This adaptive management program is described in the MZ1 Subsidence Management Plan (MZ1 Plan). The Court approved the MZ-1 Plan in November 2007 and ordered its implementation. Watermaster plans to expand this program as a mitigation measure for subsidence-related hazards that could occur as a result of the Peace II project. Similar to current practice, Watermaster will collect, compile, review, and report annually on the monitoring program data. The annual reports will include recommendations for adaptive management to mitigate any measured subsidence that the MZ1 Technical Committee (that will include CDA representatives) identifies as “intolerable” as determined by CDA. Adaptive management may come in the form of the establishment of threshold water levels at index wells, reduced pumping at specific wells, sealing of well screens at specific depth intervals at specific wells, adjustment of pumping schedules, cessation of pumping at certain wells, installation of additional wells in alternate locations, and other appropriate measures, as determined by CDA.

VI-4 Apply provisions of hillside erosion and sediment control that reduce volume and velocity of flows and content of sediment to levels that do not cause significant rill or gully erosion in susceptible areas. In addition, provide for restoration of areas that do become eroded.

VI-5 Add protective covering of mulch, straw or synthetic material (erosion control blankets, tacking will be required). Mulch or straw must be certified to be free of invasive plant seed.

VI-6 Limit the amount of area disturbed and the length of time slopes and barren ground are left exposed. After pipeline installation, soil shall be compacted to an elevation and density similar to pre-construction conditions. Backfill over pipes must be 90% density.

VI-7 Construct diversion dikes and interceptor ditches to divert water away from construction areas.

VI-8 Install slope drains (conduits) and/or water-velocity-control devices to reduce concentrated high-velocity streams from developing.

VII-1 For Phase 3 Desalter Expansion facilities that handle hazardous materials or generate hazardous waste, the Business Plan prepared and submitted to the county or local city shall incorporate best management practices (BMPs) designed to minimize the potential for accidental release of such chemicals. These BMPs can be incorporated into the Business Plan or a Spill Prevention Control Countermeasures Plan (SPCC) prepared for the Desalter facilities. The facility managers shall implement these measures to reduce the potential for accidental releases of hazardous materials or wastes.

VII-2 The Business Plan or SPCC Plan shall assess the potential accidental release scenarios and identify the equipment and response capabilities required to provide immediate containment, control and collection of any released material. Adequate funding shall be provided to acquire the necessary equipment, to train personnel in responses and to obtain sufficient resources to control and prevent the spread of any accidentally released hazardous or toxic materials.

VII-3 For the storage of any acutely hazardous material at a Phase 3 Desalter Expansion facility, such as chlorine gas, modeling of pathways of release and potential exposure of the public to any released material shall be completed and specific measures, such as secondary containment, shall be implemented to ensure that sensitive receptors will not be exposed to significant health threats based on the toxic substance involved.

VII-4 All contaminated material shall be delivered to a licensed treatment, disposal or recycling facility that has the appropriate systems to manage the contaminated material without significant impact on the environment.

VII-5 Before determining that an area contaminated as a result of an accidental release is fully remediated, specific thresholds of acceptable clean-up shall be established and sufficient samples shall be taken within the contaminated area to verify that these clean-up thresholds have been met.

VII-6 Engineering controls over any hazardous emissions or accidental releases of hazardous substances shall be comprehensive, redundant and state of the art to minimize emissions from the facility or to minimize the potential for an accidental release. A report verifying the adequacy of such controls shall be provided to decision-makers before authorization to initiate operations at Phase 3 Desalter Expansion facilities.

VII-7 Where the location of a Phase 3 Desalter Expansion facility other than a pipeline will be located within 1/4 mile of a school, the CDA shall confer with the local school district. The notice to the school district shall define the type of controls over hazardous substances that will be implemented and request the district to provide review and input on the design controls for such substances.

VII-8 In coordination with the Watermaster, if any well intercepts a contamination plume, the affected well will be connected to a treatment unit to remove the plume pollutants to a level that meets potable/drinking water quality standards. Alternatively, the well owner may blend the produced water with other water sources to meet potable/drinking water quality standards, or another method that achieves the same performance standard. If this performance standard cannot be achieved, the well will be removed from production.

VII-9 Before acquiring a Phase 3 Desalter facility site, the project proponent shall have a Phase 1 property evaluation completed. If a potential for contamination exists, a Phase 2 property evaluation shall be completed. If contamination of the site is identified, the project proponent shall avoid the site, or shall prepare a work plan for developing the site and have this work plan reviewed and approved by the local CUPA or DTSC. The approved work plan for the site shall be implemented in a manner that does not cause a significant health risk for the public or employees.

VII-10 Where contamination of a site is accidentally discovered after development is initiated, the CDA shall retain a qualified industrial hygienist to characterize the type and extent of the contamination, contain the contamination and oversee the proper removal and disposal of contamination in accordance with an approved work plan, and all applicable laws, regulations and standards.

VII-11 Prior to installing any above ground structures or facilities within FAA Restricted Use, Development and Height Area or within two miles of a public airport, a final determination will be made on the acceptability of such facilities within this zone or area. If it is not permitted, such structures or facilities will be relocated out of the zone on adjacent parcels of land. Final locations for such facilities within FAA Restricted Use, Development and Height Area (ACLUP Referral Area "B") will be reviewed with the Airport Manager, and any exceptions will be obtained in accordance with FAA regulations.

VIII-1 Mitigation will be provided to the estimated eight (8) private well owners/operators within the Chino Creek Wellfield area when the well owner/operator cannot produce enough groundwater to meet their needs and the cause of reduced production can be demonstrated to be the expansion of the desalter program. The mitigation will restore the lost production capacity to ensure that the well owner/operator can produce enough groundwater to meet the owner's needs or provide an alternate source of water to replace the lost production capacity. The method of mitigation will be determined at the discretion of the CDA taking into account the historical fluctuations in the water table, the depth to water, the pump and well efficiency and the reasonableness of the well owner's expectation that the existing well configuration (pump, well and water table) should be protected. As a pre-requisite to receiving mitigation, every well owner will be expected to engage in reasonable self-help measures to address inefficient groundwater withdrawal practices.

VIII-2 The construction contractor shall prepare and implement a Storm Water Pollution Prevention Plan (SWPPP) which specifies Best Management Practices that will be implemented to prevent construction pollutants from contacting stormwater with the intent of keeping all products of erosion from moving offsite. The SWPPP shall be developed with the goal of achieving controlling all pollutants and their sources, including sediment and non-stormwater discharges both during and following construction to the maximum extent practicable based on available, feasible best management practices. The SWPPP and the monitoring program for the construction projects shall be consistent with the requirements of the latest version of the State's General Construction Activity Storm Water Permit and NPDES Permit No. CAS618036, Order No. R8-2010-0036 for projects within San Bernardino County or NPDES No. CAS618033, Order No. R8-2010-0037 for projects within Riverside County.

The following items should be included in the SWPPP:

- The length of trenches which can be left open at any given time should be limited to that needed to reasonably perform construction activities. This will serve to reduce the amount of backfill stored onsite at any given time.
- Backfill material should not be stored in areas which are subject to the erosive flows of water.
- Erosion control measures, such as scheduling, hydraulic mulch, soil binder applications, earth dikes and drainage swales.
- Sediment control measures such as the use of straw bales, sandbags, silt fencing or detention basins shall be used to capture and hold eroded material for future cleanup.
- Rainfall will be prevented from entering material and waste storage areas and pollution-laden surfaces.
- Construction-related contaminants will be prevented from leaving the site and polluting waterways.
- Replanting and hydroseeding of native vegetation will be implemented to reduce slope erosion and filter runoff, for final stabilization of a site.
- A spill prevention control and remediation plan to control release of hazardous substances.

VIII-3 Phase 3 Desalter Expansion facilities shall prepare and implement a Water Quality Management Plan (WQMP) which specifies Best Management Practices that will be implemented after construction to prevent post construction surface runoff containing pollutants from the site after construction has been completed. The WQMP shall also be developed with the goal of achieving a reduction in post-development surface runoff, to control urban runoff pollution and downstream impacts to the maximum extent practicable based on the requirements of the WQMP for each county.

XI-1 Construction shall be limited to the hours of 7 a.m. to 7 p.m. on Monday through Friday, and between 9 a.m. to 6 p.m. on Saturday, and shall be prohibited on Sundays and federal holidays. Alternatively, the construction shall meet the construction noise requirements of the local jurisdiction (city or county). Exceptions are for well drilling or declared emergency circumstances. Where construction is located in areas with no sensitive receptors, night work shall be allowed if acceptable to the local jurisdiction.

XI-2 All construction vehicles and fixed or mobile equipment shall be equipped with properly operating and maintained mufflers.

XI-3 All employees that will be exposed to noise levels greater than 75 dB over an 8-hour period shall be provided with adequate hearing protection devices to ensure no hearing damage will result from construction activities.

XI-4 If equipment is being used that can cause hearing damage at adjacent noise receptor locations (distance attenuation shall be taken into account), portable noise barriers shall be installed that are demonstrated to be adequate to reduce noise levels at receptor locations below hearing damage thresholds. Alternatively, the construction shall meet the construction noise requirements of the local jurisdiction (city or county).

XI-5 All production wells or booster pumps shall have their noise levels attenuated to 50 dBA CNEL at the adjacent property boundary, when noise sensitive uses occur on such property. Alternatively, the construction shall meet the construction noise requirements of the local jurisdiction (city or county).

XI-6 Project design will include measures which assure adequate interior noise levels as required by Title 25 (California Noise Insulation Standards). Alternatively, the construction shall meet the construction noise requirements of the local jurisdiction (city or county).

XI-7 Construction staging areas shall be located as far from adjacent sensitive receptor locations as possible at each facility. Alternatively, the construction shall meet the construction noise requirements of the local jurisdiction (city or county).

XI-8 Good relations with the local community shall be maintained where construction is scheduled, such as by keeping people informed of the schedule, duration, and progress of the construction to minimize the public objections of unavoidable noise. Communities should be notified in advance of the construction and the expected temporary and intermittent noise increases during the construction period.

XI-9 All above ground well pumps or booster pump stations shall have their noise levels attenuated to 50 dBA CNEL at the property boundary when adjacent to a noise sensitive land use.

XIII-1 Phase 3 Desalter Expansion facilities shall be fenced or otherwise have access controlled to prevent illegal trespass to attractive nuisances, such as construction sites.

XV-1 The construction contractor will provide adequate traffic management resources, as determined by the applicable jurisdiction, to ensure adequate access to all occupied properties on a daily basis, including emergency access. The applicable jurisdiction shall require a construction traffic management plan for work in public roads that complies with the CMUTCD, Part 6, Temporary Traffic Controls, or other agencies' applicable standard, to provide adequate traffic control and safety during construction activities. The traffic management plan shall be prepared and approved by the applicable jurisdiction prior to initiation of construction within a traveled roadway alignment. At a minimum this plan shall include how to minimize the amount of time spent on construction activities; how to minimize disruption of vehicle and alternative modes of transport traffic at all times, but particularly during periods of high traffic volumes; how to maintain safe traffic flow on local streets affected by construction at all times, including through the use of adequate signage, protective devices, flag persons or police assistance to ensure that traffic can flow adequately during construction; the identification of alternative routes that can meet the traffic flow requirements of a specific area, including communication (signs, webpages, etc.) with drivers and neighborhoods where construction activities will occur; and at the end of each construction day roadways shall be prepared for continued utilization without any significant roadway hazards remaining.

XV-2 The applicable jurisdiction shall require that all disturbances to public roadways be repaired in a manner that complies with the Standard Specifications for Public Works Construction (green book) or other applicable jurisdiction standards.

XV-3 The construction contractor will time the construction activities to minimize obstruction of through traffic lanes adjacent to project sites and/or along project alignments during peak hours.

XV-4 During construction the applicable jurisdiction shall require that traffic hazards for vehicles, bicycles, and pedestrians be adequately identified and controlled to minimize hazards.

XV-5 The applicable jurisdiction shall require the contractor to ensure that no open trenches or traffic safety hazards are left in roadways during periods of time when construction personnel are not present (nighttime, weekends, etc.)

XV-6 Phase 3 Desalter Expansion facilities located within one-quarter mile of a school will be required to prepare a traffic management plan for review and comment by the appropriate school district. The minimum performance standard for the traffic plan will be to provide sufficient traffic management resources to protect pedestrian and vehicle safety in the vicinity of school sites.

XV-7 To the extent feasible, installation of pipelines or other construction activities in support of the Phase 3 Desalter Expansion shall not be located on major evacuation or emergency response routes. Where construction on such routes is necessary, local emergency response providers shall be contacted and emergency access and evacuation requirements shall be maintained at a level sufficient to meet their needs.

XV-8 Access to the Santa Ana River Trail and through-traffic bicycle access on the trail will be maintained during construction activities for the Hamner Avenue pipeline.

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FIGURES