CHAPTER 5
Draft EIR Text Revisions

5.1 Introduction

This section includes changes or additions to the Draft EIR based on comment letters received during the public review comment period of December 5, 2011 through March 14, 2012, as well as other edits to provide additional clarification, including more stringent mitigation measures. Revisions made in response to a comment are introduced with the relevant comment number as well as the page number of the Draft EIR where the change is incorporated. Revisions made for clarification purposes are introduced only with the page number of the Draft EIR where the change is incorporated. Changes are provided in revision marks (underline for new text and ~~strikeout~~ for deleted text). Changes to the Draft EIR are indicated below under the respective EIR section heading.

The revisions are minor changes that do not constitute significant additional information that alter the outcome of the environmental analysis or require recirculation of the document (CEQA Guidelines Section 15088.5).

5.2 Text Revisions

Executive Summary

Section ES.2, p. ES-4, second paragraph is revised as follows:

> The Project would serve the railroad's water demands along the ROW, including fire suppression, as well as providing ARZC access to the road along the pipeline that would be constructed as part of the Project. The access roads in the ROW that can be used for railroad maintenance purposes and emergencies, will allow access to power at meters located along the railroad tracks, will allow for passenger terminals and water service associated with steam locomotives (~~that~~ ARZC is contemplating running one in the future), and will provide the right to connect and deliver water to any future water production facilities within the ROW. The Project ~~would~~ may also serve additional railroad purposes that have been identified by ARZC which will be subject to additional environmental review.

Chapter 1 Introduction

Section 1.2.3, p. 1-6, paragraph 2 is revised as follows:

In Southern California, Golden State serves customers in cities throughout San Bernardino, ~~Riverside,~~ Los Angeles, Orange and Ventura counties.

Section 1.3, page 1-9 first full paragraph is revised as follows:

As the first public agency with a discretionary decision regarding the proposed Project and because the Project would be owned in part and operated by SMWD, SMWD is acting as Lead Agency. SMWD was the first Project Participant to enter into an Option Agreement for the largest portion of water supply and carry-over storage from the Project and is sharing CEQA costs with Cadiz. The Option Agreement contemplates SMWD carrying-out the Project by, among other things, approving the design and construction of the wells, pipelines, and conveyance facilities for the Project, and negotiating for the acquisition of real property interests owned by Cadiz. SMWD has prepared this Draft EIR in accordance with its responsibility as Lead Agency to evaluate the potential environmental impacts of the proposed Project. SMWD has the discretion to certify the EIR and to approve or reject the Project. SMWD will approve the Project through the Purchase and Sale Agreement contemplated in the Option Agreement, as well as by approving the Groundwater Management, Monitoring and Mitigation Plan (see Section 2.3.1). SMWD also anticipates that the Project will requires subsequent approvals, including a Joint Powers Agency Agreement, a water purchase agreement, and long-term leasing, operation, and management agreements concerning Project facilities.

Chapter 2 Project Background

Section 2.3.1, p. 2-3, (San Bernardino County Desert Groundwater Management Ordinance) third paragraph is revised as follows:

The ~~ordinance~~ Desert Groundwater Management Ordinance does not apply to entities that have prepared a County-Approved Groundwater Management, Mitigation and Monitoring Plan (GMMMP) and that have entered into a Memorandum of Understanding (MOU) with the County that "requires the parties to share groundwater monitoring information and data and to coordinate their efforts to monitor groundwater resources in the County;" and "ensures that the measures identified in the AB 3030 Plan or County-approved groundwater management, monitoring and mitigation plan are fully implemented and enforced."

Section 2.4, p. 2-6, (Overview of Southern California Water Supply) paragraph 3 is revised as follows:

The ~~2010~~ 2009 California Department of Water Resources (DWR) California Water Plan Update, Integrated Water Management found that reliability of supplies of water historically used by water providers in Southern California will continue to vary in the future.

Section 2.4.1, p. 2-6, (State Water Project) paragraph 4 is revised as follows:

The SWP began in 1960 with California voter approval for a statewide distribution system to meet growing water needs south of the San Francisco Bay/ Sacramento-San Joaquin River Delta (also known as the Bay Delta).

Section 2.4.1, p. 2-8, (State Water Project) paragraph 1 is revised as follows:

Between 1990 and 1992 and in 1994, DWR had greater difficulty meeting demand because ~~several~~ these years were very dry.

Section 2.4.1, p. 2-8, (State Water Project) paragraph 1 is revised as follows:

~~In recent years, the SWP has been able to deliver full amounts only in wet years;~~ Between 2000 and 2011, the SWP has been able to deliver 100 percent of the contractors' allocations only in 2006, a wet year;

Section 2.4.1, p. 2-8, (State Water Project) paragraph 1 is revised as follows:

~~DWR's most recent reliability estimates indicate the system will have 60 percent reliability for delivering Table A requests, depending on hydrologic and environmental factors[1]. DWR currently estimates 60 percent reliability in the future.~~

DWR estimates the system will have, on average, 60 percent reliability for delivering Table A requests, depending on hydrologic and environmental factors[1]. DWR estimates 60 percent reliability, on average, in the future.

Section 2.4.2, p. 2-8, (Metropolitan Water District of Southern California and the Colorado River Aqueduct) second paragraph is revised as follows:

SWP deliveries to Metropolitan began in 1972.

Section 2.4.2, p. 2-8 through 2-9, (Metropolitan Water District of Southern California and the Colorado River Aqueduct) the last sentence is revised as follows:

The CRA, owned and operated by Metropolitan, has a capacity of 1,800 cubic feet per second, or 1.25 million AFY. California's allotment of Colorado River water is 4.4 million AFY, plus available surplus water and any water apportioned to but unused in the states of Arizona and Nevada, made available by the Secretary of the Interior.

Section 2.4.2, p. 2-9, (Metropolitan Water District of Southern California and the Colorado River Aqueduct) first paragraph is revised as follows:

~~Since 2003, Metropolitan has developed agreements with other Colorado River water rights holders to convey water through the CRA.~~

[1] California Department of Water Resources, *The 2009 State Water Project Delivery Reliability Report,* August 2010, Table 7.1.

Since 1988, Metropolitan has entered into agreements with other Colorado River water rights holders to conserve water to permit the Secretary of the Interior to make such water available to Metropolitan for diversion through the CRA.

Section 2.4.2, p. 2-9, (Metropolitan Water District of Southern California and the Colorado River Aqueduct) first paragraph is revised as follows:

~~Metropolitan approved the Quantification Settlement Agreement (QSA) in 2003 that provided for additional transfers from agricultural agencies that use Colorado River Water such as the Imperial Irrigation District (IID) and the Coachella Valley Water District (CVWD) to San Diego.~~

Metropolitan executed the Quantification Settlement Agreement (QSA) in 2003, a key component of California's Colorado River Water Use Plan, providing for the transfer of water from the Imperial Irrigation District (IID) to the San Diego County Water Authority (SDCWA) and providing a reliable mechanism for additional agricultural to urban water transfers benefiting Metropolitan. Execution of the QSA restored the opportunity for Metropolitan's access to special surplus water to be provided under the 2001 Interim Surplus Guidelines. The QSA set aside several existing disputes between California's Colorado River water agencies, allowing for the cooperative development of additional Colorado River water supply programs.

Section 2.4.2, p. 2-9, (Metropolitan Water District of Southern California and the Colorado River Aqueduct) footnote 19 is revised as follows:

~~Twelve of the QSA agreements are currently the subject of an appeal pending in the Third District Court of Appeal for which oral argument will occur on November 21, 2011.~~

On December 7, 2011, the judgments in *Imperial Irrigation District v. All Persons Interested, POWER v. Imperial Irrigation District et al.*, and *County of Imperial v. Metropolitan Water District of Southern California et al.* were reversed, and the cases were remanded to the trial court for further proceedings consistent with the Court of Appeal's opinion.

Section 2.4.2, p. 2-9, (Metropolitan Water District of Southern California and the Colorado River Aqueduct) footnote 19 is revised as follows:

The QSA and related agreements continue to be implemented ~~while the appeal is being decided~~.

Section 2.4.2, p. 2-9, (Metropolitan Water District of Southern California and the Colorado River Aqueduct) Table 2-1 is revised as follows:

TABLE 2-1
SOURCES OF WATER SUPPLY FOR THE METROPOLITAN SERVICE AREA (ACRE-FEET)

Calendar Year	Local Supplies	L.A. Aqueduct	Colorado River Aqueduct	State Water Project	Total
1980	1,452,000	515,000	~~791,000~~	560,000	~~3,317,000~~
			817,147		3,344,147
1985	1,535,000	496,000	~~1,018,000~~	728,000	~~3,776,000~~
			1,269,526		4,028,526
1990	1,470,000	106,000	~~1,183,000~~	1,458,000	~~4,217,000~~
			1,214,971		4,248,971
1995	1,590,000	464,000	~~933,000~~	451,000	~~3,438,000~~
			994,373		3,449,373
2000	1,768,000	255,000	~~1,217,000~~	1,473,000	~~4,714,000~~
			1,300,014		4,796,014
2005	1,590,000	369,000	~~685,000~~	1,525,000	~~4,168,000~~
			875,252		4,359,252
2010[1]	1,832,000	243,000	~~1,150,000~~	1,500,000	~~4,725,000~~
			1,099,061		

NOTE: Metropolitan created 100,864 acre-feet of Extraordinary Conservation ICS, storing water it otherwise would have diverted in Lake Mead.

SOURCE: Metropolitan Water District of Southern California, *Regional Urban Water Management Plan*, November 2010, p. A. 2-3, Table A. 2-1.

Chapter 3 Project Description

Section 3.1.1, p. 3-2, (Introduction) last paragraph is revised is revised as follows:

> From the CRA, water would be distributed to Project Participants via the existing distribution infrastructure available to Metropolitan and local water providers through exchange arrangements with Metropolitan. ~~Water would be distributed to Project Participants via the CRA.~~

Section 3.5.1, p. 3-19, (Project Participants, Groundwater Conservation and Recovery Component) first paragraph is revised as follows:

> Its 24 separate water systems serve 63 communities from Chico in ~~Southern~~ Northern California to the Palos Verdes Peninsula in Southern California.

Section 3.5.1, p. 3-21, (Project Participants, Groundwater Conservation and Recovery Component) Table 3-1, footnote "b" is revised as follows:

b. ARZC has reserved rights to conserved water from Project for identified railroad purposes that may require additional environmental review. However, the total quantity of groundwater pumped, by Cadiz Inc. for all uses for all purposes will not exceed 50,000 AFY on average over the 50-year Project period.

Section 3.6.1, p. 3-30, (Project Participants, Groundwater Conservation and Recovery Component) **Figure 3-9a** on the following page is added as follows:

Section 3.6.1, p. 3-34, (Project Participants, Groundwater Conservation and Recovery Component) first paragraph is revised as follows:

The water conveyance pipeline would terminate at the CRA, a 242-mile water conveyance facility that delivers water from the Colorado River ~~at Parker Dam to water suppliers in Southern California~~ at Lake Havasu to Lake Mathews.

Section 3.6.1, p. 3-34, (Project Participants, Groundwater Conservation and Recovery Component) first paragraph is revised as follows:

Copper ~~Mountain~~ Basin

Section 3.6.1, p. 3-40, (Project Participants, Groundwater Conservation and Recovery Component) sixth paragraph is revised as follows:

ARZC has reserved rights for the use of water from the Project for other designated railroad purposes, including for fire suppression at the numerous trestles, washing railcars, controlling vegetation, serving its offices and other improvements and future operations. The 43-mile stretch of railroad crosses 70 trestles just in the Project area alone. Therefore, fire suppression is a vital component of maintaining the railroad. Future operations ARZC may contemplate include such uses as steam-powered excursion locomotive, new warehouses (if any), bulk transfer facilities or other railroad related facilities on the line. Because the specific future uses are unknown at this time, they are not analyzed in the EIR and when defined, will be subject to separate review and approval.

Section 3.6.1, p. 3-40, (Project Participants, Groundwater Conservation and Recovery Component) last paragraph is revised as follows:

Figures ~~3-6a~~3-4 and ~~3-6b~~3-5 identify the location of these wells.

Note: This is a photo of the existing Cadiz agricultural well that utilizes diesel fuel.
The new proposed wellpad would not include the diesel storage tank shown in this picture.

SOURCE: ESA, 2012.

Cadiz Valley Water Conservation, Recovery, and Storage Project

Figure 3-9a

Example of Typical Wellpad

Section 3.7.1, p. 3-47, (Project Participants, Groundwater Conservation and Recovery Component) fifth paragraph is revised as follows:

> It is assumed that no import or export of soil would be required for construction of the pipeline. The majority of the excavated soil for the conveyance facility will be restored and compacted. The size of the Project area, including the ROW, is large enough to accommodate the spreading/grading of any excess excavated soils. Pipe segments would be delivered to the Cadiz Inc. agricultural operation (Cadiz Ranch) via the BNSF railroad where it intersects with the ARZC on Cadiz Property.

Section 3.7.1, p. 3-48, (Project Participants, Groundwater Conservation and Recovery Component) last paragraph is revised as follows:

> Staging areas would be required for the temporary storage of equipment and materials during construction of the Project. The staging areas will occur on disturbed and undisturbed land. Preparation of the~~se~~ undisturbed staging areas would consist of flattening vegetation in place or blading the site in a manner that would allow native vegetation to recover from rootstock.

Section 3.8, p. 3-53 and 3-54 is revised as follows:

3.8 Agreements, Permits, and Approvals

Implementation of the proposed Project may require the following agreements, permits, and approvals:[2]

Santa Margarita Water District	Project Approval/CEQA Purchase and Sale Agreement Groundwater Management, Monitoring and Mitigation Plan Joint Powers Authority Agreement Water purchase, leasing, facility operations and management agreements	A Project Participant and CEQA ~~Responsible~~ Lead Agency pursuant to California Public Resources Code section 21069, SMWD would evaluate potential environmental impacts of the proposed Project ~~within its boundaries~~ and has discretion to approve or reject its participation in the proposed Project

[2] The entire list is provided for clarity of approvals though much is unchanged from the Draft EIR.

Three Valleys Municipal Water District	Project Participation Approval/CEQA	A Project Participant and CEQA Responsible Agency pursuant to California Public Resources Code section 21069, Three Valleys would evaluate potential environmental impacts within its boundaries and has discretion to approve or reject its participation in the proposed Project
Jurupa Community Services District	Project Participation Approval/CEQA	A Project Participant and CEQA Responsible Agency pursuant to California Public Resources Code section 21069, JCSD would evaluate potential environmental impacts within its boundaries and has discretion to approve or reject its participation in the proposed Project
Arizona California Railroad	Agreement of right of way easement	Needed to utilize railroad right of way
	Project Participation Approval	A Project Participant. Has discretion to approve or reject its participation in the proposed Project
California Public Utilities Commission	CPUC Approval	Regulatory authority over California Water Service Company (Cal Water), Golden State and Suburban, the CPUC has approval authority over Cal Water's, Golden State's and Suburban Water's agreements if rates are affected
US Fish and Wildlife Service	Endangered Species Act ~~Section 7~~	Needed ~~due to presence of~~ if desert tortoise is affected
US Army Corps of Engineers	Clean Water Act Section 404	Needed ~~for~~ if Piute Wash observation well affects waters of the U.S.
	Commitment to remove unexploded ordnance	Needed if unexploded ordnance removal is necessary
California Department of Fish and Game	California Fish and Game Code Section 2081	Needed ~~due to presence of~~ if desert tortoise is affected
	California Fish and Game Code Section 1602	Needed for effects to streambeds
California Department of Transportation	Encroachment Permit	Needed for lane closures if necessary on SR62 and SR66

Regional Water Quality Control Board	Clean Water Act Section 401	A CEQA Responsible Agency pursuant to California Public Resources Code section 21069 Needed for effects to waters of the US if necessary
	WDRs for waters of the state	Needed to cross washes as waters of the state;
	Storm Water Pollution Prevention Plan	Needed for construction activities
	Waste Discharge Requirements	Needed for land discharges including spreading basins, well completion discharges, and blow-off discharges
	Anti-Degradation Analysis for storage recharge	Needed per Basin Plan to protect groundwater
Metropolitan Water District of Southern California	Approval to modify CRA for the proposed intertie and diversion structures ~~Agreement to convey water through the CRA~~ Agreement to exchange water from the distribution system to a Metropolitan member agency for receipt by a Project Participant. Approval of aspects of the Project/CEQA	A CEQA Responsible Agency pursuant to California Public Resources Code Section 21069, Metropolitan would evaluate potential environmental impacts within its boundaries and on its Facilities ~~Needed for use of CRA~~
Mojave Desert Air Quality Management District	Natural gas engine emissions permits	Needed for well pumps and Intermediate Pump Station
San Bernardino County	Groundwater Management, Monitoring and Mitigation Plan pursuant to May2012 County MOU	Needed to comply with County MOU

Chapter 4 Environmental Setting, Impacts, and Mitigation Measures

4.1 Aesthetics

Section 4.1.1, p. 4.1-4, second paragraph is revised as follows:

> In general, public views of the proposed Project would be limited ~~as access~~ to the Cadiz Inc. Property to the north and Metropolitan lands and the CRA to the south are ~~private watershed district property and are~~ not accessible to the general public.

Section 4.1.1, p. 4.1-12, visual simulation **Figure 4.1-8** on the following page is added.

Section 4.1.3, p. 4.1-21, Mitigation Measure **AES-1** is revised as follows:

> **AES-1:** Construction lighting shall be shielded or recessed so that light is directed downward and/or away from adjoining properties and public rights-of-way, and towards the construction site, with the goal of minimizing light trespass and glare on adjacent properties and containing light within the construction site ~~to the maximum extent feasible~~.

Section 4.1.3, p. 4.1-21, Mitigation Measure **AES-2** is revised as follows:

> **AES-2:** Outdoor lighting shall be minimized and installed for safety and security purposes only. Outdoor lighting of Project facilities and access roads shall be shielded or recessed so that light is directed downward and/or away from adjoining properties and public rights-of-way and towards the Project site, with the goal of minimizing light trespass and glare on adjacent properties and containing light within the Project site~~ to the maximum extent feasible~~.

4.3 Air Quality

Section 4.3.2, p. 4.3-6, first paragraph is revised as follows:

> Because the Project area is sparsely populated, there are very few sensitive receptors in proximity to the Project. The nearest sensitive receptors to the proposed Project wellfield facilities are three or four residences located approximately 3.3 miles north of the Project site near the corner of Cadiz Road and National Trails Highway. The small community of Amboy (population less than 20) is located approximately 10 miles to the west of the wellfield facilities on Highway 66. No other sensitive receptor is located ~~in~~ near the Project, including the pipeline ~~area~~ for over 10 miles.

Section 4.3.4, p. 4.3-9, the following text is added to the beginning of the last paragraph beneath the bullets:

> As discussed above, there are no sensitive receptors in the vicinity of the Project. The nearest sensitive receptor to any of the of the Project facilities are the three or four residences located approximately 3.3 miles north of the Project site near the corner of Cadiz Road and National Trails Highway.

Existing Conditions

Visual Simulation

SOURCE: ESA, 2012.

Cadiz Valley Water Conservation, Recovery, and Storage Project

Figure 4.1-8

Visual Simulation: Showing Wellpads as Seen from National Trails Highway

Section 4.3.4, p. 4.3-11, fifth paragraph is revised as follows:

> Construction emissions for the Project are based on both current emission factor data and the magnitude of development for the Project. The total amount of construction, the duration of construction and the intensity of construction activity could have a substantial effect upon the amount of construction emissions, concentrations and the resulting impacts occurring at any one time. As such, the emission forecasts provided reflect a specific set of conservative assumptions based on the expected construction scenario wherein the majority of construction is occurring over an 18-month~~a two-year~~ period.

Section 4.3.4, p.4.3-12, Table 4.3-5 is added:

TABLE 4.3-5
CONSTRUCTION EMISSIONS FROM
GROUNDWATER CONSERVATION AND RECOVERY COMPONENT
(lbs per day)[a]

Project Component	ROG	NO_x	CO	PM10	PM2.5
Wellfield Construction (including mobilization, site clearing and grading, drilling, site access, and demobilization)	18	**155**	89	11	7
Conveyance Pipeline / CRA Tie-in (including mobilization, site clearing and grading, excavation, backfilling, site access, and demobilization)	20	**145**	273	12	8
Locomotive Deliveries[b]	20	**277**	53	13	12
~~Storage Reservoir/ Pump Station (including mobilization, site clearing and grading, excavation, backfilling, site access, and demobilization)~~	~~14~~	~~115~~	~~57~~	~~105~~	~~26~~
Construction Employee and Delivery Trips	14	147	112	226	26
Unmitigated Total	52	**447**	474	**248**	40
Mitigated Total	52	**396**	474	78	19
MDAQMD Thresholds of Significance	137	137	548	82	82
Significant after Mitigation (Yes or No)?	No	**Yes**	No	No	No

a Project construction emissions estimates were made using URBEMIS2007, version 9.2. 4 and AP-42. See Appendix E1 and E3 for more information.

b The delivery of construction equipment to the Project site by locomotives is not anticipated to occur on the same day when construction activities would commence for the Project. Thus, the emissions for locomotive deliveries were not included in the total daily emissions for a maximum (worst-case) construction day.

Values in **bold** are in excess of the applicable MDAQMD significance threshold. NA = Not Available
PM10 fugitive dust mitigation 44 percent for 25 mph speed limit and 55 percent for watering twice daily.

Fleet Mix from URBEMIS Worksheets (Appendix E1)

Pipeline
1 Air Compressors (106 hp) operating at a 0.48 load factor for 8 hours per day
1 Bore/Drill Rigs (291 hp) operating at a 0.75 load factor for 12 hours per day
1 Cranes (399 hp) operating at a 0.43 load factor for 12 hours per day
1 Graders (174 hp) operating at a 0.61 load factor for 12 hours per day
2 Dumpers/Tenders (16 hp) operating at a 0.38 load factor for 12 hours per day
1 Other Equipment (190 hp) operating at a 0.62 load factor for 12 hours per day
1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 12 hours per day
1 Water Trucks (189 hp) operating at a 0.5 load factor for 12 hours per day
8 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 12 hours per day

CRA-Tie In
1 Air Compressors (106 hp) operating at a 0.48 load factor for 8 hours per day
2 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 8 hours per day

1 Bore/Drill Rigs (291 hp) operating at a 0.75 load factor for 12 hours per day
1 Cranes (399 hp) operating at a 0.43 load factor for 7 hours per day
4 Dumpers/Tenders (16 hp) operating at a 0.38 load factor for 8 hours per day
3 Graders (174 hp) operating at a 0.61 load factor for 8 hours per day
3 Rubber Tired Loaders (164 hp) operating at a 0.54 load factor for 8 hours per day
3 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 8 hours per day
2 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day
3 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

Wellfield
2 Air Compressors (106 hp) operating at a 0.48 load factor for 8 hours per day
3 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day
1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day
1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 8 hours per day
2 Dumpers/Tenders (16 hp) operating at a 0.38 load factor for 8 hours per day
2 Off Highway Trucks (479 hp) operating at a 0.57 load factor for 8 hours per day
4 Bore/Drill Rigs (291 hp) operating at a 0.75 load factor for 24 hours per day
2 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 8 hours per day
2 Cranes (399 hp) operating at a 0.43 load factor for 6 hours per day

SOURCE: ESA, 2011.

Section 4.3.4, p.4.3-14, Table 4.3-6 is revised as follows:

TABLE 4.3-6
PROJECT OPERATIONAL EMISSIONS
(lbs per day)

Project Component	VOC	NO_x	CO	PM_{10}	$PM_{2.5}$
50,000 AFY					
Pump Station	1.76	6.31	9.22	4.52	4.51
Wellfield at 50,000 AFY	~~1.84~~87.57	~~6.63~~74.31	~~9.68~~142.99	~~4.75~~0.12	0.12
Mobile Source Emissions	1	11	10	38	3
Total Emissions	90.33	91.62	162.21	42.64	7.63
MDAQMD Thresholds of Significance	137	137	548	82	82
Significant (Yes or No)?	No	No	No	No	No
75,000 AFY					
Pump Station	1.76	6.31	9.22	4.52	4.51
Wellfield at 75,000 AFY	~~3.04~~122.57	~~10.91~~100.68	~~15.94~~215.96	~~7.82~~0.17	0.17
~~Wellfield and Pump Station (50,000 AFY)~~	~~3.60~~	~~12.94~~	~~18.91~~	~~9.28~~	
~~Wellfield and Pump Station (75,000 AFY)~~	~~4.79~~	~~17.22~~	~~25.16~~	~~12.34~~	
Mobile Source Emissions	1	11	10	38	3
Total Emissions	125.33	117.99	235.18	42.69	7.68
MDAQMD Thresholds of Significance	137	137	548	82	82
Significant (Yes or No)?	No	No	No	No	No

See Appendix E for the modeling outputs.

SOURCE: ESA, 2011.

Section 4.3.4, p. 4.3-14, the text is added as the last paragraph on the page under the heading *Operation – Agricultural Dust* as follows:

> Rule 403 subsection (b) requires that a person shall take every reasonable precaution to minimize fugitive dust emissions from wrecking, excavation, grading, clearing of land and solid waste disposal operations. Implementation of **Mitigation Measures AQ-1** through **AQ-4** ensures compliance with Rule 403 and reduces impacts associated with agricultural particulate matter to less than significant.

Section 4.3.4, p. 4.3-17, Mitigation Measure **AQ-3** is revised as follows:

AQ-3: The following measures shall be implemented during construction of the proposed Project:

- All equipment shall be maintained as recommended by manufacturer's manuals.
- Idling engines shall be shut down when not in use for over ~~30~~ 15 minutes.
- Electric equipment shall be used where available from existing power lines ~~whenever possible~~ in lieu of diesel or gasoline powered equipment.

Section 4.3.4, p. 4.3-17, Mitigation Measure **AQ-5** is revised as follows:

AQ-5: The Project Design Feature in Chapter 6.8 of the GMMMP attached in its Updated form (Updated GMMMP) to the Final EIR Vol. 7, Appendix B1 Updated GMMMP shall be implemented to verify air quality. Chapter 6.8 of the Updated GMMMP is provided in full below. ~~If changes in air quality occur that exceed baseline conditions over a five-year moving average, the following corrective measures shall be implemented:~~

- ~~Modification of Project operations to re-establish baseline level air quality levels. Modifications to Project operations would include one or more of the following:~~
  - ~~Reduction in pumping from Project wells;~~
  - ~~Revision of pumping locations within the Project wellfield;~~
  - ~~Stoppage of groundwater extraction for a duration necessary to correct the predicted impact.~~

6.8 Air Quality

The EIR concludes that groundwater is not connected to the erosion potential of the Dry Lake surface soils and therefore the lowering groundwater levels beneath the Dry Lakes is not expected to increase dust generation from the Dry Lakes or otherwise affect regional air quality. Consistent with the recommendations of the Groundwater Stewardship Committee and as a conservative monitoring protocol to be conditioned by the County under its Ordinance, Cadiz will prepare a monitoring plan in consultation with the TRP to address possible sources of fugitive dust emissions (depth to groundwater, surface vegetation, surface soil chemistry) and local air quality over time (nephelometers and weather stations) to verify that the

Project does not increase dust generation (i.e., particulate matter) from the Dry Lakes. The monitoring plan, at a minimum, shall set forth specific performance criteria and identify monitoring methods, the location of weather stations and nephelometers, measures to protect quality assurance and quality control, and reporting parameters. The monitoring plan shall be reviewed and approved by the County Representatives before the Project commences construction.

6.8.1 *Monitoring*

As described in Section 5.3, above, a network of observation wells will be established between the Project wellfield and Bristol and Cadiz Dry Lakes (see Figures 5-1 and 5-2). Groundwater levels will be monitored in many wells on a continuous basis throughout the term of the Project, which can help identify specific depths to groundwater and hydrological connections to surface soils and vegetation.

Furthermore, Cadiz will install weather stations and four nephelometers—upwind and downwind of the Bristol and Cadiz Dry Lakes—to establish baseline data of visibility in the valley, along with providing air quality data throughout the duration of Project operations. In addition, FVMWC will conduct annual visual observations at four points on each of the Dry Lakes to record surface soil conditions. The visual observations will note soil texture and record susceptibility to wind erosion. Photographs of the soil will be taken. This data will record conditions over time at the same locations on each of these Dry Lake surfaces.

These nephelometers will provide data on a daily basis that records opacity of the air, measuring the effect of dust on visibility. Data will be collected in the early years of the Project, establishing a baseline before groundwater levels beneath the Dry Lake are affected and will continue during Project operations. Since wind velocity and dust storms are highly variable, the data will record trends over time. Data from the nephelometers will be analyzed by FVMWC, with the results of the analysis and associated data summaries submitted annually to the TRP. This data will inform the TRP on the environmental setting, augmenting the weather station data, and provide information for the long term management of the facilities in the valley. The TRP will provide recommendations over time regarding modifications to the verification data collection activities if needed.

6.8.2 *Action Criteria*

The decision-making process will be initiated if the action criteria are triggered. The action criteria are (1) changes in annual average or peak concentrations of airborne particulate matter as measured by nephelometers that exceed average annual or peak baseline conditions by 5 percent or more, or (2) changes in surface soil conditions on the Dry Lakes that show a degradation of soil structure and increased susceptibility to wind erosion compared to baseline conditions established through monitoring prior to Project pumping. If such changes are

measured, the decision-making process will be initiated.

6.8.3 *Decision-Making Process*

If the action criteria is triggered, the decision-making process will be include:

- Assessment of whether the change in air quality or soil conditions are attributable to Project operations;
- If air quality changes are determined to be attributable to Project operations or if degradation of soil structure and increased susceptibility of wind erosion are determined to be attributable to Project operations, one or more of the corrective measures shall be implemented.

6.8.4 *Corrective Measures*

Action(s) necessary to re-establish baseline airborne particulate levels and soil structure shall include one or more of the following:

- Reduction in pumping from Project wells;
- Revision of pumping locations within the Project wellfield;
- Stoppage of groundwater extraction for a duration necessary to restore baseline air quality conditions to correct for Project impacts.

Section 4.3.4, p. 4.3-18, the text is added after the last sentence of the Significance Conclusion as follows:

> Although the NOx short-term construction emissions are significant and unavoidable because the projects exceeds the MDAQMD threshold for NOx, localized impacts to sensitive receptors will not occur, due the Project's distance of 3.3 miles from the three or four residences located near the corner of Cadiz Road and National Trails Highway.

4.4 Biological Resources

Section 4.1.1, p. 4.4-1, second paragraph is revised as follows:

> The Project is located in an unincorporated area of southeastern San Bernardino County ~~in the southeastern portion of California~~. San Bernardino County is divided into three distinct regions: the western valley region, the mountain region, and the desert region.

Section 4.1.1, p. 4.4-2, first paragraph is revised as follows:

> Land uses in the Project vicinity consist of open space and undeveloped natural areas, with scattered, isolated development including salt mining operations on the Bristol and Cadiz Dry Lakes, agricultural operations on Cadiz Property, scattered structures near the

communities of Amboy and Cadiz, and utility and transportation corridors, including railroad lines, crossing large expanses of the desert.

Section 4.4.1, p. 4.4-5, first sentence is revised as follows:

The following invasive species were identified in the area and are indicative of moderately-to-heavily degraded habitats: velvet rosettes (*Psathyrotes ramosissima*), Saharan mustard (*Brassica tournefortii*), tansy (*Descurainia pinnata*), flixweed (*Descurainia sophia*), London rocket (*Sisymbrium irio*), Russian thistle (*Salsola tragus*), red-stemmed filaree (*Erodium cicutarium*), little trumpet (*Eriogonum trichopes*), ~~Jimsonweed (*Datura wrightii*),~~ and puncture vine (*Tribulus terrestris*).

Section 4.1.1, p. 4.4-7, third paragraph is revised as follows:

~~Since~~ The Cadiz Valley is a closed basin draining entirely to dry lake beds that do not have hydraulic connection with navigable waters of the U.S. As such, it is assumed that these washes, which drain to the Dry Lakes, are not themselves waters of the U.S. In 2009 the Army Corps of Engineers (USACE) determined that washes draining to Bristol and Cadiz Dry Lakes do not meet the definition of waters of the US and are not under the USACE's jurisdiction requiring a Section 404 Clean Water Act permit on another project in the Cadiz Valley area proposed by the BNSF Railway Company. It is likely that the Corps will make the same determination for this project and that a 404 permit will not be required for Project facilities constructed in the Cadiz Valley. Further consultation with USACE will be conducted to confirm this. ~~However, the USACE is solely responsible for determining jurisdictional status of ephemeral washes.~~

Section 4.1.1, p. 4.4-7, fourth paragraph is revised as follows:

~~t~~This Danby-1 observation well would be used to demonstrate that impacts on groundwater levels do not extend beyond the Cadiz Watershed on the east.

Section 4.1.1, p. 4.4-7, last paragraph is revised as follows:

Similar to Danby-1 observation well, one new observation well, Piute-1, would also be developed ~~be installed~~ in the Piute Wash Watershed, north of the Fenner Watershed, which ~~end~~ is tributary to the Colorado River. This new well would be installed on property owned by Cadiz and would also be used as a "background" observation well to monitor undisturbed groundwater levels in an adjacent watershed, to provide information on groundwater level variations due to climatic variations only. In addition, this would serve to demonstrate that the Project would not impact groundwater that is tributary to the Colorado River. Installation of monitoring facilities in the Piute Wash Watershed could ~~this well would likely~~ require a ~~nationwide~~ permit from the ~~Army Corps of Engineers~~USACE ~~which could trigger a Section 7 consultation with the USFWS or other compliance with the Endangered Species Act~~.

Section 4.4.1. p. 4.4-12, Table 4.4-1, fourth column first row is revised as follows:

High – Suitable habitat is present throughout the study area and tortoise sign has been observed and recorded as occurring throughout the Project area during the 2010 surveys. Specifically, tortoise sign was found in the northern reach of the pipeline ROW from the Old Woman Mountains north to the Project wellfield, and in the northeastern corner of the wellfield. Survey data indicates that the tortoise occurs in low densities in the Project area. The Phase 1 project area is not located within designated critical habitat (except for the proposed Piute Wash Watershed monitoring well) or within a DWMA. Lands outside the DWMAs are characterized as Category 3 Habitat, which is the lowest priority management area for viable populations of the desert tortoise.

Section 4.4.1. p. 4.4-17, second full paragraph is revised as follows:

During CMBC's 2010 Desert Tortoise Survey, CMBC found no evidence of live tortoise in the southern half of the pipeline alignment (south of the Old Woman Mountains) or in most of the proposed wellfield. CMB found desert tortoise scat, carcasses, and an inactive burrow along the northern portion of the water conveyance pipeline within the ARZC ROW. ~~The burrow found was not considered to be active. All e~~Evidence of living tortoises was found ~~between~~ on the northern end of the pipeline alignment within the ARZC ROW, between the Project wellfield and the Old Woman Mountains, with carcasses found to the south.[3] Tortoises are not considered common anywhere along the ARZC ROW, apparently only occurring in low densities along northern reaches and possibly ~~may be absent or~~ occurring ~~occur~~ in very low densities south of Old Woman Mountains ~~and are not considered common anywhere along the ARZC ROW, apparently occurring in low densities along northern reaches~~. CMBC concluded that tortoises most likely do not reside along the ARZC ROW, but may occasionally enter into the ARZC ROW portion of the Project.

Section 4.4.1. p. 4.4-17, third full paragraph is revised as follows:

In the proposed wellfield area, of the 13 sections surveyed evidence of living tortoises was restricted to two sections, Sections 17 and 18, with carcasses estimated to be older than four years found in Sections 8 and 35.

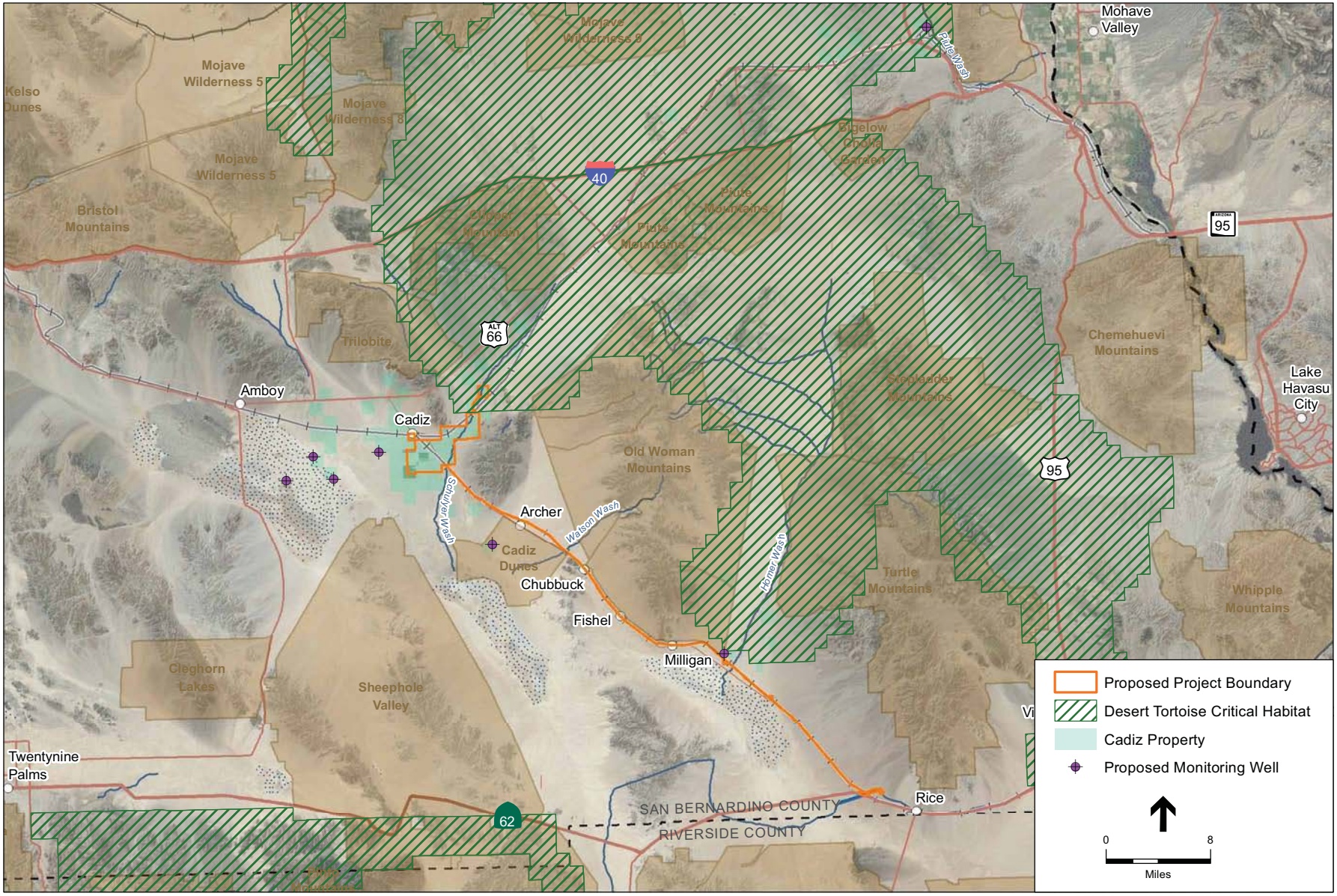
Section 4.4.1, p. 4.4-20, Figure 4.4-3a is revised as shown on the following page.

Section 4.4.1. p. 4.4-19, first paragraph is revised as follows:

The desert tortoise critical habitat finalized in 1994 (See discussion of 1994 critical habitat below under 4.4.2 Regulatory Framework and **Figure 4.4-3**) extends from the north through the upper Fenner Valley and Southward into the Ward Valley. With respect to the Project facilities, the critical habitat ends just north of and adjacent to the proposed wellfield and extends southward but ends (0.4 miles at the nearest location) before

[3] Circle Mountain Biological Consultants, *Focused Survey for Desert Tortoise, Habitat Evaluation for Burrowing Owl, and General Biological Resource Assessment for the Cadiz Valley Water Conservation, Recovery, and Storage Project, San Bernardino County, California,* Unpublished report prepared by Ed LaRue for ESA Southern California Water Group, Los Angeles, November 2010.

reaching the ARZC ROW where the pipeline would be located. The Groundwater Conservation and Recovery Component of the Project would be located adjacent to but outside of designated critical habitat for the desert tortoise (Figure 4.4-3). The Phase 1 project area is not located within designated critical habitat (except for the proposed Piute Wash Watershed monitoring well) or within a Desert Wildlife Management Area (DWMA). Lands outside the DWMAs are characterized as Category 3 Habitat, which is the lowest priority management area for viable populations of the desert tortoise. ~~However, t~~ The observation well within the Piute Wash Watershed would be located within designated critical habitat, and the Imported Water Storage Component, as currently proposed, would include some facilities, such as the recharge basin, within designated critical habitat.



SOURCE: Bing Maps, 2011; ESRI, 2010; Cadiz Inc., 2011; and ESA, 2011

Cadiz Valley Water Conservation, Recovery, and Storage Project

Figure 4.4-3a

Desert Tortoise Critical Habitat

Section 4.4.2, p. 4.4-28, third full paragraph, is revised as follows:

> The Federal Endangered Species Act (FESA) protects threatened and endangered plants and animals and their critical habitat. Candidate species are those proposed for listing; these species are usually treated by resource agencies as if they were actually listed during the environmental review process. FESA is triggered if an activity would result in "take" of a listed species. Procedures for addressing potential take of ~~impacts to~~ a federally listed species by an activity follow two principal pathways, both of which require consultation with the USFWS.

Section 4.4.2, p. 4.4-29, before first full paragraph, the following text is added before the heading ***Migratory Bird Treaty Act***:

> Initial contact has been made with the USFWS to set-up discussions regarding FESA compliance requirements for this project[4]. Following completion of the CEQA environmental review process and if and when the project is approved, the environmental regulatory agencies including USFWS will be engaged regarding subsequent regulatory requirements and approvals.

Section 4.4.2, p. 4.4-30, first paragraph is revised as follows:

> …Based on review of this guidance and due to the isolated nature of the washes and playas in the Cadiz Valley within a closed basin, these waters are likely not considered waters of the United States and therefore not subject to CWA regulations. This assumption is supported by a previous USACE determination in 2009 for a BNSF Railway Company project in the same general Project area. For that project USACE determined that the washes draining to Bristol and Cadiz Dry Lakes do not meet the definition of waters of the U.S. and are not under the USACE jurisdiction requiring a Section 404 Clean Water Act permit. However, the Piute observation well would be located within the Piute Wash Watershed, which is a tributary to the Colorado River, and development of this monitoring facility might affect waters under USACE jurisdiction depending on the final design of the facilities and necessary access.

Section 4.4.2, p. 4.4-31, the following text is added to the third full paragraph as follows:

> Initial contact has been made with CDFG to set-up discussions regarding CESA compliance requirements for this project[5]. Following completion of the CEQA environmental review process and if and when the project is approved, the environmental

[4] U.S. Fish and Wildlife Service, Ray Bransfield, Senior Biologist, Ventura United States Fish and Wildlife Office, pers. Comm.. May 21, 2012 by David Bernhardt, Brownstein, Hyatt, Farber and Schreck. Mr. Bransfield was contacted to discuss the Cadiz Project, the low density of desert tortoises in portions of the Project area, and the mitigation measures developed to avoid impacts on desert tortoise.

[5] California Department of Fish and Game, Michael Flores, Senior Biologist, Bermuda Dunes Office. Pers. Comm., June 20, 2012 by Tom McGill, RBF. Mr. Flores was contacted to discuss the Cadiz Project, the low density of desert tortoises in portions of the Project area, and the mitigation measures developed to avoid impacts on desert tortoise.

regulatory agencies including CDFG will be engaged regarding subsequent regulatory requirements and approvals.

Section 4.4.3, p. 4.4-37, fourth paragraph is revised as follows:

Habitat mapping was based on aerial photographs and field reconnaissance. Field surveys for plants, birds and mammals, which included protocol level surveys for burrowing owl and desert tortoise, were conducted along the proposed pipeline alignment from September 20 – September 28, 2010. Field surveys, which included ~~protocol~~ reconnaissance-level surveys for burrowing owl and desert tortoise, within the wellfield areas and conceptual spreading basin areas were conducted from September 29 through October 17, 2010. A rare plant survey was conducted along the pipeline alignment study area in April 2011.

Section 4.4.3, p. 4.4-41, second paragraph is revised as follows:

Desert Tortoise – Wellfield

Within the proposed wellfield area, evidence of living tortoises (tracks of adult tortoise and scat of adult tortoise) was restricted to Sections 17 and 18, with carcasses estimated to be older than 4 years found in Sections 8 and 35 (Figure 4.4-2). No living tortoises were found within the wellfield study area, but the survey transects conducted in this 12-square mile area were not sufficiently dense to verify complete absence. Rather, the surveys in the wellfield area were designed to give an indication of tortoise density. The survey report concludes that tortoises are present in the surrounding areas at low densities and are more likely to be encountered in the eastern portion of the wellfield area (particularly Section 17 and 18, and perhaps Section 8).

Section 4.4.3, p. 4.4-41, fourth paragraph is revised as follows:

Desert Tortoise - Summary of Construction Impacts

Although no living tortoises or active burrows were found within the ARZC ROW or wellfield area and the field evidence suggests that tortoise only occur in low densities in portions of the Project area and maybe absent in other portions, individual tortoises may still be impacted if they entered the Project area during construction activities. To prevent harm to the desert tortoise and avoid any take during Project construction, Mitigation Measures **BIO-1** through **BIO-7** would be implemented both to prevent tortoises from entering Project construction areas and to temporarily halt construction in the event that a tortoise is observed in proximity to Project construction activities (where tortoise could be adversely affected by construction) until the qualified biologist onsite and monitoring Project construction determines that the tortoise has moved out of the area of potential adverse impact.

Section 4.4.3, p. 4.4-42, second paragraph is revised as follows:

None of the temporarily or permanently affected areas are within special conservation areas or designated critical habitat for desert tortoise or areas with high habitat value or

high-densities of individuals, except for the observation well within the Piute Wash Watershed, which would be within desert tortoise designated critical habitat. However, compensating at a 1:1 ratio for permanently affected habitat and at a 0.5:1 for temporarily impacted habitat as identified in Mitigation Measure **BIO-7** would ensure that impacts to desert tortoise through habitat reduction resulting from Project construction activities would be less than significant. Cadiz Inc. owns approximately 8,000 acres ~~property~~ outside of the boundaries of the proposed Project facilities but within the Colorado Desert Recovery Unit of the Desert Tortoise Recovery Plan. This property includes land within desert tortoise critical habitat that may be suitable as compensation. Mitigation Measures **BIO-1 through BIO-7** would reduce potential impacts to desert tortoise to less than significant levels since direct impacts would be avoided or substantially minimized.

Section 4.4.3, p. 4.4-45, Mitigation Measure **BIO-1** is revised as follows:

BIO-1: **Pre-construction Surveys.** Immediately prior to construction activities, pre-construction surveys that comply with USFWS protocol shall be conducted to document any and all locations of burrows and desert tortoise sightings within all proposed disturbance areas that provide potential habitat for the species. If any active burrows are located in facility construction areas, to completely avoid impact on the burrows, construction will be delayed only to be resumed after a qualified biologist[6] has determined that the tortoise has left the area and the burrow is inactive. Following pre-construction surveys, Mitigation Measure **BIO-2** shall be implemented to install exclusion fencing around construction areas. Construction areas fenced but inactive for more than 48-hours will be resurveyed to confirm the absence of tortoise prior to resumption of construction activity. ~~The survey protocol shall be established in coordination with USFWS.~~

Section 4.4.3, p. 4.4-45, Mitigation Measure **BIO-2** is revised as follows:

BIO-2: **Exclusion Fencing and Monitoring.** A chain-link or tortoise fence (one-inch by two-inch welded wire mesh attached to the chain-link fence, with approximately two feet above-ground and one foot buried below ground) shall be installed to exclude small wildlife species from entering the active work areas in areas of documented occurrences of special-status ground dwelling wildlife as determined during pre-construction surveys by a qualified biologist or as directed by USFWS. When crossing drainages, these temporary fences must be designed and maintained to allow storm water runoff to flow past the construction site. Fencing / barriers will be erected to completely surround all stationary construction sites (including staging areas) and will be monitored by an Authorized Biologist or Biological Monitor at all times. Along the pipeline construction

6 The Qualified Biologist is "approved by the Fish and Wildlife Service or other agency as designated by the Fish and Wildlife Service to conduct activities that may result in a take of the desert tortoise including locating tortoises and their sign, recording and reporting tortoise and sign observations in accordance with approved protocol, and ensuring that the effects of the project on the desert tortoise and its habitat are minimized in accordance with a biological opinion or permit. From USFWS, *Desert Tortoise Monitor and Biologist Responsibilities and Qualifications, March 2004.*

corridor, temporary fencing may be used as needed and if any tortoises are observed in the surrounding area. Temporary tortoise-proof fencing may be used along the pipeline right-of-way if trenches or pits must be left open. If temporary fencing is used for this purpose it must be installed at the end of each working day. If pits and trenches are left open overnight, then ramps will be placed within them to allow animals, including tortoise to escape in the unlikely event of entrapment. Alternatively, trenches will be filled or covered when construction is not active.

Section 4.4.3, p. 4.4-45, Mitigation Measure **BIO-3** is revised as follows:

BIO-3: **Desert Tortoise Avoidance and Protection Plan.** A Desert Tortoise Avoidance and Protection Plan shall be developed and adopted in consultation with the USFWS and CDFG prior to construction. Elements of the plan shall include, but are not limited to the following:

- Designated Project personnel will implement the avoidance and protection plan. A Field Contact Representative will be designated to oversee compliance with all tortoise avoidance and protective measures during Project construction, operation and maintenance. The Field Contact Representative will have the authority to halt work if there is non-compliance with any of the plan measures and will do so as needed.
- Facility site preparation activities (specifically vegetation grubbing and clearing) and all construction activity in the northeastern area of the wellfield in Sections 17 and 18 will be prohibited during the species' annual periods of high activity (April through May and September through October).
- A step-by-step protocol to be implemented whenever a desert tortoise is observed by construction or operational personnel. See also Mitigation Measure **BIO-4** Temporary Construction Halt. USFWS and CDFG personnel contacts will be identified for Technical Assistance on take avoidance if needed during construction.
- ~~A pre-determined and pre-approved off-site relocation area if there is a need to relocate individual species during the course of Project construction.~~
- Flagging and delineation requirements for located burrows and areas with tortoise activity.
- An education program for all construction employees. Program will be conducted onsite prior to the onset of construction and will be provided repeatedly as needed to ensure that all Project contractors (firms) as well as all individuals complete the training. Participation will be recorded and verified. Tortoise protection will be emphasized during all scheduled safety meetings.
- Enforcement of speed limits and checking under vehicles for tortoise prior to leaving Project areas.
- Biological monitoring requirements for all ground disturbance activities. All construction sites and activities will be monitored by Authorized Biological Monitors. An Authorized Biologist (approved by USFWS and CDFG) will plan and oversee all construction monitoring activities in the field. The authorized biologist

will identify, train, and oversee biological monitors for day-to-day monitoring and reporting activities.

- To prevent increased use of the Project areas by common ravens and coyotes, implementation of measures such as trash management, removal of unnatural sources of standing water, and other means. Drilling mud pits and water discharges will be controlled to minimize the duration of standing water at any one drilling site. A clean workplace will be maintained in all areas. No trash is to be thrown on the ground or left in open containers, equipment, or truck beds. Refuse receptacles with lids will be provided for all construction personnel and are to be maintained and emptied on a regular basis and at least weekly. Trash collection will be conducted in all construction areas as needed to keep all areas clean on a daily basis. Portable toilets will be provided and used by all construction personnel.

- At the end of construction all equipment removal will monitored by Authorized Biologists or Biological Monitors.

Section 4.4.3, p. 4.4-46, Mitigation Measure **BIO-4** is revised as follows:

BIO-4: **Temporary Construction Halt.** If a desert tortoise is observed within 300 feet of ~~in the~~ construction activities or is determined by the Authorized Biologist to be in harm's way~~zone~~, then construction activities shall be halted in the vicinity as directed by the Authorized Biologist. ~~A pre-approved qualified biologist, authorized by USFWS and/or CDFG to handle desert tortoise, shall be contacted immediately.~~ Work shall only continue once the ~~a~~Authorized ~~b~~Biologist determines there is no risk to the desert tortoise.

Section 4.4.3, p. 4.4-46, Mitigation Measure **BIO-5** is revised as follows:

BIO-5: **Pipeline Siting to Minimize Vegetation Disruption.** The pipeline shall be installed within previously disturbed areas of the easement to the extent feasible. During construction, previously undisturbed areas within the pipeline alignment that are not needed for construction shall be staked and flagged to prevent construction equipment access or disturbance in these areas. The cordoned off areas shall be flagged and monitored by a qualified biologist during construction activities.

Section 4.4.3, p. 4.4-46, Mitigation Measure **BIO-6** is revised as follows:

BIO-6: Site Restoration Plan. A special-status species and sensitive habitat restoration plan shall be prepared ~~and approved by the USFWS and CDFG~~ prior to construction for unavoidable temporary impacts on special-status plants and sensitive habitats. The plan would include, at a minimum, the following measures:

- A salvage and replacement program for the top 12 inches of surface material and topsoil. The program shall identify soil preparation requirements, including grain size specifications that shall need to be engineered or amended on site to match to the greatest extent feasible the existing surface soil conditions.

- A salvage and replanting program for perennial special-status species.
- An invasive plant species maintenance, monitoring, and removal program.
- Success criteria that establishes yearly thresholds for growth and reestablishment of habitat.
- A five-year maintenance and monitoring plan to ensure successful implementation of the restoration plan.

Section 4.4.3, p. 4.4-46, Mitigation Measure **BIO-7** is revised as follows:

BIO-7: <u>Habitat Compensation.</u> A habitat compensation plan would be prepared and implemented that includes at a minimum the following measure:

- Purchase of compensatory mitigation lands or credits at a USFWS and CDFG approved conservation bank at a minimum 1:1 ratio for permanent habitat loss and 0.5:1 for temporary habitat loss for preservation in perpetuity.

Section 4.4.3, p. 4.4-47, Mitigation Measure **BIO-8** is revised as follows:

BIO-8: Prior to construction, surveys for Mojave fringe-toed lizard shall be conducted by a qualified biologist within the sand dunes and sand fields habitats within the ARZC ROW. If Mojave fringe-toed lizards are identified in the construction zone, the area shall be fenced during construction as described in **BIO-2** to prevent lizards from entering the construction site. Once fenced, a qualified biologist shall trap the area for lizards and release captured lizards into adjacent suitable habitat <u>as determined by the qualified biologist</u>.

Section 4.4.3, p. 4.4-47, Mitigation Measure **BIO-10** is revised as follows:

BIO-10: A burrowing owl survey shall be conducted pursuant to the *Burrowing Owl Survey Protocol and Mitigation Guidelines* of the California Burrowing Owl Consortium (1993) or per the *Staff Report on Burrowing Owl Mitigation* prepared by CDFG (1995). At a minimum, this survey shall include the following:

- A pre-construction survey conducted by a qualified biologist within 30 days of the start of construction. This survey shall include two early morning surveys and two evening surveys to ensure that all owl pairs have been located.
- If pre-construction surveys are undertaken during the breeding season (February 1st through July 31st) active nest burrows should be located within 250 feet of construction zones and an appropriate buffer around them (as determined by the Project biologist) shall remain excluded from construction activities until the breeding season is over.
- During the non-breeding season (August 15th through January 31st), resident owls may be relocated to alternative habitat. Owls shall be encouraged to relocate from the construction disturbance area to off-site habitat areas and undisturbed

areas of the Project site through the use of one-way doors on burrows. If ground squirrel burrows, stand pipes, and other structures that have been documented during pre-construction surveys as supporting either a nesting burrowing owl pair or resident owl are removed to accommodate the proposed Project, these structures and burrows shall be relocated or replaced on or adjacent to the Project site. Relocated and replacement structures and burrows shall be sited within suitable foraging habitat within one-half mile of the Project area as determined by the qualified biologist. Suitable development-free buffers shall be maintained between replacement nest burrows and the nearest building, pathway, parking lot, or landscaping. The relocation of resident owls shall be in conformance with all necessary State and federal permits.

Section 4.4.3, p. 4.4-53, Mitigation Measure **BIO-16** is revised as follows:

BIO-16: Prior to commencement of ground disturbance activities for any component of the proposed Project, a qualified biologist/arborist shall provide an inventory of the number and size of protected species within the proposed Project's impact areas. The qualified biologist/arborist shall mark any smoke tree (*Dalea spinosa*), mesquites (*Prosopis* spp.), all species of the family Agavaceae (i.e., yucca, century plant, and nolina), creosote rings (10 feet or greater in diameter), and Joshua trees within the construction zone. Removal of these plants shall be avoided if possible

Section 4.4.3, p. 4.4-53, Mitigation Measure **BIO-17** is revised as follows:

BIO-17: If avoidance of the species listed in BIO-16 is not possible, these species shall be moved or replanted pursuant to the methods required in the Desert Native Plant Protection Ordinance.

Section 4.4.3, p. 4.4-54, second paragraph is revised as follows:

With the adoption of the Northern & Eastern Colorado Desert Coordinated Management Plan (NECO),48 ~~all~~ most lands that are outside Desert Wildlife Management Areas (DWMA), including the proposed Project area, are characterized as Category 3 Habitat, which is the lowest priority management area for viable populations of the desert tortoise. The observation well located within the Piute Wash Watershed is located in an area designated as critical habitat for the desert tortoise.

Section 4.4.3, p. 4.4-54, third paragraph is revised as follows:

~~The site is not within desert tortoise critical habitat, which was designated in 1994[7] nor is it within a DWMA as recommended in the Desert Tortoise (Mojave Population) Recovery Plan[8] and formally adopted in December 2002 as a result of NECO[9]~~. The

[7] ~~U.S. Fish and Wildlife Service, *Endangered and Threatened Wildlife and Plants: Determination of Critical Habitat for the Mojave Population of the Desert Tortoise, Federal Register 55(26):5820-5866*, Washington, D.C., 1994.~~

[8] ~~U.S. Fish and Wildlife Service, *Desert Tortoise (Mojave Population) Recovery Plan*, 1994, page 73 plus appendices.~~

[9] ~~Bureau of Land Management, *Final Environmental Impact Statement for the Proposed Northern & Eastern*~~

southwestern boundary of the Chemehuevi DWMA coincides with the southwestern extent of Ward Valley, which approaches the ARZC ROW from the northeast. No portions of the Project area are in either Chemehuevi critical habitat or the associated DWMA.

Section 4.4.3, p. 4.4-54, fourth paragraph is revised as follows:

The proposed Project would not conflict with applicable conservation ~~or other~~ policies ~~outlined therein. Furthermore, the Project would not conflict with other conservation-based policies contained in adopted conservation plans for~~ within San Bernardino County ~~or the proposed Project area~~ as described above. Therefore no conflict would occur and impacts are considered to be less than significant.

Section 4.4.3, p. 4.4-58, second full paragraph is revised as follows:

The Imported Water Storage Component would expand the wellfield and construct recharge basins within the Fenner Gap. Figure 3-14 shows the conceptual location of these facilities. The BLM has designated several regional wildlife movement corridors connecting occupied bighorn sheep habitat in the Project vicinity. The expanded wellfield and recharge basins would be located within the bighorn sheep movement corridor connecting the neighboring mountain ranges (Figure 4.4-4). However, the Project would only construct ~~not linear barriers~~ an additional 10 to 15 wells for the wellfield expansion. The well pads would be constructed, remain cleared, and be fenced in an approximate 0.25 to 0.5 acre area. The spreading basins area would cover up to 400 acres. Each individual basin would range from 10 to 15 acres in size, surrounded by fencing. Individual basins would be about 400 feet wide and would range from 1,700 to 2,100 feet long. The spreading basins will also require fencing. The additional well pads and spreading basins would cover approximately 408.25 acres, which is a nominal amount of acreage within the Fenner Valley which has a surface area of 454,000 acres. Once constructed, the facilities would be infrequently visited and would not create a disturbance to wildlife movement. Therefore, due to the minimal amount of construction, operational fencing, and minimal site visits, impacts would be considered less than significant and no mitigation is required.

4.5 Cultural Resources

Section 4.5.1, p. 4.5-1, last paragraph is revised as follows:

Archaeological resources are places where human activity has measurably altered the earth or left deposits of physical remains. Archaeological resources may be either prehistoric-era (before European contact) or historic-era (after European contact). The majority of such places in California are associated with either Native American or Euro-

~~*Colorado Desert Coordinated Management Plan, an amendment to the California Desert Conservation Area Plan*~~

~~*1980 and Sikes Act Plan with the CDFG*, 2002.~~

American occupation of the area. Some of the most frequently encountered prehistoric or historic Native American archaeological sites in the State are village settlements with residential areas and sometimes cemeteries; ~~temporary~~ seasonal camps where food and raw materials were collected; smaller, briefly occupied sites where tools were manufactured or repaired; and special-use areas like caves, rock shelters, and rock art sites.

Section 4.5.1, p. 4.5-3, first paragraph is revised as follows:

The primary plant community in the Mojave Desert is the creosote scrub community, which is dominated by creosote bush and white bursage. Other plant communities include the cactus scrub community, which includes barrel cactus, calico cactus, and ocotillo, and the saltbrush series, which includes saltbrush, mesquite, arrowweed, and goldenbrush. Common animals include bighorn sheep, desert cottontail, jackrabbit, kangaroo rat, packrat, chuckwalla iguana, desert tortoise, and desert quail.

Section 4.5.1, p. 4.5-3, second paragraph is revised as follows:

In addition to being important food sources, bighorn sheep and desert tortoise were considered very important animals to the Chemehuevi, Cahuilla, and Mojave peoples, and featured prominently in their cultural traditions, songs, and rituals.

Section 4.5.1, p. 4.5-4, second paragraph is revised as follows:

In terms of material culture, the Lake Mojave Complex is typified by stone tools such as Lake Mojave and Silver Lake projectile points, bifaces, steep-edged unifaces, crescents, and some ground stone implements. A characteristic of Lake Mojave artifact assemblages is the frequent use of fine-grained volcanic lithic material in the production of flaked stone tools, while cryptocrystalline material was preferred for use in the production of other types of implements (Giambastiani and Bullard, 2007).

Section 4.5.1, p. 4.5-8, second paragraph is revised as follows:

The harsh desert environment typical of the Project area could support only the smallest groups comprised of nuclear families joined by kinship ties. These small hunter-gatherer groups moved in response to local food and water availability, typically seasonally or more frequently. The lack of resources of the area created a very diverse hunting economy where small game were important protein sources. Pronghorn ~~sheep~~ antelope, mountain sheep, deer, rabbits, squirrels, desert chipmunks, and wood rats were important mammals in the local diet along with reptiles, such as desert tortoises, snakes, and lizards, and birds, eggs and insects.

Section 4.5.1, p. 4.5-8, last paragraph is revised as follows:

The Chemehuevi were divided into two moieties (kinship group) represented by two songs, the Mountain Sheep Song and the Deer Song, which were each associated with

different hunting areas. They generally lived in bands of two or three families, each band having a leader. The Chemehuevi, along with the Serrano, were occupying the oasis of Mara (Twentynine Palms) when permanent settlement of the area by Europeans and Americans began. Livestock depleted natural resources and Euro-American settlers began to claim large pieces of land. In 1890, 160 acres near Twentynine Palms were set aside for a reservation for the Chemehuevi. In 1910, 640 acres adjacent to the existing Cabazon reservation in Coachella was given jointly to the Cahuilla and the Chemehuevi, and those who remained on the Twentynine Palms reservation were encouraged to move there. Some went, some stayed, and others chose to settle elsewhere in California.

Section 4.5.2, p. 4.5-13, fifth paragraph is revised as follows:

The CRA was constructed in the 1930s by the Metropolitan Water District of Southern California in order to transport water from the Colorado River to the ~~Los Angeles metropolitan area~~ Southern California coastal plain.

Section 4.5.2, p. 4.5-23, the following is added as the last paragraph at the end of the ***Field Survey*** subsection, directly before the ***Identified Cultural Resources*** subsection:

Since the preparation of the Draft EIR, additional field surveys were conducted to identify additional resources. A cultural resources survey of the footprint of the proposed well pads, connector pipeline, and access roads, as well as CRA tie-in Options 2a and 2b, and proposed staging areas, was conducted between May 15 and June 2, 2012, which is summarized in the Final EIR Vol. 7, Appendix O Cultural Resources Survey Report – June 2012.

Section 4.5.2, p. 4.5-29, first paragraph is revised as follows:

Wellfield Portion of the Project Area

Less than 10 percent of the wellfield portion of the Project area has been previously surveyed. Sixteen cultural resources were identified during the records search as being located within or immediately adjacent to the wellfield portion of the Project area (CA-SBR-3243, -3281H, -6693H, -6694H, -9848, -9853H, -9855H, -11582H, -11583H, -11584H, -11586H, P-36-20149, P-36-60315, P-36-60319, P-36-60922, and P-36-64132). Of these 16 resources, one (CA-SBR-6693H), the historic Atchison, Topeka, & Santa Fe Railroad, is known to have been evaluated and recommended eligible for listing in the NRHP by Applied Earthworks, Inc. (1999) and another (CA-SBR-9855H), possibly containing a grave, is believed to be eligible, although sufficient study to determine this was never conducted. ~~No archaeological survey of the wellfield portion of the Project area was conducted as part of this study effort since the precise location of wells pads and access roads were not finalized. Therefore, the condition of the previously identified eligible resource (-6693H) and the potentially eligible resource (-9855H) have not been confirmed, nor has it been determined the number and types of any other cultural resources that might be present in the wellfield portion of the Project area.~~

A cultural resources survey of the footprint of the proposed well pads, connector pipeline, and access roads, as well as CRA tie-in Options 2a and 2b, and proposed staging areas, was conducted between May 15 and June 2, 2012, which is summarized in the Final EIR Vol. 7, Appendix O Cultural Resources Survey Report – June 2012. Survey methods were similar to those used during survey of the water conveyance pipeline in 2010, with surveyors using transects of no greater than 15 meters. A 100-foot buffer around proposed well pads, access roads, and connector pipelines was surveyed. Staging areas and CRA tie-in Option areas were surveyed in their entirety, with no buffer. A total of 53 resources were identified as a result of the survey, including 45 new archaeological sites, five isolates, and three previously recorded archaeological sites. No built environment resources were identified during the survey. Ten of the new archaeological sites are prehistoric, 34 are historic-era, and one contains both prehistoric and historic-era components.

Section 4.5.4, p. 4.5-41, third paragraph is revised as follows:

Potential impacts to significant historical resources can include both surface disturbance by vegetation removal and by the movement of large construction vehicles and equipment and subsurface disturbance through excavation or grading. Damage or destruction of significant historical resources would be a significant impact. Prior to installation of the wellfield, site specific surveys would be conducted where design changes have modified the proposed Project footprint ~~within all impact areas~~ as required by Mitigation Measure **CUL-5**. Mitigation Measure **CUL-2** would require modification of the well pad and pipeline locations to avoid identified cultural resources where feasible. Since the exact location of the well pads is flexible within several hundred feet, it is anticipated that these two mitigation measures would effectively avoid impacts to cultural resources in the wellfield area. Implementation of Mitigation Measures **CUL-1** through **CUL-6** would result in a less than significant impact for all Project-related construction and operational activities.

Section 4.5.1, p. 4.5-41 the following text is added below the third full paragraph:

The 29 Palms Band of Mission Indians and other commenters have indicated that bighorn sheep and desert tortoise were considered very important animals to the Chemehuevi, Cahuilla, and Mojave peoples, and featured prominently in their cultural traditions, songs, and rituals. The 29 Palms Band of Mission Indians also indicated that these two species should be considered cultural resources. However, as discussed in Section 4.4 of the EIR, Biological Resources, impacts from the proposed Project to bighorn sheep and desert tortoise would be less than significant with mitigation.

Section 4.5.4, p. 4.5-42, Mitigation Measure **CUL-2**, is revised as follows:

CUL-2: The construction zone shall be narrowed or otherwise altered to avoid all significant historical resources, or resources treated as significant, where feasible. Significant ~~or unevaluated cultural~~ historical resources ~~within 50 feet of the construction zone~~ within 100 feet of the construction zone shall be designated Environmentally

Sensitive Areas and shall be marked with exclusion markers to ensure avoidance. In the case of significant historical resources dating to the historic era, the boundaries of the Environmentally Sensitive Areas shall be established around the recorded site boundaries, with the exception of ~~In case of~~ resources CA-SBR-3282H and CA-SBR-3233H, where a 50-foot buffer shall be established outside of recorded site boundaries as an added protective measure to protect historic cemeteries. For significant historical resources dating to the prehistoric era, the boundaries of the ESA shall be established around the recorded site boundaries, plus an additional 50-foot buffer as an added protective measure to protect any subsurface component. Protective fencing shall not identify the protected areas as cultural resource areas in order to discourage unauthorized disturbance or collection of artifacts.

Section 4.5.4, p. 4.5-42, Mitigation Measure **CUL-5** is revised as follows:

CUL-5: Prior to construction, a qualified archaeologist shall be retained to carry out a Phase 1 cultural resources survey in those portions of the Project area where design changes have modified the proposed Project footprint (including but not limited to: the wellfield, CRA tie-in Options 2a and 2b, and any access roads, staging areas, borrow areas, and any other proposed areas of potential ground disturbance and areas where monitoring and mitigation wells have been installed), and not previously surveyed within the past 5 years. The Phase 1 survey shall identify and evaluate the significance of any potentially eligible resources that may be directly or indirectly impacted by the proposed Project, and shall take Native American comments concerning viewshed impacts into consideration. The Phase 1 Survey effort shall be documented in a Phase 1 Cultural Resources Survey report. Resources determined eligible for listing shall be subject to Mitigation Measures **CUL-1 through CUL-4** and **CUL-6**. All significant cultural resources identified in the wellfield area during surveys shall be avoided.

Section 4.5.4, p. 4.5-42, Mitigation Measure **CUL-6** is revised as follows:

CUL-6: Prior to construction, an archaeological monitor shall be retained to monitor all ground-disturbing activities, including brush clearance and grubbing, within the following areas: the proposed wellfield area; staging areas; CRA tie-in areas; and within 100 feet of all significant historical resources. The monitor shall work under the supervision of the qualified archaeologist. If ground-disturbing activities are occurring simultaneously in areas located more than 500 feet apart, additional monitors shall be retained. If so requested by the Native American community, a Native American monitor shall also monitor all ground-disturbing activities. The qualified archaeologist, in consultation with the lead agency, shall have the discretion to modify the monitoring requirements based on in-field observations of subsurface conditions. ~~The duration and timing of monitoring shall be determined by the qualified archaeologist in consultation with the lead agency and based on the grading plans.~~ In the event that cultural resources are unearthed during ground-disturbing activities, the archaeological monitor and/or Native American monitor shall be empowered to halt or redirect ground-disturbing

activities away from the vicinity of the find so that the find can be evaluated and appropriate treatment determined.

Section 4.5.4, p. 4.5-43, Mitigation Measure **CUL-7** is revised as follows:

~~No archaeological survey of the wellfield portion of the Project area was conducted as part of this study effort since the exact locations for well pads and access roads has not been determined precisely.~~ Prior to installation of the wellfield, site-specific surveys would be conducted within all impact areas as required by Mitigation Measure **CUL-5**. Mitigation Measure **CUL-2** would require modification of the well pad and pipeline locations to avoid identified cultural resources where feasible. Since the exact locations of the well pads are flexible within several hundred feet, it is anticipated that these two mitigation measures would effectively avoid impacts to cultural resources in the wellfield area. Implementation of Mitigation Measures **CUL-1 through CUL-6** would result in a less than significant impact for all Project-related construction and operational activities.

CUL-7: If archaeological resources are encountered, all activity in the vicinity of the find shall cease until it can be evaluated by a qualified archaeologist. If the qualified archaeologist determines that the resources may be significant, he or she will develop an appropriate treatment plan for the resources. Appropriate Native American representatives shall be consulted in determining appropriate treatment for unearthed cultural resources if the resources are prehistoric or Native American in nature.

~~In considering any suggested mitigation proposed by the archaeologist in order to mitigate impacts to archaeological resources, avoidance will be determined necessary and feasible in light of factors such as the nature of the find, Project design, costs, and other considerations. If avoidance is infeasible, other appropriate measures (e.g., data recovery) will be instituted.~~ Work may proceed on other parts of the Project site while mitigation for cultural resources is being carried out.

Section 4.5.1, p. 4.5-47, footnotes 27 and 29 are revised as follows:

Kroeber, A. L., *Handbook of the Indians of California*, 1925, page ~~3~~ 802.

4.6 Geology and Soils

Section 4.6.3, p. 4.6-35, second paragraph under *Geologically Unstable Area* is revised as follows:

The proposed Project would involve the installation of a production wellfield, water conveyance pipeline, natural gas <u>or electrical</u> supply line, and various appurtenances.

Section 4.6.3, p. 4.6-37, first full paragraph is revised as follows:

The maximum railroad subsidence tolerance levels are 2 inches or less over a 62-foot rail chord length, which equates to a ratio of 0.002688 (2 inches divided by 62 feet). The

maximum model-predicted subsidence ratio would occur under the worst-case Sensitivity Scenario 2 with subsidence up to 1.7 feet under the ~~center~~ edge of Bristol Dry Lake, the location closest to the rail line and pipelines. Measured across the entire area of subsidence, this would equate to 1.7 feet of subsidence across the distance of about 12 miles from Bristol Dry Lake to the center of the wellfield which equates to a ratio of 0.00002683, two orders of magnitude below the maximum tolerance level for railroad lines. Furthermore, the rail lines are not located in the center of Bristol Dry Lake, where the maximum potential subsidence would be expected. Therefore, the maximum model-predicted subsidence would not exceed railroad tolerance levels and is considered a less than significant impact.

Section 4.6.3, p. 4.6-38, Mitigation Measure **GEO-1** is revised as follows:

GEO-1: The project design features in Chapter 6.3 of the GMMMP attached to the Final EIR Vol. 7, Appendix B1 Updated GMMMP shall be implemented to address the potential impact for land subsidence. Chapter 6.3 of the Updated GMMMP is provided in full below. ~~If land subsidence is observed at rates that are greater than projected by the groundwater flow simulation model for an equivalent elapsed time, or if a change in the ground surface elevation of more than 0.5 feet within the Project area occurs, or if subsidence of more than one inch vertically over 62 feet horizontally within the vicinity of railroad tracks occurs, the following shall occur:~~

- ~~Implement the corrective measures that involve modification of Project operations to actively arrest subsidence through one or more of the following:~~
  - ~~Reduction in pumping from Project wells;~~
  - ~~Revision of pumping locations within the Project wellfield;~~
  - ~~Stoppage of groundwater extraction for a duration necessary to correct the predicted impact; or~~
  - ~~Repair of any structures damaged as a result of subsidence attributable to Project operations.~~

6.3 Land Subsidence

Twenty land survey benchmarks will be established and surveyed by a licensed land surveyor on an annual basis to identify and quantify potential subsidence within the Project area (see Figures 5-1 and 5-2). Three extensometers will be constructed in areas of projected subsidence (see Figure 5-2). The extensometers, which would be monitored continuously from installation through the post-operational period, would verify if the land surface changes (also potentially identified from land surveys and InSAR satellite data obtained and analyzed every 5 years through the post-operational period) are due to (1) subsidence due to groundwater withdrawal; or (2) other mechanisms (e.g. regional tectonic movement).

6.3.1 *Action Criteria*

The decision-making process will be initiated if either of the action criteria is triggered. The action criteria are: 1) a trend in subsidence that would result in a decline in the ground surface elevation of more than 0.3 feet within 10 years when compared to baseline Project conditions; or 2) a trend in subsidence which, if continued, would be of a magnitude within 10 years that impacts existing infrastructure within the Project area. The magnitude for the railroad tracks is more than one inch vertically over 62 feet linearly along the existing railroad tracks.

6.3.2 *Decision-Making Process*

If either of the action criteria is triggered, the decision-making process will include:

- Assessment as to whether the subsidence is attributable to Project operations;
- If the subsidence is determined to be attributable to Project operations, then an assessment will be made to determine whether the subsidence constitutes a potential adverse impact to the aquifer or surface uses. Potential adverse impacts include potential damage to surface structures as a result of differential settlement or fissuring, general subsidence sufficient to alter natural drainage patterns or cause damage to structures, or a non-recoverable loss of aquifer storage capacity that affects the beneficial uses of the storage capacity of the aquifer system;
- If no such significant adverse impacts to critical resources are identified, potential actions may include:
    - No action;
    - Proposed refinements to the action criteria;
    - Additional verification monitoring, including a field reconnaissance to assess and detect any differential settlement; or
    - Proposed revisions to the benchmark survey and/or InSAR monitoring frequency.
    - If the subsidence is determined to be attributable to Project operations and the subsidence is determined to constitute a potential adverse impact to the aquifer or surface uses then one or more of the corrective measures set forth in Section 6.3.3 shall be implemented.

6.3.3 *Corrective Measures*

Corrective measures that shall be implemented to repair damaged structures and/or arrest the subsidence shall include one or more of the following:

- Repairing any structures damaged as a result of subsidence attributable to Project operations;

- Entering into a mitigation agreement with any impacted party(s).

If the forgoing corrective measures are ineffective or infeasible, Project operations shall be modified to arrest the subsidence. For the purposes of these action criteria, "ineffective" shall be defined as a corrective measure that when put into place did not meet the objective set forth in the corrective action, i.e. to repair damaged structures and arrest the subsidence. "Infeasible" is a corrective measure which cannot be implemented due to cost, technical challenges, or legal restraints. Modifications to Project operations shall include one or more of the following:

- Reduction in pumping from Project well(s);
- Revision or reconfiguration of pumping locations within the Project wellfield; or
- Stoppage of groundwater extraction for a duration necessary to correct the adverse impact.

4.7 Greenhouse Gas Emissions

Section 4.7.3, p. 4.7-16, last paragraph is revised as follows:

MDAQMD has jurisdiction over the desert portion of San Bernardino County and the far eastern end of Riverside County, and thus it has jurisdiction over the Project area. The MDAQMD has published suggested ~~not established~~ thresholds of significance for GHG emissions of 100,000 MT CO2e.

Section 4.7.3, p. 4.7-21, first paragraph is revised as follows:

In regards to operations, there are two options for supplying power to the wellfield pumps – either by natural gas or electrical power. First, if the wellfield and intermediate pump station are powered with natural gas, direct operational GHG emissions would be approximately 27,731 $MTCO_2e$/year from natural gas combustion. The wellfield may be equipped with solar bolt-ons to reduce natural gas consumption. Additionally, emissions from employee on-road vehicle trips would be 13 $MTCO_2e$/year. Therefore, total annual GHG emissions would be 28,153 $MTCO_2e$/year for the wellfield operation ~~Project~~,[10] including amortized construction emissions and operational mobile source emissions. In addition to these GHG emissions, Metropolitan has indicated that conveyance of Project water would increase energy demand of the CRA by 3,886 kWh/MG. The CRA is powered by electricity. Using emissions factors for electricity generation, this would add an additional 19,628 MTCO2e/year attributable to the Project. However, actual emissions would depend on the actual operational changes implemented including the change in hours per year that the 220 cfs pumps operate. The emissions would be validated by an accredited third-party verification body and reported to the Climate Registry as required

[10] URBEMIS 2007 Version 9.2.4, February 2008; Appendix E1.

in Mitigation Measure **GHG-1**. Direct emissions from the Project would exceed the 10,000 $MTCO_2e$/year benchmark. **Table 4.7-4** summarizes estimated operational GHG emissions.

Section 4.7.3, p. 4.7-22, Table 4.7-4 is revised as follows:

TABLE 4.7-4
ANNUAL GHG EMISSIONS

Activity	GHG Emissions (Metric tons CO_2e/year)
Construction	~~12,280~~
Offroad emissions	12,390
Onroad emissions	1,058
Total emissions	13,448
Amortized over 30 years	~~409~~448
Operations	
Vehicle Trips	13
Wellfield Power (either natural gas or electricity)	
Natural Gas	27,731[a]
Electricity	15,388[a]
Metropolitan CRA Conveyance	19,628[b]
Total (with natural gas)	**~~28,153~~47,820**
Total (with electricity)	**~~15,810~~35,477**

[a] Electricity and natural gas emissions are based on the extraction value of 50,000 AFY. Both energy sources are shown in the Table, but the Project would only use one or the other. Natural gas consumption rates were obtained by using a 40% conversion efficiency for natural gas generators (thermal energy to electrical energy) and a 30% conversion efficiency for natural gas engines (thermal energy to mechanical energy). The natural gas engines that are used for the Project would be reciprocating (or internal combustion) natural gas engines, which typically offers energy efficiencies ranging from 25 to 45 percent (California Energy Commission, *California Distributed Energy Resource Guide,* http://www.energy.ca.gov/distgen/equipment/reciprocating_engines/-reciprocating_engines.html, accessed November 2011). Data shown are for 50,000 AFY. Emissions for the 75,000 AFY extraction value would be 37,330 MT/year and 21,610 MT/year for natural gas and electricity use, respectively.

[b] GHG emissions resulting from electricity use by Metropolitan CRA for conveyance of the Project's water associated with the 50,000 AFY extraction value. Emissions for the 75,000 AFY extraction value would be 29,442 MT CO_2e/year. Actual GHG emissions would depend on operational changes implemented at the CRA pump stations.

NOTE: See Appendix E for detailed calculations.

SOURCE: ESA, 2011.

Section 4.7.3, p. 4.7-22, first paragraph is revised as follows:

Criterion C Analysis: Energy Efficiency. With regard to Item C, the Project would provide the ability to increase water supplies to urban uses in Southern California. As discussed in Section 4.13, the Project would require less energy per gallon delivered than used by the SWP. The CEC estimates that delivery of water via the SWP West Branch to northern Los Angeles County requires approximately 7,672 kWh/MG. The proposed Project would require the additional consumption of approximately 6,998 ~~3,112~~

kWh/MG, ~~the consumption of approximately 3,112 kWh/MG, which is less than half the energy required to convey the same amount of water through the SWP~~ which is ~~less than half the energy required to convey the same amount of water through the SWP. The Project would~~ approximately 664 kWh/MG less than the SWP energy requirements (7,672 kWh/MG). [11] Overall, the net energy use for water delivery to Project Participants would be less than a comparable delivery from the SWP since energy usage for the SWP is greater than for the proposed Project. The Project would result in slightly smaller energy demand than from other potential water supply sources available to the Project Participants.~~As a result, the Project provides a more energy-efficient alternative to the SWP. Furthermore, the Project would utilize excess capacity in the CRA when available. The CRA pump stations currently operate with multiple single-speed pumps (each pump having a 220 cfs rating). The water pumped into the CRA by the Project would be accommodated with the existing pump capacity, without increasing energy requirements at the lift stations.~~ As such, the proposed Project provides an efficient alternative to other imported water sources and would emit fewer GHG emissions.

4.8 Hazards and Hazardous Materials

Section 4.8.3, p. 4.8-11, the following text is added beneath the first paragraph of the Methodology heading:

Although the proposed Groundwater Conservation and Recovery Component may require blasting along the railroad right-of-way, it is anticipated that blasting activities will not create hazardous conditions due to the remoteness of the ROW and its disturbed dry sandy state. Trench blasting for the installation of pipelines differs from common bench blasting because the width of the blasting round is considerably smaller than its length. Therefore, hazardous impacts associated with blasting activities are negligible and are routine in pipe installation activities in remote areas, and therefore not discussed in this section. Worker safety protocols required by law would be implemented by the contractor.

Section 4.8.3, p. 4.8-12, the following text is added before the Mitigation Measure heading:

There are two natural gas pipelines that cross through the wellfield in a northwest to southeast manner, one natural gas pipeline that cross the wellfield in a southwest to northeast manner, and a natural gas pipeline that runs parallel to the ARCZ rail line (approximately 1,000 feet to the south). During construction, workers will comply with all applicable rules and regulations concerning crossing or conducting work in the vicinity of the natural gas pipelines.

Section 4.8.3, p. 4.8-14, Mitigation Measure **HAZ-3** is revised as follows:

HAZ-3: No construction or other Project activities shall occur at the Cadiz Sonic Lake Target ~~Prior to installation of the Project elements within 250 feet of the Cadiz Sonic~~

[11] California Energy Commission, *California's Water – Energy Relationship*, November 2005, Figure 2-2 and page 23.

~~Lake Target~~ No. 5 and No. 9 areas, until the USACE ~~shall be requested to~~ clears the proposed locations for the potential presence of unexploded ordnance from historical military uses. In the event that the USACE encounters unexploded ordnance, the USACE is obligated to remove the unexploded ordnance under their ongoing investigations.

Section 4.8.3, p. 4.8-15, last paragraph is revised as follows:

The Project would be located within a sparsely-vegetated desert area. The CAL FIRE fire hazard severity zone map identifies the Project area as within its lowest fire hazard severity zone, the lowest possible risk category. Proposed Project impact areas associated with the Groundwater Conservation and Recovery Component are not located adjacent to urbanized areas or residences. ~~The nearest residences are located in Chambless, approximately 5 miles from the Project site~~. The nearest residences are the three or four residences located approximately 3.3 miles north of the Project site near the corner of Cadiz Road and National Trails Highway. Additionally, as part of the right-of -way use agreement, the Project would install fire hydrants along the conveyance pipeline at strategic locations along the railroad tracks (e.g., at bridge trestles). Impacts associated with implementation of the proposed Project are considered less than significant and no mitigation is required.

4.9 Hydrology and Water Quality

Section 4.9.1, p. 4.9-10, last paragraph is revised as follows:

However, these trends have many variations and need to be considered more at a regional level, as discussed below.

Section 4.9.1, p. 4.9-12, first paragraph is revised as follows:

Capture of snowmelt runoff traditionally has occurred during the late spring and early summer seasons.

Section 4.9.1, p. 4.9-16, second paragraph is revised as follows, with footnote 64 deleted in its entirety:

Standing water has been observed on Bristol Dry Lake ~~at least one each year since 1991.~~infrequently and without regularity.

Footnote64: ~~Cadiz Inc., *Communications with ESA*, December 9, 2010.~~

Section 4.9.1, p. 4.9-36, first paragraph the following sentence has been deleted:

This updated assessment included collection of additional field data, development of a watershed soil-moisture budget model based on the USGS INFIL3.0 model, and development of a three-dimensional groundwater flow model, based on the USGS MODFLOW-2000 computer code, of the Fenner Gap area.[12] ~~This updated assessment~~

12 CH2M Hill, *Cadiz Groundwater Conservation and Storage Project*, July 2010, pages 1-2, 1-3.

~~included collection of additional field data, development of a watershed soil-moisture budget model based on the USGS INFIL3.0 model, and development of a three-dimensional groundwater flow model, based on the USGS MODFLOW-2000 computer code, of the Fenner Gap area.~~

Section 4.9.1, p. 4.9-38, first full paragraph is revised as follows:

By intercepting this groundwater flow through the G~~g~~ap, a reduction of evaporation from Bristol and Cadiz Dry Lakes is expected~~, but there would be no reduction in groundwater storage~~.

Section 4.9.1, p. 4.9-40, the last sentence of the third paragraph is revised as follows:

~~As a result of the Salinity Management Policy, TDS levels in Colorado River water sampled just below Parker Dam have been reduced to below 600 mg/L since 1985.~~ With implementation of the Colorado River Basin Salinity Control Program, TDS levels in Colorado River water sampled just below Parker Dam have varied from 620 to 680 mg/L since 2005.

Section 4.9.1, p. 4.9-40, footnote 183 is revised as follows:

U.S. Bureau of Reclamation, *Quality of Water, Colorado River Basin, Progress Report No.* ~~22~~ *23*, ~~2005~~ 2011, Appendix A, p. ~~69~~ 76." The citation can be found at http://www.usbr.gov/uc/progact/salinity/pdfs/PR23final.pdf.

Section 4.9.1, p. 4.9-44, third paragraph is rephrased as follows:

~~Presently, California is receiving waters unused by other states. The 2003 Quantification Settlement Agreements created California's "soft landing" by reducing California's Colorado River water usage from 5.2 million AFY to 4.4 million AFY in a normal year over 15 years through the conservation and transfer of water from agricultural to urban uses in San Diego County Water Authority's, Metropolitan's, and Coachella Valley Water District's jurisdictions, through quantifying the agencies' priority water rights to the River and allocating water in times of shortage. This effort was called the "Interim Surplus Guidelines." The Interim Surplus Guidelines adopted rules for deciding when there was surplus water in the Colorado River, and how such a surplus could be used, as California wound down its excess use.~~

Presently, California is not receiving waters unused by other states. While the 2003 Quantification Settlement Agreement contemplated a California "soft landing" by reducing California's Colorado River water usage from 5.2 million AFY to 4.4 million AFY in a normal year over 15 years through the conservation and transfer of water from agricultural to urban uses in San Diego County Water Authority's, Metropolitan's, and Coachella Valley Water District's jurisdictions, the California agencies reduced their use to 4.4 million AFY, less the payback of certain amounts of water used in 2001 and 2002, and inadvertent overruns beginning in 2003. Agreements relating to the Quantification

Settlement Agreement quantified Imperial Irrigation District's, Coachella Valley Water District's and Metropolitan's priority water rights to River water and allocate water in times of shortage. In addition, execution of these agreements restored the agencies' ability to utilize special surplus water, when available in accordance with the 2001 "Interim Surplus Guidelines." The Interim Surplus Guidelines adopted a methodology for deciding when there was surplus water available from Lake Mead, and for what purposes surplus water could be used.

Section 4.9.3, p. 4.9-48, last paragraph is revised as follows:

Construction of Project facilities may not require coverage under the Construction General NPDES Permit for Discharges of Stormwater since the pipeline alignment and wellfield may not affect waters of the U.S. and since the Piute Wash observation well would affect less than one acre. As a result, preparation of a Stormwater Pollution Prevention Plan (SWPPP) may not be required. However, since construction activities and Project maintenance activities may result in surface runoff quality impacts, Mitigation Measure **HYDRO-1** has been developed to ensure that construction and maintenance -related Best Management Practices (BMPs) are implemented to prevent soil erosion and to control hazardous materials used during construction and maintenance from adversely affecting surface water runoff. With implementation of Mitigation Measure **HYDRO-1**, impacts to surface water quality from construction activities would be less than significant.

Section 4.9.3, p. 4.9-57, Mitigation Measure **HYDRO-1** is revised as follows:

HYDRO-1: A construction and maintenance Storm Water Pollution Prevention Plan shall be prepared and included in construction specifications and Operations and Maintenance Manual (OMM) for the Project. At a minimum, the plan shall include the following required Best Management Practices or equivalent measures:

- Install temporary sediment fences or straw waddles at stream crossings or washes to prevent erosion and sedimentation during construction, including at each ARZC railroad trestle along the pipeline alignment.
- Establish designated fueling areas equipped with secondary containment,
- Require drip-pans under all idle equipment on the construction sites,
- Ensure that spill prevention kits are present at all construction sites.

Section 4.9.3, p. 4.9-57, Mitigation Measure **HYDRO-2** is revised as follows:

HYDRO-2: Project Design Feature 6.4 found in Chapter 6.4 of the GMMMP attached to the Final EIR Vol. 7, Appendix B1 Updated GMMMP shall be implemented to address the potential impacts for the migration of the saline/freshwater water interface to adversely affect groundwater quality. Chapter 6.4 of the Updated GMMMP is provided in full below. ~~If monitored increases in TDS result in impairment to beneficial uses of groundwater by overlying land owners, one or more of the following corrective measures shall be implemented:~~

- ~~Deepen or otherwise improve the efficiency of the impacted well(s); or~~
- ~~Blend impacted well water with another local source; or~~
- ~~Construct replacement well(s); or~~
- ~~Pay the impacted well owner for any increased material pumping costs incurred by the well owner; or~~
- ~~Modify Project operations until adverse effects are no longer present at the affected well(s). Modification to Project operations would include one or more of the following:~~
  - ~~Reduction in pumping from Project wells; or~~
  - ~~Revision of pumping locations within the Project wellfield; or~~
  - ~~Stoppage of groundwater extraction for a duration necessary to correct the predicted adverse effect on existing wells; or~~
- ~~Installation of an injection or extraction well(s) in conjunction with appropriate injection of lower-TDS water or extraction of higher-TDS water to manage the migration of high-TDS water from the Dry Lakes.~~

6.4 Induced Flow of Lower-Quality Water from Bristol and Cadiz Dry Lakes

Saline water migration is allowed up to and not to exceed 6,000 feet from the baseline location of the saline-freshwater interface. To prevent migration of saline groundwater beyond 6,000 feet, FVMWC will implement mitigation measures that may include injection or extraction wells or other physical means to maintain the saline-freshwater interface. If these physical measures prove ineffective, reductions in Project pumping will be required (see Sections 6.4.3, below).

6.4.1 *Monitoring*

To monitor the influence of the Project's operation on the migration of the saline-freshwater interface located between the Project wellfield and the Bristol and Cadiz Dry Lakes, a network of "cluster type" observation wells will be established between the Project wellfield and the saline-freshwater interface. Groundwater TDS concentrations in the well clusters will be monitored on a quarterly basis during the pre-operational period of the Project, semi-annually throughout the operational period, and annually during the post-operational period of the Project. Of the monitoring well network, SCE Well no. 5 and SCE Well no. 11, along with other newly installed well clusters located between the interface and the Project wellfield will be located such that that they are appropriate to serve as "sentinel" wells to determine whether there is a progressive migration of the saline-freshwater interface. The locations of SCE Well no. 5, SCE Well no. 11, and the other sentinel well clusters are shown in Figures 5-1 and 5-2.

6.4.2 *Action Criteria*

The decision-making process will be initiated if the action criterion is triggered.

The action criterion is a migration of the interface, as measured by an increase in TDS concentration in excess of 600 mg/L in any cluster or observation well located within a distance of 6,000 feet from pre-Project locations of the interface.

6.4.3 *Decision-Making Process*

If the action criterion is triggered, the decision-making process will include:

- Assessment of whether the increased TDS concentration or migration of the saline-freshwater interface is attributable to Project pumping;
- Assessment of trends and updated projections of whether and when the saline-freshwater interface is expected to migrate 6,000 feet from its baseline location;
- If the increased TDS concentration within the monitoring wells is determined to be attributable to the Project and the saline-freshwater interface is expected to migrate more than 6,000 feet from its baseline location within 10 years, then one or more of the corrective measures set forth in Section 6.4.3 shall be implemented.

6.4.4 *Corrective Measures*

Corrective measures that will be implemented to eliminate the further migration of saline groundwater towards the Project wellfield may include the following:

- Installing one or more extraction well(s) or injection well(s) at the northeastern edge of Bristol Playa and/or north of Cadiz Playa where the salt mining source wells are located to maintain the saline-freshwater interface within its 6,000-foot limit subject to the same mitigation measures imposed on the Project well-field as set forth in the SMWD Mitigation Monitoring and Reporting Program (see Figures 5-1 and 5-2).

If the forgoing corrective measures are ineffective or infeasible, Project operations shall be modified to eliminate the further migration of saline groundwater towards the Project wellfield. Modifications to Project operations will include one or more of the following:

- Reduction in pumping from Project wells;
- Revision of pumping locations within the Project wellfield; or
- Stoppage of groundwater extraction for a duration necessary to correct the predicted impact.

Section 4.9.3, p. 4.9-58, Mitigation Measure **HYDRO-3** is revised as follows:

HYDRO-3: Project design features in Chapter 6.2 of the GMMMP attached to the Final EIR Vol. 7, Appendix B1 Updated GMMMP shall be implemented to address potential impacts to Third Party wells. Chapter 6.2 of the Updated GMMMP is provided in full below. ~~If a written complaint by a well owner is received regarding decreased groundwater production yield, degraded water quality, or increased pumping costs submitted by neighboring landowners or the salt mining operators on the Bristol and Cadiz Dry Lakes, the following corrective measures shall be implemented:~~

~~1) Arrange for an interim water supply to the affected party as necessary.~~

~~2) Implement additional corrective measures that include one or more of the following actions:~~

- ~~Deepen or otherwise improve the efficiency of the impacted well(s); or~~
- ~~Blend impacted well water with another local source; or~~
- ~~Construct replacement well(s); or~~
- ~~Pay the impacted well owner for any increased material pumping costs incurred by the well owner; or~~
- ~~Modify Project operations until adverse effects are no longer present at the affected well(s). Modification to Project operations would include one or more of the following:~~
  - ~~Reduction in pumping from Project wells; or~~
  - ~~Revision of pumping locations within the Project wellfield; or~~
  - ~~Stoppage of groundwater extraction for a duration necessary to correct the predicted adverse affect on existing wells.~~

6.2 Third-Party Wells

It is the intent of the Project to operate without adverse material impacts to wells owned by neighboring landowners in the vicinity of the Project area, and those operated in conjunction with salt mining operations on the Bristol or Cadiz Dry Lakes. To avoid such potential impacts, the groundwater monitoring network will include monitoring wells located in and around the wellfield, near neighboring landholdings, and on and adjacent to the Dry Lakes (see Figures 5-1 and 5-2). Groundwater levels will be monitored on a continuous to semi-annual basis (see Table 5-1) during the preoperational and operational periods, then annually during the post-operational period. Water quality will be monitored on a quarterly to annual basis during the preoperational period, annually during the operational period of the Project, and triennially during the post-operational period (see Table 5-1). Further, FVMWC shall monitor static (non-pumping) water levels within any third-party wells that are representative of the local groundwater impacts and located within the northern Bristol/Cadiz Sub-Basin or elsewhere in the Fenner Watershed. Such monitoring of third-party wells will be performed on a semi-annual basis during the pre-operational and operational periods, then annually during the post-operational period as established in the Closure Plan.

6.2.1 *Action Criteria*

The decision-making process will be initiated if any of the action criteria are triggered. The action criteria are: 1) a decline of static water levels of more than twenty feet from pre-Project static water levels or to a degree in which the reduction in static water levels results in an inability to meet existing the production of any third-party well drawing water from the northern Bristol/Cadiz Sub-Basin or elsewhere in the Fenner Watershed; and 2) the receipt of a written complaint from one or more well owner(s) regarding decreased groundwater production yield, degraded water quality, or increased pumping costs submitted by neighboring landowners or the salt mining operators on the Bristol and Cadiz Dry Lakes. Any written complaint by a well owner in accordance with this action criterion shall be directed to FVMWC.

6.2.2 *Decision-Making Process*

If any of the action criteria are triggered, the decision-making process will include:

- If a written complaint with a documented change in water level as provided for in Section 6.2.1 is received from a third-party well owner located within the area of influence (see Figure 5-1), FVMWC will immediately implement Corrective Measure 6.2.3.1, below;

- Assessment of whether water level changes, decreased yields, increased pumping costs, and/or degraded water quality in the third-party wells are attributable to Project operations or other causes;

- If such water level changes, decreased yields, increased pumping costs and/or degraded water quality are determined to not be attributable to Project operations, then FVMWC would discontinue any interim arrangement to provide water as set forth in Section 6.2.3.1;

- If such water level changes, decreased yields, increased pumping costs and/or degraded water quality are determined to be attributable to Project operations, then one or more of the corrective measures set forth in Section 6.2.3 shall be implemented.

6.2.3 Corrective Measures

6.2.3.1 *Interim Water Supply.* If a written complaint as provided for in Section 6.2.1 is received from a third-party well owner located within the area described above (see Figure 5-1), FVMWC will arrange for an immediate interim supply of water to the third-party well owner until the decision-making process is complete in an amount necessary to fully offset any reduced yield to the third-party well owner, as compared to the yield from the impacted well prior to Project operations or, if the impacted well was installed after Project operations commenced, then as compared to the yield

of the well immediately after installation.

6.2.3.2 *Further Corrective Measures***.** If any of the Action Criteria set forth in 6.2.1 are triggered and the impacts are determined to be attributable to Project operations, one or more of the following further corrective measures shall be implemented to correct the impairment to the beneficial use of the groundwater:

- Continued provision of substitute water supplies;
- Deepening or otherwise improving the efficiency of the impacted well(s);
- Blending of impacted well water with another local source;
- Constructing replacement well(s) on disturbed land subject to the same mitigation measures imposed on the Project wellfield as set forth in the SMWD's Mitigation Monitoring and Reporting Program;
- Paying the impacted third-party well owner for any increased material pumping costs incurred by the well owner; or
- Entering into a mitigation agreement with the impacted third-party well owner.

Section 4.9-3, p. 4.9-59, second paragraph is revised as follows:

> As shown on ~~Figure 4.9-2~~ Figure 4.9-4 proportion of precipitation recharging the mountain bedrock….

Section 4.9.3, p. 4.9-67 through 69, **Figures 4.9-12a**, **4.9-13a**, and **4.9-14a** have been added on the following pages in **Response A_NPS-84**.

Section 4.9.3, p. 4.9-75, Mitigation Measure **HYDRO-4** is revised in **Response A_MWD-4** as follows:

> **HYDRO-4:** All ~~C~~construction and operation p~~P~~lans shall be prepared that ~~use~~ identify standard best management practices (BMPs) to control drainage around the Project infrastructure including but not limited to wellpads, pump stations, an energy generation facility, air relief valves, forebay and equalization storage facilities, spreading basins, and railcar wash areas. The BMPs shall include placing facility and well pads and above-ground appurtenant facilities outside of visible drainages; and grading well pads to disperse runoff from the site in a manner that minimizes scour potential of storm water. ~~Additional~~ BMPs include the use of physical barriers to prevent or manage seepage, detain runoff and prevent erosion during construction and operation and may include the

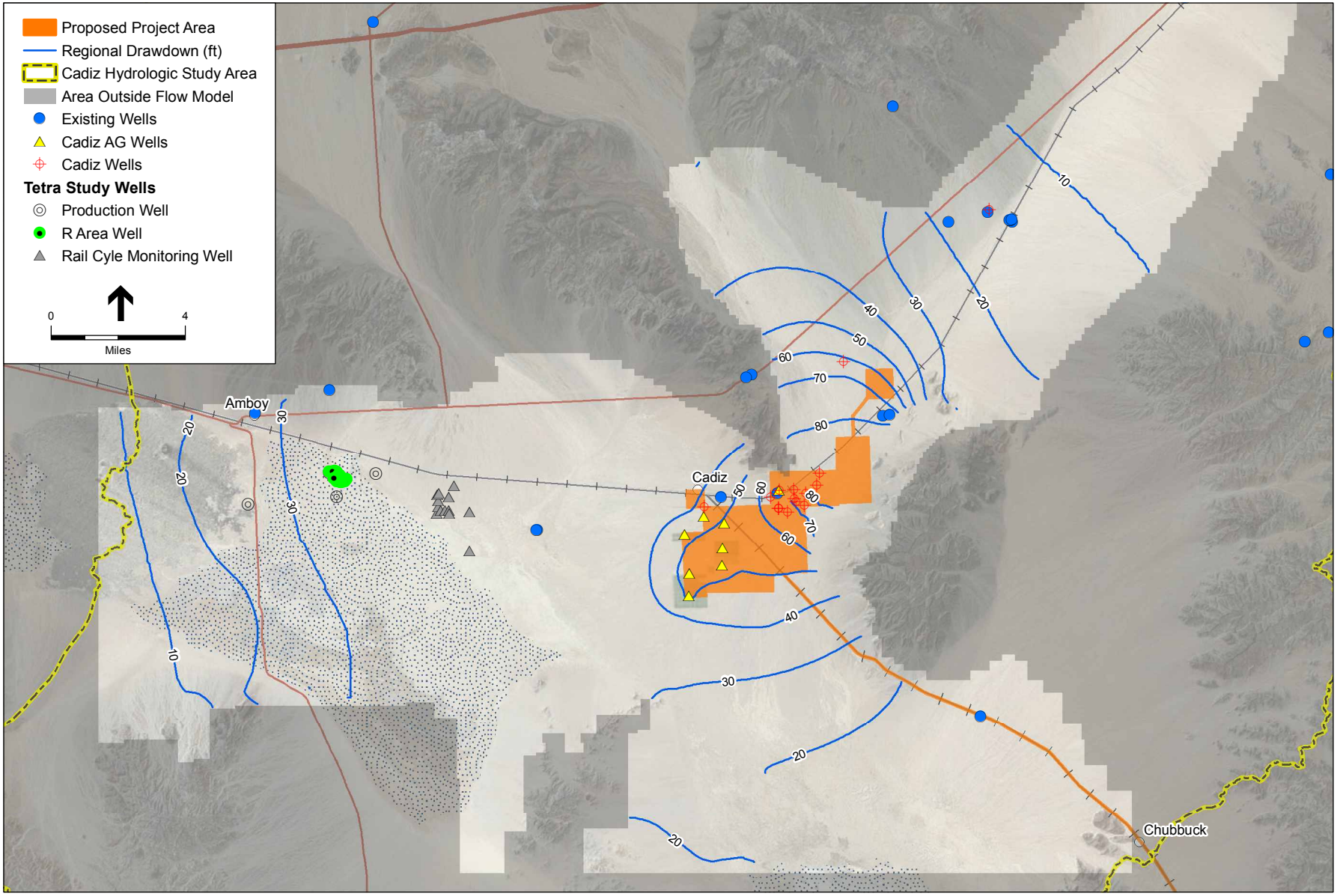
use of ~~and~~ siltation straw wattles, hay bales, setbacks and buffers, and other similar methods that reduce the energy in surface water flow.

Section 4.9.3, p. 4.9-77, first paragraph is rephrased as follows:

The CRA water would have higher TDS concentrations than the ~~CRA water~~ groundwater, whereas the sodium and chloride (salt) concentrations of the CRA water would be slightly lower than the current concentrations in the groundwater in the alluvium in the Fenner Gap area.

Section 4.9.3, p. 4.9-73, second line is revised as follows:

For example, pumping rates in excess of ~~natural recharge (in excess of~~ 50,000 AFY~~)~~ during the first 25 years would increase the quantity of groundwater conserved.

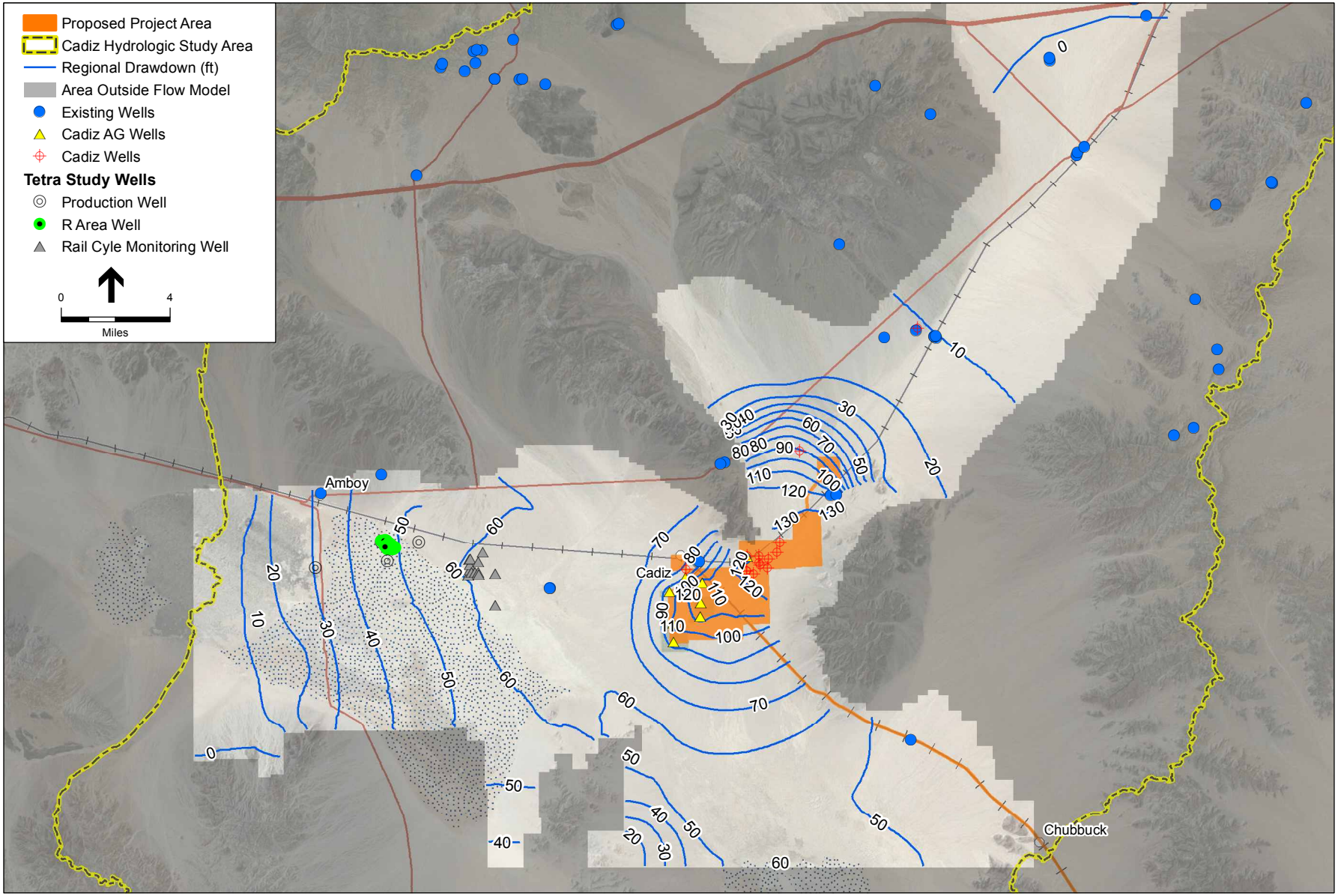


SOURCE: Bing Maps, 2011; ESRI, 2010; Cadiz Inc., 2011; GSSI, 2011; Tetra Tech, 1999; CH2MHill, 2010; and ESA, 2011

Cadiz Valley Water Conservation, Recovery, and Storage Project

Figure 4.9-12a

Model-Predicted Regional Drawdown - Project Scenario after 50 Years
(Assumes 32,000 AFY Recharge)
Well Configuration A

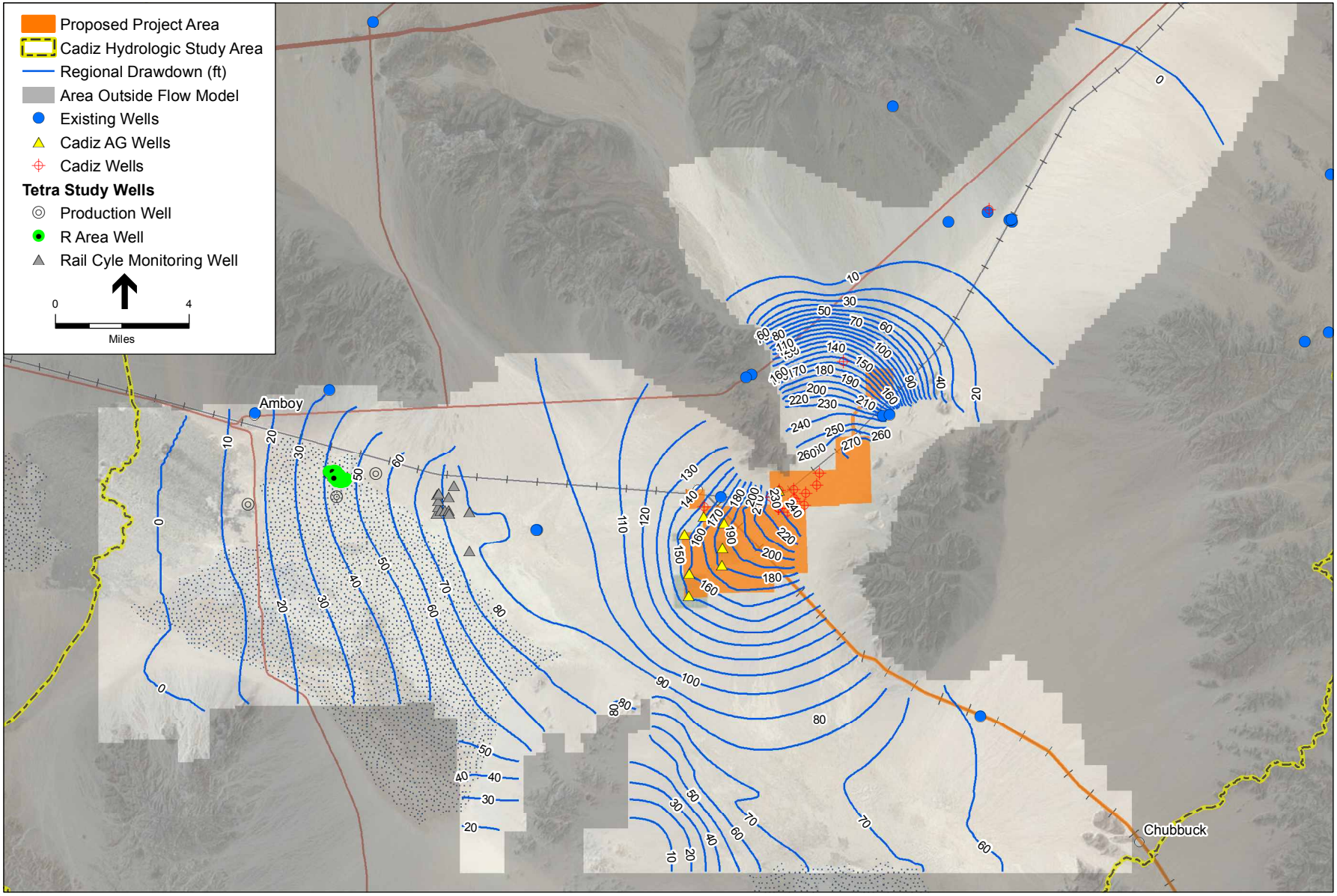


SOURCE: Bing Maps, 2011; ESRI, 2010; Cadiz Inc., 2011; GSSI, 2011; Tetra Tech, 1999; CH2MHill, 2010; and ESA, 2011

Cadiz Valley Water Conservation, Recovery, and Storage Project . 210324

Figure 4.9-13a

Model-Predicted Regional Drawdown - Sensitivity Scenario No.1 After 50 Years
(Assumes 16,000 AFY Recharge)
Well Configuration B



SOURCE: Bing Maps, 2011; ESRI, 2010; Cadiz Inc., 2011; GSSI, 2011; Tetra Tech, 1999; CH2MHill, 2010; and ESA, 2011

Cadiz Valley Water Conservation, Recovery, and Storage Project

Figure 4.9-14a

Model-Predicted Regional Drawdown - Sensitivity Scenario No.2 after 50 Years
Sensitivity (Assumes 5,000 AFY Recharge)
Well Configuration B

4.11 Mineral Resources

Section 4.11.3, p. 4.11-10, Mitigation Measure **MIN-1** is revised as follows:

MIN-1: The Project Design Features in Chapter 6.5 of the Updated GMMMP attached to the Final EIR Vol. 7, Appendix B1 Updated GMMMP~~PDF 6.5~~ shall be implemented to address the potential impact for groundwater level drawdown on existing salt production operations. Chapter 6.5 of the UpdatedGMMMP is provided in full below. If ~~changes in groundwater levels occur that are larger than projected by the groundwater model simulations or if changes occur in groundwater or brine water levels that are greater than 50 percent of the water column above the intake of any of salt mining companies' wells in comparison to pre-operational static levels in wells at the margins of the dry lakes, one or more of the following actions shall be implemented:~~

- ~~Reduction in pumping from Project wells; or~~
- ~~Revision of pumping locations within the Project wellfield; or~~
- ~~Stoppage of groundwater extraction for a duration necessary to correct the predicted impact; or~~
- ~~Installation of injection wells to mitigate the impact, or~~
- ~~Compensation to mining operators for the additional costs of pumping.~~

6.5 Brine Resources Underlying Bristol and Cadiz Dry Lakes

To monitor potential Project impacts on the salt mining operations on the Bristol and Cadiz Dry Lakes, a network of "cluster type" monitoring wells will be established between the Project wellfield and the margins of the Dry Lakes (see Figures 5-1 and 5-2). Groundwater levels will be monitored on a continuous basis throughout the operational and post-operational term of the Project.

6.5.1 *Action Criteria*

The decision-making process will be initiated if either of the action criteria is triggered. The action criteria are:

- A declining trend in groundwater or brine water levels of greater than 50 percent of either (a) the water column above the intake of any of the salt mining operators' wells, or (b) the average depth of brine water level within the brine supply trenches operated by the salt mining operators. Changes in such groundwater or brine water levels, shall be determined by monitoring changes in the static water levels within the network of clustered monitoring wells identified above, as changes in the static water levels within these monitoring wells are correlated with the groundwater or brine water levels within the salt mining operator's wells and brine supply trenches; or
- The receipt of a written complaint from a salt mining operator regarding

decreased groundwater production yield or increased pumping costs from one or more of its wells, or decreased water levels within its brine supply trenches. Any written complaint by a salt mining operator in accordance with this action criteria shall be directed to FVMWC.

6.5.2 *Decision-Making Process*

If either of the action criteria is triggered, the decision-making process will include:

- Assessment of whether the change in groundwater/brine level in excess of the action criteria is attributable to Project operations;
- If the change in groundwater/brine water level in excess of the action criteria is determined to be attributable to Project operations, then an assessment will be made to determine whether the groundwater/brine level change constitutes a potential adverse impact to one or more of the salt mining operations on the Dry Lakes. Adverse impacts include changes to brine chemistry or yields from existing brine production wells or brine supply trenches attributable to Project operations. If no such impacts are identified, potential actions may include:
    - Continued or additional verification monitoring;
    - Proposed refinements to the action criteria;
    - Proposed revision to the monitoring frequency at the observation well clusters at the margins of the Dry Lakes;
    - If the decline in groundwater/brine water level(s) approaching the action criteria is determined to be attributable to Project operations, and the changes constitute a potential adverse impact to one or more of the salt mining operations on the Dry Lakes, then one or more of the corrective measures set forth in Section 6.5.3 shall be implemented.

6.5.3 *Corrective Measures*

Action(s) necessary to mitigate changes to brine chemistry or yields from existing brine production wells or brine supply trenches attributable to Project operations, and thereby maintain or restore the beneficial use of the groundwater/brine water by the salt mining operations, shall include one or more of the following:

- Compensating the mining operator(s) for the additional costs of pumping;
- Installing one or more brine extraction well(s) and/or injection well(s) where the salt mining source wells are located subject to the same mitigation measures imposed on the Project well-field as set forth in the SMWD Mitigation Monitoring and Reporting Program (see Figure 5-1);

or

- Entering into a mitigation agreement with the salt mining operator(s).

If the forgoing corrective measures are ineffective or infeasible, Project operations shall be modified until adverse impacts to the salt mining operations are eliminated. For the purposes of these action criteria, "ineffective" shall be defined as a corrective measure that when put into place did not meet the objective set forth in the corrective action, i.e., to maintain or restore the beneficial use of the groundwater/brine water by the salt mining operations. "Infeasible" is a corrective measure which cannot be implemented due to cost, technical challenges, or environmental and permitting issues as defined under CEQA. Modifications to Project operations shall include one or more of the following:

- Reduction in pumping from Project wells;
- Revision of pumping locations within the Project wellfield; or
- Stoppage of groundwater extraction for a duration necessary to correct the predicted impact.

4.12 Noise

Section 4.12.3, p. 4.12-10, second paragraph is revised as follows:

Approximately 240 workers would be employed at any given time at the Project site. On-site workers would reside within the existing housing areas on Cadiz Inc. Property. Noise would also increase during construction near the worker housing areas. The nearest residences to the worker housing areas (trailer park) are approximately one mile to the north. At this distance, worker housing area noise would attenuate to less than significant levels.

4.13 Public Services and Utilities

Section 4.13.1, pp. 4.13-1 and 4.13-2, due to copying error, some copies of the Draft EIR did not contain the first two pages of this chapter. Instead the first two pages had Figures 4-13.1 and 4-13.2. The originally intended text is included below:

4.13 Public Services and Utilities

The purpose of this Section is to identify existing public services and utilities within the Project area, analyze potential impacts to public services and utilities associated with the development of the proposed Project, and identify mitigation measures that would avoid or reduce the significance of any identified impacts. Thresholds of significance for the

impact analyses are from Appendix G of the 2011 *CEQA Guidelines*. Impacts to Parks and Recreation are analyzed in Section 4.14 Recreation.

4.13.1 Environmental Setting

Public Services

Fire Protection

Fire protection and paramedic services are provided to the proposed Project area by the San Bernardino County Fire Department (SBCFD). The SBCFD works with other agencies such as the California Department of Forestry and Fire Protection, the National Park Service Fire Crews, the City of Twentynine Palms Fire Department, the U.S. Marine Corps Fire Department, the Morongo Valley Fire Department, and the Morongo Basin Ambulance Service.[13]

The SBCFD is headquartered at 157 West Fifth Street in San Bernardino, approximately 105 miles southwest of the Project site. The nearest fire station to the proposed Project area is the Wonder Valley Fire Station No. 45 in Twentynine Palms, which is approximately 33 miles west of the Cadiz Property. Fire Station No. 31, which is located in Needles, would provide additional support, depending on the severity of the emergency. This station is located approximately 56 miles east of the Cadiz Inc. Property.[14] These stations would provide first responder paramedic and ambulance services to the Project area.

The average response time to the Cadiz Inc. Property from the Wonder Valley Fire Station is approximately 35 minutes to an hour. The average response time to the Cadiz Inc. Property from Fire Station No. 31 is approximately 45 minutes.

To address the remoteness of the site from fire protection services, Cadiz Inc. maintains fire suppression equipment, trained personnel, and an emergency evacuation plan for its agricultural operations.[15] Fire extinguishers are present in the office, dormitory, kitchen, equipment storage and maintenance buildings, and all company vehicles. All fire extinguishers are checked on a six or twelve month schedule by licensed professionals. The dormitory has a sprinkler system. The office trailer park and worker housing facilities have sets of fire hoses in water supply boxes. Selected personnel are trained by professional fire personnel in fire suppression techniques.

Police Protection

Police protection services are provided in the Project area by the San Bernardino County Sheriff-Coroner's Department (SBCSD). The SBCSD is headquartered at 655 East 3rd

13 San Bernardino County Fire Department website, http://www.sbcfire.org/fire rescue/southd1.asp, accessed October 2010.

14 Star Javier, District Coordinator, San Bernardino County Fire Department, *Phone conversation with ESA,* October 20, 2010.

15 Cadiz Inc., *Communication with ESA,* October 19, 2011.

Street in San Bernardino, approximately 105 miles southwest of the Project site. The nearest police station to the Project site is SBCSD's Morongo Basin Station, located at 6527 White Feather Road, approximately 78 miles west of the Cadiz Inc. Property. This station has 82 assigned staff, including 60 sworn personnel and 22 civilian employees. There are a minimum of two to four patrol officers per shift assigned to the 3,000 square miles of the unincorporated Morongo Basin jurisdiction. The proposed Project area is patrolled on a random basis, depending on the need for service. The estimated response time of a Sheriff's unit to the Cadiz Inc. Property for emergency calls is approximately 1 hour. Annually, an average of approximately 10 calls are made for police and law enforcement services in the Project vicinity.[16]

The proposed Project area is served by the Barstow office of the California Highway Patrol (CHP). The CHP does not regularly patrol the Project area. However, they provide assistance on an on-call basis for accidents, emergencies, and related incidences. The normal response time is approximately 1 to 1.5 hours.

A Sheriff's Department Citizen on Patrol volunteer group is also active in the Cadiz area. This unit consists of unarmed volunteers who patrol the proposed Project area in marked Citizen Patrol cars and report suspicious activities. This group does not take any law enforcement action, and there is no set schedule for this volunteer unit. The volunteers patrol when they have free time.[17]

In addition, the BLM Needles field office manages a force of approximately 200 Law Enforcement Rangers and 70 Special Agents who enforce a wide range of laws and regulations in the prevention, detection, and investigation of crimes affecting public lands resources. The Rangers provide a regular and recurring presence over the resource area and are responsible for conducting high visibility patrols; conducting public contacts; enforcing federal laws and regulations; assisting local county and city police departments, other federal and state land management agencies; and generally providing for the safety of public land users.

Public Schools

The proposed Project area is under the jurisdiction of the Needles Unified School District (NUSD), which provides elementary and secondary education. The nearest school to the Project site is the Parker Dam Elementary School at 1207 West 16th Street, approximately 46 miles east of the Cadiz Inc. Property. This school serves grades kindergarten through 8th grade. Currently, there are 88 students attending Parker Dam Elementary School. Needles High School, which serves grades 9 through 12, is located approximately 68 miles east of the Cadiz Inc. Property. This high school has approximately 275 regular

16 Lieutenant Rich Boswell, San Bernardino County Sheriff's Department, *Phone conversation with ESA,* October 20, 2010.

17 Metropolitan Water District of Southern California and Bureau of Land Management, *Cadiz Groundwater Storage and Dry-Year Supply Program Final Environmental Report and Final Environmental Impact Statement, Volume I*, September 2001, page 5-219.

students. Bus transportation is available to Needles High School from Amboy, approximately 13 miles west of the Cadiz Inc. Property.

Section 4.13.3, p. 4.13-17, first paragraph the text is revised as follows:

The Groundwater Conservation and Recovery Component would install new groundwater wells requiring approximately 50.7 million kilowatt hours (kWh) per year. The wells would be powered by natural gas motors or by electricity from the grid. The Project would connect to the existing high-pressure gas lines traversing the site or from local existing power lines. If a forebay and pump station is required, an additional 22 million kWh/year would be required, powered by electricity from the grid.

The Project would convey water to the CRA for distribution to the Southern California public water supply. According to studies published by the CEC and Metropolitan, the CRA utilizes approximately 6,138 kWh/million gallon (MG) at full capacity.[18] The Groundwater Conservation and Recovery Component would require 3,112 kWh/MG to convey water to the CRA. Once Project water enters the CRA, the existing CRA pump stations would convey the water to Project Participants. The water pumped into the CRA by the Project would be accommodated with the existing pump capacity. Capacity has been available in the CRA every year since 2003. The actual change in energy usage of the CRA would depend on operational changes implemented to accommodate Project water. In any case, the CRA would not exceed historical energy usage when it operated at full capacity; new pumps would not be installed in the CRA to increase the system's rated capacity. The Project would not increase the CRA's ~~overall~~ maximum capacity energy usage. However, Metropolitan has indicated that pumped-in water would increase energy requirements of the CRA per gallon pumped. Metropolitan suggests that since the Project would enter the CRA after Copper Basin, it would only utilize the remaining pump stations in the system, resulting in approximately 63 percent of the total energy demand otherwise used for each gallon of Colorado River water. Sixty three percent of 6,138 kWh/MG is 3,886 kWh/MG. Assuming this worse-case scenario that the CRA would increase actual energy demands to accommodate Project water, the total energy demand for the Project including conveyance from the wellfield to the CRA and through the CRA to Project Participants would be 6,998 kWh/MG.

Some of the Project participants would use the water to replace supplies that otherwise would be conveyed by the SWP from northern California. ~~The net energy use for water delivery to these Project participants would decrease slightly since energy usage for the SWP is greater than that of the proposed Project.~~ The CEC estimates that delivery of water via the SWP West Branch to northern Los Angeles County requires approximately 7,672 kWh/MG. The proposed Project would require the additional consumption of approximately 6,998 ~~3,112~~ kWh/MG, which is ~~less than half the energy required to~~

[18] California Energy Commission, *California's Water – Energy Relationship*, November 2005, Figure 2-2 and pg 23; Metropolitan Water District of Southern California, *2006 Revised Power Integrated Resource Plan for Metropolitans's Colorado Rive Aqueduct Power Operations*, October 2006, table 4.

~~convey the same amount of water through the SWP. The Project would~~ approximately 664 kWh/MG less than the SWP energy requirements. Overall, the net energy use for water delivery to Project participants would be slightly less than comparable supplies from the SWP since energy usage for the SWP is greater than for the proposed Project. Therefore, the Project would not result in wasteful use of electricity or substantially increase energy use compared to existing energy demands for importing water to Southern California. As a result, the impact would be less than significant.

Section 4.13.3, p. 4.13-17, footnote 20 is revised as follows:

California Energy Commission, *California's Water – Energy Relationship*, November 2005, Figure 2-2 and page 23; Metropolitan Water District of Southern California, *2006 Revised Power Integrated Resource Plan for Metropolitan~~s~~'s Colorado River Aqueduct Power Operations*, October 2006, Table 4.

Section 4.13.3, p. 4.13-20, Mitigation Measure **UTIL-4: Imported Water Storage Component** has been revised as follows:

UTIL-4: Imported Water Storage Component. Spreading basins shall be designed to avoid ~~or minimize~~ encroachment into major surface drainages. The Project participants shall conduct a drainage study to evaluate the potential impact of the spreading basins to surface drainages and to develop design parameters to minimize storm flow detention, velocity, and scouring downstream from the new basins. These recommendations shall be included in final designs to ensure that downstream improvements, including railroad lines and the agricultural operations, are not adversely affected.

Section 4.13.3, p. 4.13-22, second paragraph under Impacts Analysis is revised as follows:

The Imported Water Storage Component would add 10-15 wells in order to return up to 105,000 ~~150,000~~ AFY of previously stored water through the pipeline to the CRA and/or SWP.

4.15 Transportation and Traffic

Section 4.15.1, p. 4.15-1, fifth paragraph, is revised as follows:

National Trails Highway (former US 66) originates at an interchange with I-15 in the City of Victorville, and continues north and east to its terminus at Lenwood Road in the community of Lenwood, just southwest of the City of Barstow.19 National Trails Highway is a County Road that runs east and west through the Project area and is located approximately 4 miles north of the Project site.

Section 4.15.2, p. 4.15-6, fourth full paragraph is revised as follows:

19 County of San Bernardino, *San Bernardino County 2007 General Plan Program* F*inal Program Environmental Impact Report,* February 2007, pp.s IV-145, IV-169, IV-142.

The San Bernardino County Department of Public Works is responsible for maintaining approximately 2,830 miles of both paved and unpaved roadways primarily located in unincorporated areas of the County. These facilities range in classification from major arterial highways to local streets. San Bernardino County maintains only 4.44 miles of ~~The~~ Cadiz-Rice road from the AT&SF tracks to National Trails Highway. ~~that follows the ARCZ railroad is a County road.~~

Section 4.15.2, p. 4.15-7, first paragraph, is revised as follows:

The CMP in San Bernardino County was created in June 1990 as a provision of Proposition 111. Under this proposition, urbanized areas with populations of more than 50,000 would be required to undertake a congestion management program that was adopted by a designated Congestion Management Agency (CMA). As stated earlier, SANBAG was designated as the CMPA by the County Board of Supervisors. The closest applicable city with the population 50,000 is the ~~City of Indio.~~ City of Victorville,[20] which is approximately 132 miles away from the Project site.

Section 4.15.3, p. 4.15-8, third full paragraph is revised as follows:

The Project would increase traffic on local roadways during construction, though the local roadways currently have very little traffic as the greater Project area is sparsely populated. Construction of the Groundwater Conservation and Recovery Component of the Project is expected to last ~~up to~~ approximately18 months~~2 years~~. The primary impacts from the movement of construction trucks would include short-term and intermittent impacts on roadway capacities due to slower moving vehicles. Traffic-generating construction activities would consist of the arrival and departure of constructions workers, trucks hauling equipment and materials to the construction site, the hauling of excavated soils, and importing of new fill. Trucks leaving roadways onto construction sites would slow any traffic and could result in hazards to fast moving traffic on the sparsely used roads. If lane closures or flagmen are required to manage traffic during delivery of construction equipment, an encroachment permit from Caltrans and the County would be necessary.

Section 4.15.3, p. 4.15-11, last paragraph is revised as follows:

The Project would not construct or modify existing paved roadways or alter the existing regional circulation system….

Chapter 5 Cumulative Impacts

Section 5.1.2, p. 5-3, last paragraph is revised as follows:

Recreation: The proposed Project does not include recreational facilities or require the construction of new or expansion of existing recreational facilities. The proposed Project

[20] City of Victorville, *US Census Bureau: State and County Quick Facts, City of Victorville, http://quickfacts.census.gov/qfd/states/06/0682590.html, accessed 04/05/12.*

does not include the development of residential land uses, nor will it introduce a substantial number of employees into the Project area. The proposed project does not include the construction or expansion of recreational facilities that would have an adverse effect on the environment. However, since the facilities would be located in close proximity and visible from wilderness areas, effects to these recreational areas are determined to be less than significant. Although construction may be visible from distant vista points in the surrounding Wilderness Areas, it would not substantially affect scenic vistas. Construction of the Project wellfield would make up less than 1 percent of the Cadiz Property in the wellfield area. Implementation of the proposed Project, along with other existing, recently approved, proposed, and reasonably foreseeable development in the Project vicinity, would contribute to the cumulative effect on regional recreational facilities and services, but none of the projects identified in Table 5-1 would have a significant impact on recreational areas.

~~The proposed Project has been designed to completely avoid adjacent BLM lands, including designated Wilderness Areas. Construction of the proposed Project would not conflict with recreational uses in the Project vicinity because access to BLM lands would be unimpeded throughout construction and operation. Because the proposed Project would not result in recreation impacts, this resource area is not discussed further in this cumulative effects analysis.~~

Section 5.1.2, p. 5-5, second full paragraph is revised as follows:

This cumulative effects analysis generally covers the area bounded by the Old US 66 and I-40 corridor to the north; SR~~I~~-95 to the east~~west~~; SR-62 to the south; and the Marine Corps Air Ground Combat Center, SR-247, and SR-62 through Yucca Valley to the west~~east~~ (see **Figure 5-1** on p. 5-10).

Section 5.1.2, p. 5-7, Table 5-1, text is added as follows after Noise Resource Area and before Public Services and Utilities Resources Area:

Environmental Resource Area / Project Impact	Geographic Scope	Resource Area Overview
Recreation	Regional. The adjacent BLM lands, including designated Wilderness Areas.	The Project is located near several BLM wilderness areas, including the Trilobite Wilderness located approximately 4 miles north of the Project site; the Old Woman Mountains Wilderness approximately 180 feet to the east of a portion of the ARZC ROW; the Cadiz Dunes Wilderness 5 miles south of the Project and approximately 250 feet west of the central portion of the ARZC ROW; and the Turtle Mountains Wilderness located approximately 3 miles east of the intersection of the ARZC ROW and the CRA.

Section 5.3.1, p. 5-28, second full paragraph is revised as follows:

In contrast, much of the Project infrastructure would be installed underground (43 miles of water conveyance pipelines, possibly power distribution facilities and interconnected wellfield pipelines), on private and water district property (Cadiz Inc. Property, ARZC ROW, Metropolitan lands), and in remote areas not generally accessible by the public. The overall permanent physical Project footprint is less than 250 acres.

Section 5.3.9, p. 5-36, first paragraph, last sentence, is revised as follows:

Therefore, the direct and cumulative impacts to groundwater and surface water resources would be less than significant ~~and would not be cumulatively considerable~~.

Section 5.3.14, p. 5-40, the following text is added before the 5.3.14 Transportation and Traffic Heading as follows:

5.3.14 Recreation

The geographic scope for cumulative recreational impacts includes the projects shown on Figure 5-1. The proposed Project has been designed to completely avoid all BLM lands, including Wilderness Areas. Construction of the proposed Project would not disrupt recreational opportunities and uses, nor would it interfere with the recreational experience of established recreational facilities. Additionally, the public would continue to have access to BLM lands in areas where public access is currently provided, during Project construction and operation. As discussed under Impact 4.14, construction may be visible from distant vista points in the surrounding Wilderness Areas, but it would not substantially affect scenic vistas. Implementation of the proposed Project, along with other existing, recently approved, proposed, and reasonably foreseeable development in the Project vicinity, would contribute to the cumulative effect on regional recreational facilities and services. However, none of the projects identified in Table 5-1 would have a significant impact on recreational experiences in an established recreational facility. Several projects identified in Table 5-1, would enhance recreational opportunities in the region. Moreover, as discussed in Section 5.2.2, the proposed California Desert Protection Act of 2011, would preserve 1.6 million acres in the region. Therefore, the proposed Project's contribution to the recreational experience of established recreational facilities would be less than cumulatively considerable.

Chapter 6 Growth-Inducement Potential and Secondary Effect of Growth

Section 6.1.2, p. 6-3, last paragraph is revised as follows:

The facilities proposed for Groundwater Conservation and Recovery Component of the Project include construction of a wellfield and manifold (piping) system to carry pumped groundwater to a new 43-mile conveyance pipeline that would be constructed along the ARZC ROW, and tie into the CRA~~, which would distribute water to Project Participants~~.

Section 6.1.3, p. 6-8, footnote 10 is revised as follows:

Codified at California Business and Professions~~al~~ Code §65867.5 and Government Code §§66455.3 and 66473.7.

Section 6.1.3, p. 6-9, footnote 13 is revised as follows:

Codified by amendments to California Public Resources Code §§75076 and 75077 and the addition of §§75100 *et seq.* ~~and 775120 *et seq.*~~

Section 6.2.1, p. 6-10, second paragraph, last sentence, is revised as follows:

Metropolitan imports water from the Colorado River via its CRA and receives water from the California Department of Water Resources which imports it from the Sacramento-San Joaquin Delta via the SWP.

Section 6.2.1, p. 6-10, second paragraph is revised as follows:

Metropolitan's water supplies and supply reliability are described in more detail ~~in~~ below but, in summary, Metropolitan is taking several steps to address reliability issues associated with both of its imported supply sources.

Section 6.2.1, p. 6-10, third paragraph is revised as follows:

On the Colorado River system, ~~a multi-year drought coupled with the need for Metropolitan to permanently reduce its level of imports, along with~~ litigation over the negotiated multi-party Quantification Settlement ~~settlement~~ and related agreements intended to reduce California's reliance on the Colorado River, raise concerns about the reliability of the Colorado River water over the long term.[21] On the Sacramento-San Joaquin Delta system, current endangered species issues, litigation, drought, and infrastructure limitations have combined to effectively reduce the long-term reliability of the SWP.[22] Climate change is expected to affect water supply in the Delta further in the future. The State's SWP 2009 Reliability Report indicated during in a multi-year wet period the overall reliability of the SWP system would range from ~~74 to 94~~ 71 to 93 percent (of maximum Table A amounts), while during a multi-year dry period, average annual deliveries would be only ~~32 to 34~~ 36 to 38 percent (maximum Table A amounts).

Section 6.2.1, p. 6-10, last paragraph is revised as follows:

Metropolitan works with local agencies to implement projects to recover and ~~use~~ treat contaminated groundwater to meet potable use standards prior to use.

Section 6.2.2, p. 6-16, third paragraph is revised as follows:

[21] Metropolitan Water District of Southern California, *Regional Urban Water Management Plan*, November 2010, pages 3-2 through 3-9.

[22] Metropolitan Water District of Southern California, *Regional Urban Water Management Plan*, November 2010, pages 3-10 through 3-15.

(see further discussion of Metropolitan supplies and reliability issues in Section 6.2.7, below).

Section 6.2.5, p. 6-31, Table 6-14, footnote "a" is revised as follows:

Suburban purchases water from Metropolitan via the Upper San Gabriel Valley Municipal Water District and Central Basin Municipal Water District.

Section 6.2.8, p. 6-42, third paragraph is revised as follows:

Metropolitan's service area covers portions of six counties in the Southern California region: Los Angeles, Orange, Riverside, San Bernardino, San Diego, and Ventura counties.

Section 6.2.8, p. 6-53, footnote 73 is revised as follows:

For example, the San Diego County Water Authority (SDCWA) and Imperial Irrigation District (IID) currently have an agreement under which IID water is transferred to SDCWA. The transferred water is made available by land fallowing; additional future increases in transferred water will be made possible by additional fallowing and implementation of new irrigation efficiency measures. The transfer is implemented via Metropolitan infrastructure, whereby Metropolitan receives the IID water and exchanges it for an equal amount of ~~conveys the same amount of CRA~~ water to SDCWA. (~~[~~RUWMP p. 1-22~~]~~)

Section 6.2.8, p. 6-53, third paragraph is revised as follows:

~~Metropolitan projects that 16 percent of its total water supply in 2035 will come from the Colorado River.~~

Of California's 4.4 MAF normal year apportionment from the Colorado River, up to 3.85 MAF, less transfers and use of up to 14,500 acre-feet by holders of Indian and miscellaneous present perfected rights, ~~or 86 percent,~~ is delivered to ~~the~~ Imperial ~~Valley~~ Irrigation District and, to a much lesser extent, the Palo Verde Irrigation District near Blythe, the Yuma Project, and the Coachella Valley ~~Irrigation~~ Water District. A portion of ~~T~~the water rights held by the first three of these entities listed ~~hese irrigation districts~~ are called "present perfected" rights – they predate the ~~1922 Colorado River Compact~~ 1928 Boulder Canyon Project Act and thus entitle the entities ~~them~~ to receive their water allocation in ~~all years – dry or wet – over other lower priority users,~~ order of their priority date over other lower priority users, including Metropolitan.

Section 6.2.8, p. 6-54, first paragraph is revised as follows:

California has ~~historically~~ in the past drawn more than its basic apportionment of Colorado River water; its annual use has varied between 4.~~5~~32 and 5.37 MAF over the

last ten years[23] with water supplies above California's ~~entitlement~~ normal year apportionment of 4.4 million acre-feet typically coming from unused portions of Arizona~~'s~~ and Nevada's apportionment and surplus water ~~on the River in wet years~~.

Section 6.2.8, p. 6-54, footnote 77 is revised as follows:

~~Aquifonia, *The Colorado River*, http://aquafornia.com/where-does-californias-water-come-from/the-colorado-river, accessed October 12, 2011.~~

U.S. Department of the Interior, Bureau of Reclamation, *Lower Colorado River Accounting*, http://www.usbr.gov/lc/region/g4000/wtracct.html, accessed April, 2012.

Section 6.2.8, p. 6-54, first paragraph is revised as follows:

However, in recent years, increased use by upstream water users (within their allocated rights) has reduced the amount of surplus Colorado River water formerly available to Metropolitan, a 10-year drought in the Colorado River watershed has decreased storage levels in Lake Mead and Lake Powell below 50 percent before their recovery in 2011, record dry conditions in Southern California had~~ve~~ reduced groundwater ~~basins~~ levels and local reservoir~~s~~ storage before recovery in 2011, and consecutive dry years in northern California reduced Lake Oroville (~~at the starting point of the~~ a SWP reservoir) in 2008 and 2009 to its lowest and third lowest operating level since the reservoir was filled.

Section 6.2.8, p. 6-54, first paragraph is revised as follows:

Thus, while California's apportionment of water has priority over a portion of Arizona and Nevada's apportionment, there are increasing concerns about diminished supplies and the reliability of Colorado River water over the long term.

Section 6.2.8, p. 6-54, fourth paragraph is revised as follows:

Metropolitan may receive this additional water from ~~unused apportionments,~~ water supplies unused by agricultural districts, supplies unused by the states of Arizona and Nevada ~~classified as Priority 6~~, and as Intentionally Created Surplus ~~or~~-- supplies stored from previous years' extraordinary conservation and efficiency improvements to the operations of the Colorado River system~~, which are classified as Priority 3(a)~~.

Section 6.2.8, p. 6-55, second paragraph is revised as follows:

The QSA and related agreements are ~~is~~ a set of agreements among IID, CVWD, San Diego County Water Authority (SDCWA), Metropolitan and others intended to reduce California's reliance on the Colorado River. Essentially, the ~~QSA~~IID-SDCWA transfer agreement calls for Imperial Valley farmers to fallow land and make voluntary efficiency

[23] San Diego County Water Authority, *News Release: QSA remains most reliable path for California's Colorado River Supplies*, http://www.sdcwa.org/qsa-remains-most-reliable-path-californias-colorado-river-supplies, accessed October 2011.

~~and conservation~~ improvements and for IID to make conservation improvements and transfer the conserved water to San Diego.

Section 6.2.8, p. 6-55, second paragraph is revised as follows:

As part of the agreement, the State has agreed to bear responsibility for funding mitigation in excess of the $133 million to be funded by IID, CVWD, and SDCWA, collectively ~~the restoration of the Salton Sea~~. Specifically, the QSA and related agreements committed the parties to implementing eight long-term transfer and supply agreements that will shift up to 36 MAF from agricultural to urban use over the life of the agreement and ~~authorize~~ allocate the use of conserved water from the All American Canal and Coachella Canal Lining Projects.

Section 6.2.8, p. 6-55, second paragraph is revised as follows:

~~An appeal was filed and a temporary stay immediately granted, which was later made permanent pending outcome of the appeal.~~

On December 7, 2011, the judgments in *Imperial Irrigation District v. All Persons Interested, POWER v. Imperial Irrigation District et al.*, and *County of Imperial v. Metropolitan Water District of Southern California et al.* were reversed, and the cases were remanded to the trial court for further proceedings consistent with the Court of Appeal's opinion.

Section 6.2.8, p. 6-55, second paragraph is revised in as follows:

~~The stay allows the QSA water transfers to continue while the QSA parties appeal its invalidation.~~

The QSA and related agreements continue to be implemented.

Section 6.2.8, p. 6-57, third paragraph is revised as follows:

~~The operational constraint is that~~ Tthis water ~~needs to be~~ is blended with SWP supplies to meet the target salinity of 500 mg/L of TDS.

Section 6.2.8, p. 6-58, first paragraph is revised as follows:

The guiding principle of the WSDM Plan is to encourage storage of water during periods of surplus and for Metropolitan to work with its member agencies to minimize impacts of water shortages during periods of shortage.

Chapter 7 Analysis of Alternatives

Section 7.4.4, p. 7-7, first paragraph is revised as follows:

Additionally, Metropolitan in collaboration with ~~Metropolitan~~ Municipal Water District of Orange County (MWDOC) and other Metropolitan member agencies is in the process of developing a Long Term Conservation Plan, which seeks an aggressive water use efficiency target in order to achieve a 20 percent reduction in per capita water use by 2020 for the entire Metropolitan service area.

Section 7.6.2, p. 7-26, first paragraph is revised as follows:

Ability to Meet Project Objectives

The West of Danby Pipeline would meet each of the Project objectives, except for supporting operational needs of ARZC. It would provide a similar new pipeline from the wellfield to the CRA, only following a slightly different route.

Section 7.6.2, p. 7-35, first paragraph is revised as follows:

Ability to Meet Project Objectives

The Northern Wellfield Location Alternative would meet ~~most~~ all of the Project objectives, but would not maximize the water conservation potential provided by the other wellfield alternatives.

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B1: Draft Groundwater Management, Monitoring, and Mitigation Plan