

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.¹

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 Property.² These stations would provide first responder paramedic and ambulance services to the Project area.

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

To address the remoteness of the site from fire protection services, Cadiz maintains fire suppression equipment, trained personnel, and an emergency evacuation plan for its agricultural operations.³ 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.

¹ San Bernardino County Fire Department website, [http://www.sbcfire.org/fire rescue/southd1.asp](http://www.sbcfire.org/fire%20rescue/southd1.asp), accessed October 2010.

² Star Javier, District Coordinator, San Bernardino County Fire Department, *Phone conversation with ESA*, October 20, 2010.

³ Cadiz Inc., *Communication with ESA*, October 19, 2011.

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 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 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 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.⁴

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.⁵

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 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 Property. This high school has approximately 275 regular students. Bus transportation is available to Needles High School from Amboy, approximately 13 miles west of the Cadiz Property.

⁴ Lieutenant Rich Boswell, San Bernardino County Sheriff's Department, *Phone conversation with ESA*, October 20, 2010.

⁵ 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.

Libraries

The San Bernardino County Public Library (SBCPL) provides library services to 18 cities and unincorporated areas in San Bernardino County. The closest branches of the SBCPL system are in Twentynine Palms, approximately 50 miles southwest of the Cadiz Property, and in Needles, approximately 60 miles east of the Cadiz Property. The Twentynine Palms Library occupies 5,000 square feet and has 37,000 volumes. This library is open 48 hours a week.⁶

The Needles Library is staffed by two full-time librarians, two library assistants, and page help and is open 43 hours a week. It occupies 5,568 square feet and has approximately 20,000 volumes.⁷

A bookmobile, which services the proposed Project area, is headquartered at the Needles Library. This bookmobile visits the proposed Project area on a weekly basis and is staffed by two people.

Health Care Services

The nearest medical facility to the proposed Project site is the Colorado River Medical Center (CRMC) located in Needles, approximately 55 miles to the east. Other hospitals in the Project vicinity include the Valley View Medical Center, which is located 61 miles to the east, the Western Arizona Regional Medical center, located approximately 68 miles to the east, and the Hi Desert Medical Center, located approximately 72 miles to the west of the Cadiz Property.

Medical aid and ambulance services to the proposed Project area are provided from Twentynine Palms or Needles, when needed. The Sheriff's Department helicopter, the CHP air ambulance or Mercy Air Service can provide assistance in the case of emergencies for transporting patients to the nearest medical facilities. Response time varies from 15 minutes to 1 hour, depending on the type of transportation to the site.⁸ The Cadiz airstrip by the Project office can be used for air rescue. The Cadiz agricultural operations have first aid materials onsite, and the site manager has been trained as a first responder.⁹

Public Utilities

Regional Water Supply

Section 2.4, Overview of Southern California Water Supply and Section 3.6, Project Facilities provide descriptions of the SWP and the CRA, the public water supply elements that the Project would be connected to for water conveyance. The Groundwater Conservation and Recovery Component of the Project would pipe water to the CRA to be added to the public water supply of Southern California. The Imported Water Storage Component of the Project would pipe water from the CRA to spreading basins in the Fenner Gap area to be recharged into the aquifer and stored for later use. **Figure 4.13-1** shows the location of the CRA south of Danby Dry Lake where the Project water conveyance pipeline would tie in. A currently unused natural gas pipeline

⁶ San Bernardino County Public Library website, <http://www.sbcounty.gov/library/home/>, accessed October 2010.

⁷ Kristen Mouton, Branch Manager of Needles Library, *Phone Conversation with ESA*, October 20, 2010.

⁸ Gary Faulkner, San Bernardino County Fire Department, *Phone conversation with ESA*, October 20, 2010.

⁹ Cadiz Inc., *Communication with ESA*, October 21, 2011.

is also under consideration for piping water from the SWP. **Figure 4.13-2** shows the location of the inactive gas pipeline that could be converted for water conveyance use.

Local Water Supply

Residents and businesses located in the neighboring communities of Amboy, Chambless, and Essex, among others, obtain water using private wells or have water delivered by truck. Cadiz meets their own domestic and agricultural (irrigation) water supply needs through their existing groundwater wells. Cadiz maintains three domestic wells near the office area and worker housing facilities, and seven agricultural wells. Refer to Figure 3-14 for the location of the seven existing agricultural wells.

The primary groundwater uses in the region are Cadiz agricultural operations, BNSF, the three salt production companies operating on Bristol, Cadiz, and Danby Dry Lakes, and the few residents within the Watersheds. Between 1901 and 1947, an average of 50 acre-feet per year (AFY) was produced from Fenner Valley.¹⁰ Between 1948 and 1962, approximately 4 AFY were pumped from Fenner Valley. The drop in production was attributed to a switch from steam to diesel-powered engines on the railroad. Between 1954 and 1981, groundwater pumping in Fenner Valley remained constant at approximately 7 to 8 AFY.¹¹

Average annual groundwater production for the Cadiz agricultural operations during the 5-year period from 1998-2002 was approximately 5,600 AFY.¹² This decreased to approximately 4,340 AFY for the period 2003 - 2007. Average annual groundwater production decreased to approximately 1,969.54 AF during 2008, 1,882.26 AF during 2009, and 1,867.06 in 2010 due to changes in crop cultivation and increased irrigation efficiency.¹³

Sewer

Sewage disposal is handled locally using septic tanks and leach lines, including at the Cadiz agricultural operations. There are no public sewage treatment plants serving the proposed Project area.

Storm Water

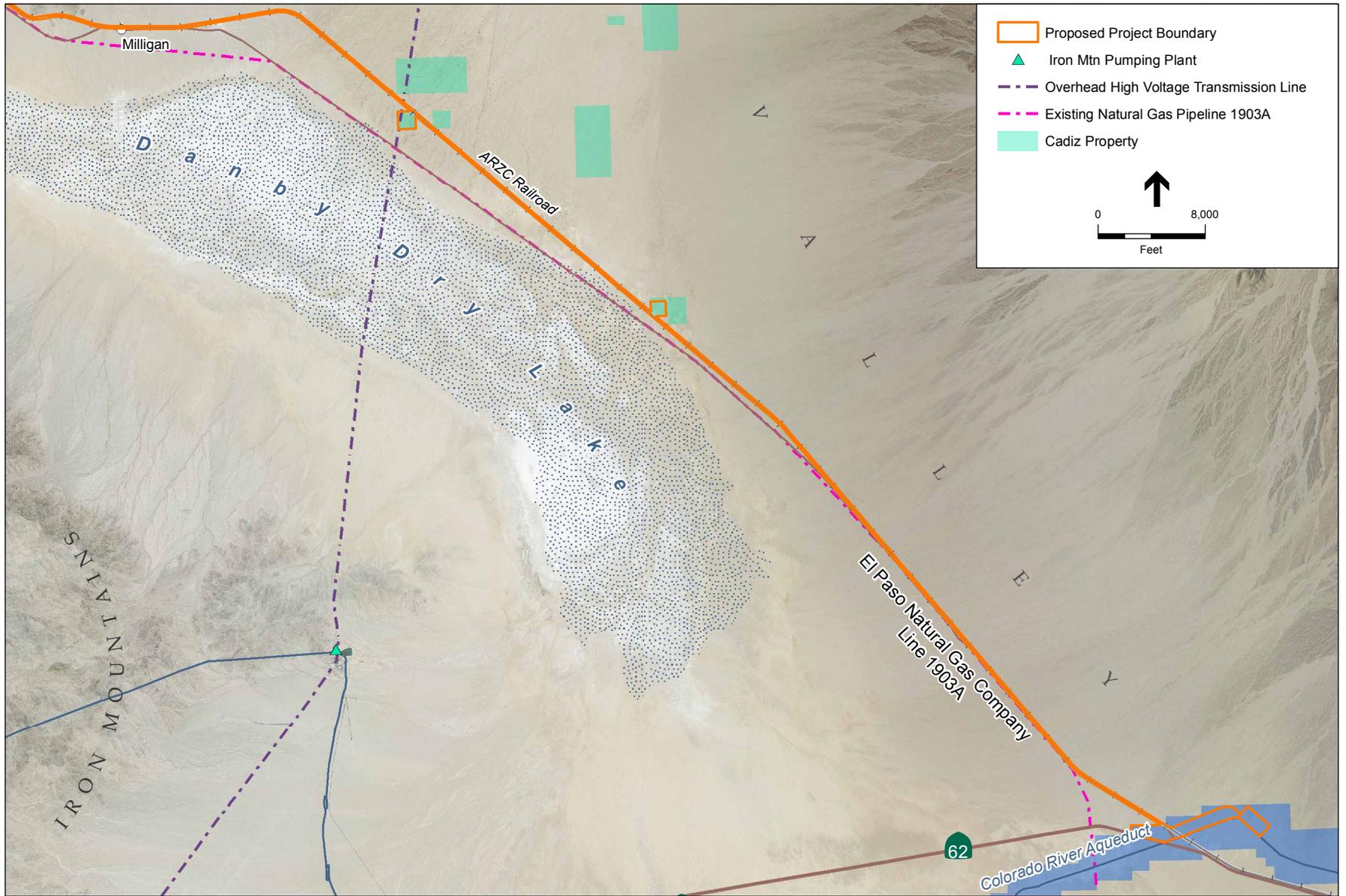
The proposed Project vicinity consists of scattered mountain ranges traversed by low-lying valley areas. Runoff becomes concentrated as it passes through constricted mountain ravines, and as a result, flash floods occur in the valleys periodically. Due to the lack of development, storm drain systems operated by a public agency do not exist in the area. However, individual entities have taken precautions to protect their facilities. ARZC and BNSF have constructed and maintain

¹⁰ Metropolitan Water District of Southern California and US Bureau of Land Management, *Cadiz Groundwater Storage and Dry-Year Supply Program Final Environmental Report and Final Environmental Impact Statement, Volume I* September 2001, pages 5-80.

¹¹ Freiwald, David A., *Ground-Water Resources of Lanfair and Fenner Valleys and Vicinity, San Bernardino County, California*, USGS Water Resources Investigation Report 83-4082, July 1984, Page 11.

¹² Cadiz Inc., *11th Annual Groundwater Monitoring Report, January-December 2008, Cadiz Valley Agricultural Development*, June 15, 2009, Page 13.

¹³ Cadiz Inc., *13th Annual Groundwater Monitoring Report, January-December 2010, Cadiz Valley Agricultural Development*, June 30, 2011, Page 12.

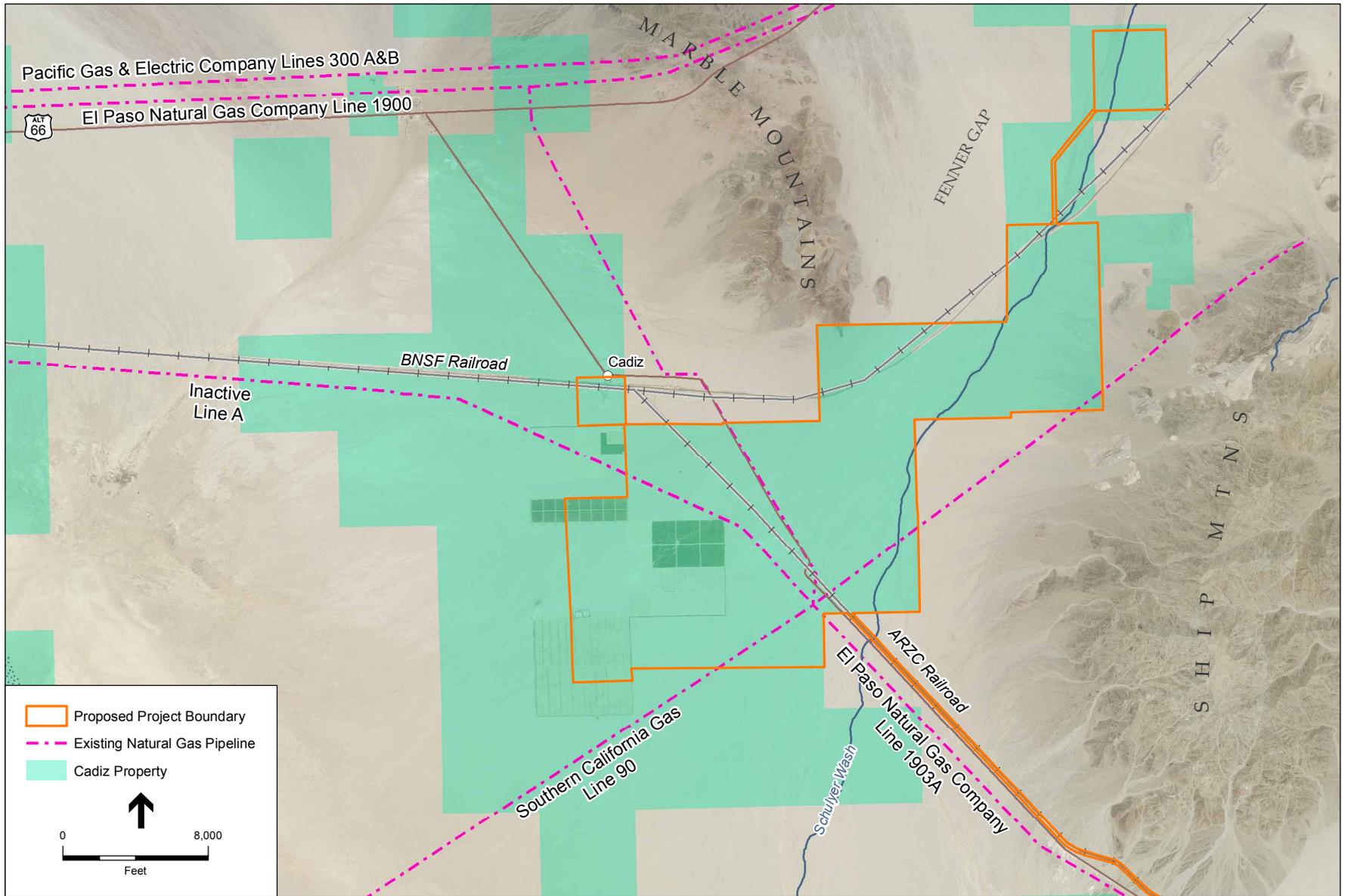


SOURCE: USDA, 2009; Bing Maps, 2011; ESRI, 2010; Tetra Tech, 2008; Cadiz Inc., 2011; and ESA, 2011

Cadiz Valley Water Conservation, Recovery and Storage Project

Figure 4-13.1

Utilities Corridors Near the Pipeline Alignment



SOURCE: USDA, 2009; Bing Maps, 2011; ESRI, 2010; Tetra Tech, 2008; Cadiz Inc., 2011; and ESA, 2011

Cadiz Valley Water Conservation, Recovery and Storage Project

Figure 4-13.2

Existing Pipelines Near the Project Area

levees along their respective rail line alignments to divert runoff to undercrossings to protect the rail lines and other facilities.¹⁴ The existing Cadiz agricultural facilities do not currently have or require storm water diversion facilities.

Solid Waste Management

Solid waste currently generated by the Cadiz agricultural operations is collected by Sierra Environmental and is transported to the Twentynine Palms Landfill. This landfill has a Permitted Maximum Disposal of 100 tons per day and has a Remaining Estimate Capacity of 10,821,000 cubic yards (98.9 percent). This landfill has sufficient capacity to dispose of additional amounts of solid waste into the foreseeable future.¹⁵ Private residences located in the area individually dispose of their solid waste at the Twentynine Palms Landfill or other permitted facilities.

Electricity

Overhead electrical lines in the area serve the limited domestic and commercial uses along National Trails Highway and the railroad lines. SCE provides electrical service to Amboy, Cadiz and other communities near the proposed Project area through standard overhead power lines on wooden poles located mostly along the railroad track alignment. Figure 4.13-1 shows one high voltage transmission line crossing the ARZC ROW across Danby Dry Lake about 15 miles south of the agricultural operations.

Natural Gas

Six interstate natural gas pipelines and appurtenant facilities are located in the Project vicinity. Figures 4.13-1 and 4.13-2 show the locations of the pipelines. Two parallel pipelines owned and operated by Pacific Gas & Electric Company (PG&E) traverse east to west near National Trails Highway, north of the Project site. A third pipeline, located approximately 200 feet to the north of the National Trails Highway, is operated by the Mojave Pipeline Operating Company, which is a subsidiary of El Paso Natural Gas (EPNG). A fourth pipeline traversing the Cadiz Valley north to south is owned by EPNG. This line runs parallel to the ARZC ROW and the proposed conveyance pipeline alignment and crosses the northern portion of the Cadiz Property where it connects to the Mojave Pipeline.¹⁶ A fifth pipeline originates in Cadiz beneath the proposed wellfield area and parallels the BNSF rail line west to Wheeler Ridge, California. This pipeline is currently inactive. A sixth pipeline owned and operated by Southern California Gas Company (SGC) crosses Cadiz Property in the proposed wellfield area and south of Cadiz agricultural operations (Line 90). The EPNG or the PG&E lines could supply power to the Project facilities.

¹⁴ Metropolitan Water District of Southern California and US Bureau of Land Management, *Cadiz Groundwater Storage and Dry-Year Supply Program Final Environmental Report and Final Environmental Impact Statement, Volume I*, September 2001, pages 5-219.

¹⁵ California Department of Resources Recycling and Recovery website, *Active Landfills Profile for USMC - 29 Palms Disposal Facility (36-AA-0067)*, <http://www.calrecycle.ca.gov/profiles/Facility/Landfill/LFProfile1.asp?COID=36&FACID=36-AA-0067>, accessed October 2010.

¹⁶ PCR Services Corporation, *Technical Memorandum: Assessment for CEQA Compliance – Cadiz Valley Aquifer Storage Project*, October 2006, page 85.

Communications

AirTouch Cellular and AT&T Wireless provide service in the Cadiz Valley through booster stations, both of which are located in the proposed Project area.¹⁷ AT&T provides services to the communities of Amboy and Cadiz through microwave transmissions and underground local telecommunication lines. Local lines are limited to the communities north of the proposed Project site that are located along National Trails Highway. Each of the railroad companies that traverse the Project area, BNSF and ARZC, have their own telephone lines located adjacent to and within the rights-of-way of their respective rail lines.

4.13.2 Regulatory Framework

State

California Fire Code

San Bernardino County has adopted the 2010 California Fire Code (2010 CFC; Title 24, Part 9), which includes fire codes for construction activities in Chapter 14. Requirements include the following:

- Designation of a person as the fire prevention program superintendent responsible for and with the authority to implement the fire prevention program and spill response plan.
- Requirements for the handling, storage, and disposal of flammable and combustible materials.
- Requirements for minimum 100 foot access to water supplies fire suppression.
- Requirements for portable fire extinguishers when flammable and combustible materials are used.
- Requirements that motorized vehicles are not located such that exhaust is discharged onto combustible materials and that the vehicles are not refueled while in operation.

California Department of Public Health

The California Department of Public Health, Division of Drinking Water and Environmental Management regulates public water systems. Regulatory responsibilities include the enforcement of the federal and State Safe Drinking Water Acts, the regulatory oversight of public water systems, issuance of water treatment permits, and certification of drinking water treatment and distribution operators. State regulations for potable water are contained primarily within Titles 22 and 17, Chapter 5 of the California Code of Regulations.

2005 California Energy Action Plan II and 2008 Update

The California Energy Action Plan II is the State's principal energy planning and policy document (California Energy Commission, 2005 updated 2008). The plan identifies state-wide energy goals, describes a coordinated implementation plan for State energy policies, and identifies specific action areas to ensure that California's energy is adequate, affordable,

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, pages 5-224.

technologically advanced, and environmentally sound. In accordance with this plan, the first priority actions to address California's increasing energy demands are energy efficiency and demand response (i.e., reduction of customer energy usage during peak periods in order to address system reliability and support the best use of energy infrastructure). Additional priorities include the use of renewable sources of power and distributed generation (i.e., the use of relatively small power plants near or at centers of high demand). To the extent that these actions are unable to satisfy the increasing energy and capacity needs, clean, and efficient fossil-fired generation is supported.

Protection of Underground Infrastructure

California Government Code Section 4216-4216.9 "Protection of Underground Infrastructure" requires an excavator to contact a regional notification center (e.g., Underground Services Alert or Dig Alert) at least two days prior to excavation of any subsurface installations. Anyone seeking to begin a project that could damage underground infrastructure can call Underground Service Alert, the regional notification center for Southern California. Underground Service Alert will notify the utilities that may have buried lines within 1,000 feet of the Project. Representatives of the utilities are then notified and are required to mark the specific location of their facilities within the work area prior to the start of Project activities in the area.

California Integrated Waste Management Act of 1989

Assembly Bill (AB) 939 was signed into law on September 29, 1989. AB 939 created the California Integrated Waste Management Board (CIWMB) and requires that all cities and counties have Integrated Waste Management Plans. (Public Resources Code, § 42920.) Essentially, it requires all California cities and counties to achieve a 50% diversion rate by 2000. The Act requires every city and county to prepare a Source Reduction and Recycling Element (SRRE) with its Solids Waste Management Plan. (Pub. Resources Code, § 41780.) The purpose of AB 939 is to facilitate reduction, recycling, and re-use of solid waste to the greatest extent possible.

The California Solid Waste Reuse and Recycling Access Act of 1991 (as amended) requires each development project to provide an adequate storage area for collection and removal of recyclable materials.

County and Local

The State of California Government Code establishes an exemption for "the location or construction of facilities for the production, generation, storage, treatment, or transmission of water..." from county or city building and zoning ordinances. (Gov. Code §§ 53091(d), (e)) The implementation of the Project by SMWD would be covered under this exemption for the construction and operation of facilities that are used to produce, store and transmit water. The following discussion is provided for context to assess the Project's consistency with the County policies.

San Bernardino County Septic System Requirements

The San Bernardino County Code contains the locally adopted standards and requirements for onsite sewage disposal systems developed to implement the RWQCB's water quality requirements. The County reviews specifications, location, and design of proposed wastewater disposal systems; however, the final approval of septic systems rests with the RWQCB. Permits are obtained through the San Bernardino County Building and Safety Division.

4.13.3 Impact and Mitigation Analysis

Significance Criteria

Based on the *CEQA Guidelines*, Appendix G, a project may be deemed to have a significant effect on the environment with respect to public services and utilities if it would:

- Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:
 - Fire protection;
 - Police protection;
 - Schools;
 - Parks; or
 - Other public facilities.
- Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board;
- Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects;
- Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects;
- Require new or expanded water supply resources or entitlements;
- Result in a determination by the wastewater treatment provider which serves or may serve the Project that it has inadequate capacity to serve the Project's projected demand in addition to the provider's existing commitments;
- Be served by a landfill with insufficient permitted capacity to accommodate the Project's solid waste disposal needs; or
- Not comply with federal, State, and local statutes and regulations related to solid waste.

The following significance threshold criteria are applicable in the evaluation of project impacts related to utility lines and energy use, and therefore have also been included herein:

- Disrupt local or regional utility lines; or
- Require a substantial increase in energy usage.

Methodology

Public service providers were contacted to confirm jurisdiction, capacity, and response times. Regional utilities that traverse the Project area were identified relative to Project components. Cadiz provided information on their agricultural operations relative to this section's significance criteria.

Groundwater Conservation and Recovery Component

Public Services

Significance Threshold

Would the proposed Project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services listed below?

- Fire protection;
- Police protection;
- Schools;
- Parks; or
- Other public facilities.

Impact Analysis

Fire Protection, Police and Emergency Services

The Groundwater Conservation and Recovery Component would construct new water conveyance infrastructure that would not significantly increase demand for fire protection, police, or medical services once constructed. During construction, approximately 240 workers would be located in the Project area (see **Table 3-5**) intermittently on-site at any given time, for a period of up to two years. As discussed above, Cadiz maintains fire suppression equipment, trained personnel, and an emergency evacuation plan for its agricultural operations that include the existing construction worker housing facilities. The existing Cadiz wells provide water for the fire suppression systems. The construction contractor would prepare and implement a fire prevention program and spill response plan consistent with the requirements of the 2010 CFC requirements for temporary fire control and emergency response.

Emergency medical service demand could increase during the summer months, due to the potential for workers to experience heat exhaustion and/or sunstroke during periods of extreme heat. In addition, accidents can occur during construction, necessitating emergency response and/or fire protection service calls to the Project site. The construction contractor would provide safety training to all construction workers and would have sufficient on-site medical supplies to address heat-related illness and minor injuries. The Cadiz agricultural operations have first aid

materials onsite and the site manager has been trained as a first responder. In addition, the existing Wonder Valley Fire Station has confirmed that it has the capacity to meet the minor increase in demand for fire and emergency services that could occur during construction of the Groundwater Conservation and Recovery Component without compromising existing level of service to other communities in their service area.¹⁸ The existing Cadiz airstrip can be used for emergency airlift to regional hospitals.

With respect to police services, according to Lieutenant Rich Boswell of the Morongo Basin Police Station, the Morongo Basin Police Station has the capacity to meet the minor increase in law enforcement service calls that could result during construction of the Groundwater Conservation and Recovery Component. The minor increase in emergency medical, police, and fire protection service calls during construction and operation would be short-term (1 to 2 years) and would not require the provision of new or the expansion of existing governmental facilities in order to maintain acceptable services to the Project area. This impact is therefore considered less than significant, and no mitigation measures would be required.

Schools and Libraries

The proposed Project would not construct or require the construction of permanent residential development, as operation of the proposed Project would not require a substantial number of new, full-time employees. Because the Project would not generate a long-term need for housing or school services, the Project would not result in the need to expand existing or construct new school or library facilities or affect school related services, and no mitigation measures would be required.

Hospitals

Similarly, because the proposed Project does not include residential development and would not bring a substantial number of new, full-time employees to the Project area, it would not result in substantial adverse physical impacts associated with the expansion of hospitals or other public facilities and no mitigation measures would be required.

Mitigation Measures

None required.

Significance Conclusion

Less than significant.

Expansion of New Wastewater Facilities and Compliance with Wastewater Requirements

Significance Threshold

Would the proposed Project exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?

¹⁸ Star Javier, District Coordinator, San Bernardino County Fire Department, *Phone conversation with ESA*, October 20, 2010.

Would the proposed Project require or result in the construction of new water or wastewater treatment facilities or the expansion of existing facilities, the construction of which could cause significant environmental effects?

Impact Analysis

Construction activities would involve approximately 240 workers intermittently on-site at any given time, for a period of up to two years. Currently, 40 to 100 workers are employed seasonally to harvest crops at the Cadiz agriculture operations. Wastewater service for the current seasonal work force is supplied through septic systems at the Cadiz Property and by portable sanitary units to serve a seasonal work force. Implementation of the Groundwater Conservation and Recovery Component would require increased use of portable sanitary units and septic disposal services. No new wastewater treatment systems including new septic systems would be constructed. The Groundwater Conservation and Recovery Component would not require that an existing publicly owned wastewater utility confirm that treatment capacity is available since no such facility exists in the area and since the Project would not permanently increase wastewater generation in the Project area. Therefore, the Groundwater Conservation and Recovery Component would have a less than significant impact on wastewater treatment.

Mitigation Measures

None required.

Significance Conclusion

Less than significant.

Storm Water Drainage Facilities

Significance Threshold

Would the proposed Project require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

Impact Analysis

The Groundwater Conservation and Recovery Component would not require the construction of new storm water drainage facilities or the expansion of existing facilities. Although the Groundwater Conservation and Recovery Component would create minor new impervious surfaces associated with the proposed wellfield, power distribution facilities, CRA tie-in, and pump station, the increase would not be substantially greater than existing conditions and would not substantially increase the volume of surface-water runoff. Currently, most storm water that falls in the Project area flows into natural drainage features and desert washes. Some precipitation infiltrates through the soils. The natural drainage systems in the area experience rare flood events that convey large amounts of runoff in short periods of time. Any additional runoff created by the minor amount of new impervious or hardened surfaces would be accommodated in these large natural wash systems.

Section 4.9, Hydrology and Water Quality discusses the BMPs that would be required as a part of the construction activities relative to the wellfield installation. This includes Mitigation Measures **HYDRO- 1** and **HYDRO-6**, copied below, that would reduce the construction impacts to less than significant with mitigation. The water conveyance pipeline would cross numerous drainages along the railroad easement. However, since the pipeline would be constructed 15 feet underground and more than 50 feet from the centerline of the railroad track, the pipeline would have no impact on existing surface water drainage. In addition, Mitigation Measure **UTIL-1** would require that the construction contractor restore the drainages to their original contours and flow capacity using the existing drainage diversion berms constructed by the railroads to convey surface runoff under the tressels built for this purpose. Impacts from the Groundwater Conservation and Recovery Component would therefore be reduced to less than significant with mitigation.

Mitigation Measures

UTIL-1: Storm water drainages traversed by the water conveyance pipeline alignment shall be returned to pre-construction conditions. Existing structures such as storm flow diversion berms, railroad facilities including bridge supports, access roads, and utility poles shall be returned to pre-construction conditions and protected from scouring by storm water flows, subject to the approval of the railroad owner.

Implement Mitigation Measures **HYDRO-1** and **HYDRO-6**.

Significance Conclusion

Less than significant with mitigation.

Expansion of New Water Supply Facilities

Significance Threshold

Would the proposed Project require new or expanded water supply resources or entitlements?

Would the proposed Project result in a determination by the wastewater treatment provider which serves or may serve the project that it has inadequate capacity to serve the Project's projected demand in addition to the provider's existing commitments?

Impact Analysis

The Groundwater Conservation and Recovery Component of the proposed Project would result in the construction of a wellfield, power distribution facilities, and a water conveyance pipeline to the CRA, the effects of which are discussed throughout this EIR. The Project would not increase local water demands, nor would the Project construct a distribution system locally or increase local demands that would require a local water distribution system. Potential impacts to groundwater supplies that serve the local area are addressed in Section 4.9, Hydrology and Water Quality. Impacts to local water service would be less than significant.

Mitigation Measures

None required.

Significance Conclusion

Less than significant.

Solid Waste

Significance Threshold

Would the proposed Project be served by a landfill with insufficient permitted capacity to accommodate the Project's solid waste disposal needs?

Would the proposed Project comply with federal, State, and local statutes and regulations related to solid waste?

Impact Analysis

The Project would comply with all federal, State, and local statutes and regulations related to solid waste. Solid waste would be disposed of at the Twentynine Palms Disposal Facility located at Landfill Road in the City of Twentynine Palms. As of March 2007, the landfill had a remaining capacity of 10,821,000 cubic yards, and an estimated closure date of 2076. Currently, the landfill is permitted to receive a maximum of 100 tons per day.¹⁹

Construction of the Groundwater Conservation and Recovery Component of the proposed Project would generate small quantities of waste associated with construction activities, worker meals, office record keeping, and related activities. Construction activities would not require the removal of soil from the Project area. Any excavated soils would be spread on site within the construction footprint. Waste material would be collected and periodically hauled off the site to be disposed of at the Twentynine Palms Disposal Facility.

Project operations would generate negligible quantities of solid waste associated with facilities operation and maintenance. Since sufficient capacity is available in the Twentynine Palms Landfill, the Groundwater Conservation and Recovery Component would result in a less than significant impact on solid waste disposal facility capacity.

Mitigation Measures

None required.

Significance Conclusion

Less than significant.

¹⁹ California Department of Resources Recycling and Recovery website, *Active Landfills Profile for USMC - 29 Palms Disposal Facility (36-AA-0067)*, <http://www.calrecycle.ca.gov/profiles/Facility/Landfill/LFProfile1.asp?COID=36&FACID=36-AA-0067>, accessed October 2010.

Disruption of Local and Regional Utilities

Significance Threshold

Would the proposed Project disrupt local or regional utility lines?

Impact Analysis

As shown on Figures 4.13-1 and 4.13-2, several high-pressure natural gas pipelines traverse the Mojave Desert in the Project vicinity. Two El Paso Natural Gas natural gas pipelines and a Southern California Gas Company natural gas pipeline cross Cadiz Property within the wellfield area. The wellfield manifold system and the conveyance pipeline would traverse these pipelines. If construction near these pipelines damaged one of the natural gas pipelines, catastrophic failure or rupture of the natural gas pipelines could cause explosions, create severe hazards for workers, and disrupt delivery of natural gas for long periods.

To avoid this potential impact, construction near these facilities would be conducted under the supervision of the pipeline owners, in compliance with all applicable worker safety laws. For pipeline crossings, the water pipeline would be placed under the gas pipeline at sufficient depth to avoid damaging the gas pipeline during construction and to avoid any connection between the two pipelines once buried. Mitigation Measure **UTIL-2** would ensure that under-crossings are designed and implemented safely, in accordance with industry standards and owner requirements.

If natural gas from one of the high-pressure pipelines is used to power the wellfield, a connection facility would be constructed in the pipeline on Cadiz Property. The pipeline owner would stipulate connection requirements. The connection would be constructed under the direction of the pipeline owner in compliance with worker safety regulations. The disruption of service created by this construction activity would be coordinated with the pipeline owner to minimize impacts to service providers.

The implementation of Mitigation Measure **UTIL-2** would reduce the potential impact to less than significant.

Mitigation Measures

UTIL-2: The owner of the natural gas pipelines traversing the Cadiz Property shall be notified in advance of construction activities near the pipelines sufficient to allow for supervision and approval by the owner of construction methods and pipeline under-crossing designs. The under-crossing designs shall require approval from the pipeline owner.

Significance Conclusion

Less than significant with mitigation.

Energy Usage

Significance Threshold

Would the proposed Project require a substantial increase in energy usage?

Impact Analysis

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. The Project would connect to the existing high-pressure gas lines traversing the site. If a forebay and pump station is required, an additional 22 million kWh/year would be required.

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.²⁰ The Groundwater Conservation and Recovery Component would require 3,112 kWh/MG to convey water to the CRA. Once in the CRA the Project would not increase the CRA's overall energy usage.

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 3,112 kWh/MG, which is less than half the energy required to convey the same amount of water through the SWP.²¹ 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.

To support the California Energy Action Plan II to reduce the State's overall energy usage, the Project would incorporate energy efficient pumps, lighting, and other equipment to minimize energy impacts.²² Mitigation Measure **UTIL-3** would require the installation of energy efficient equipment consistent with County goals of reducing GHG emissions.

Refer to Section 4.4-3, Air Quality and 4.4-7, Greenhouse Gas Emissions for further discussion dealing with energy usage.

Mitigation Measures

UTIL-3: Pumps installed as part of the Project shall be rated for high efficiency to minimize energy consumption.

Significance Conclusion

Less than significant with mitigation.

²⁰ 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 Metropolitan's Colorado Rive Aqueduct Power Operations*, October 2006, table 4.

²¹ California Energy Commission, *California's Water – Energy Relationship*, November 2005, Figure 2-2 and page 23.

²² California Energy Commission, *California Energy Action Plan*, 2005.

Imported Water Storage Component

This component is analyzed on a programmatic basis.

Public Services

Significance Threshold

Would the proposed Project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services listed below?

- Fire protection;
- Police protection;
- Schools;
- Parks; or
- Other public facilities.

Impact Analysis

Fire Protection, Police and Emergency Services

The Imported Water Storage Component would construct new recharge basins, expand the wellfields on the existing Project site. Therefore, it would not significantly increase demand for fire protection, police, or medical services once constructed. During construction, additional construction workers would be located in the Project area, resulting in a temporary increase in demand for fire, police, and medical services. However, the number of construction workers would be less than needed for construction of the Groundwater Conservation and Recovery Component. Once constructed, operation of the facilities would not increase the need for these services. As discussed above, Cadiz maintains fire suppression equipment, trained personnel, and an emergency evacuation plan for its agricultural operations that include the existing construction worker housing facilities. The existing Cadiz wells provide water for the fire suppression systems. The construction contractor would prepare and implement a fire prevention program and spill response plan consistent with the requirements of the 2010 CFC requirements for temporary fire control and emergency response. Impacts to these local service providers would be less than significant.

Schools and Other Public Facilities

The proposed Project does not include permanent residential development, and operation of the Imported Water Storage Component would not require a substantial number of new, full-time employees. Because the proposed Project would not generate the need for local housing or school services, the Imported Water Storage Component would not result in the need to expand existing or construct new school facilities or affect school related services. Nor would the Imported Water Storage Component result in the expansion of hospitals, parks, or other public facilities.

Mitigation Measures

None required.

Significance Conclusion

Less than significant.

Expansion of New Wastewater Facilities and Compliance with Wastewater Requirements

Significance Threshold

Would the proposed Project exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?

Would the proposed Project require or result in the construction of new water or wastewater treatment facilities or the expansion of existing facilities, the construction of which could cause significant environmental effects?

Impact Analysis

The Imported Water Storage Component would not conflict with wastewater treatment requirements of the Colorado River Basin RWQCB because it would not involve permanent expansion of wastewater treatment facilities. Temporary increase in wastewater generation from construction workers would be accommodated using the existing septic and mobile sanitary systems currently employed for seasonal farm workers, as discussed above.

Mitigation Measures

None required.

Significance Conclusion

No impact.

Storm Water Drainage Facilities

Significance Threshold

Would the proposed Project require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

Impact Analysis

The Imported Water Storage Component of the Project proposes to expand the wellfield and construct spreading basins that would create new impervious or hardened surfaces associated with the expansion of the wellfield. Currently, storm water in the Project area either infiltrates directly or flows into natural drainage features and desert washes. Surface water draining from the Fenner Watershed flows into the Schuyler Wash adjacent to the proposed spreading basins. This wash experiences intermittent flows during storm events. When large storm events occasionally occur

in the desert, flash flood events can occur resulting in substantial volumes of water flowing through the valley in a short period of time. Currently, the railroads are equipped to accommodate these large flow events with armored over-crossings and storm flow diversion berms. The construction of the spreading basins could alter the existing drainage such that surface water flow is concentrated resulting in increased erosion.

Section 4.9, Hydrology and Water Quality discusses the BMPs that would be required as a part of the construction activities relative to the wellfield installation. This includes Mitigation Measures **HYDRO- 1** and **HYDRO-6**, copied above, that would reduce the construction impacts to less than significant with mitigation. In addition, Mitigation Measure **UTIL-4** would require that the construction contractor include constructing drainage features for the spreading basins that convey surface water flow around the basins, minimize the concentration of flow, and reduce the energy of the flows. Impacts from the Imported Water Storage Component would therefore be reduced to less than significant with mitigation.

Impacts from the Imported Water Storage Component of the proposed Project would be less than significant with implementation of mitigation.

Mitigation Measures

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.

Implement Mitigation Measures **HYDRO-1** and **HYDRO-6**.

Significance Conclusion

Less than significant with mitigation.

Expansion of New Water Supply Facilities

Significance Threshold

Would the proposed Project require new or expanded water supply resources or entitlements?

Would the proposed Project result in a determination by the wastewater treatment provider which serves or may serve the project that it has inadequate capacity to serve the Project's projected demand in addition to the provider's existing commitments?

Impact Analysis

The Imported Water Storage Component of the Project proposes to expand the wellfield and construct spreading basins to serve the water supply infrastructure serving Project participants. No new local water demands would be generated by the Project. Potential impacts to groundwater

supplies serving local demands are discussed in Section 4.9, Hydrology and Water Quality of this EIR.

Mitigation Measures

None required.

Significance Conclusion

Less than significant.

Solid Waste

Significance Threshold

Would the proposed Project be served by a landfill with insufficient permitted capacity to accommodate the Project's solid waste disposal needs?

Would the proposed Project comply with federal, State, and local statutes and regulations related to solid waste?

Impact Analysis

The Imported Water Storage Component of the Project proposes to expand the wellfield and construct spreading basins which would generate small quantities of construction waste associated with construction activities, worker meals, office record keeping, etc. This waste material would be collected and periodically hauled off the site to be disposed of at the Twentynine Palms Disposal Facility. Proposed Project operations would generate only negligible quantities of solid waste associated with permanent employee activities such as maintenance. Since sufficient capacity is available in the Twentynine Palms Landfill for these small quantities, the proposed Project would not adversely result in a significant impact regarding solid waste disposal facility capacities. Therefore, impacts from the Imported Water Storage Component of the proposed Project would be less than significant.

Mitigation Measures

None required.

Significance Conclusion

Less than significant.

Disruption of Local and Regional Utilities

Significance Threshold

Would the proposed Project disrupt local or regional utility lines?

Impact Analysis

The Imported Water Storage Component of the Project proposes to expand the wellfield and construct spreading basins. As shown on Figures 4.13-1 and 4.13-2, several high-pressure natural

gas pipelines traverse the Mojave Desert in the Project vicinity. Two El Paso Natural Gas Company natural gas pipelines and a Southern California Gas Company natural gas pipeline cross Cadiz Property within the wellfield area. The wellfield manifold system and the conveyance pipeline would traverse these pipelines. The expanded wellfield may require additional crossings of the underground utilities. Mitigation Measure **UTIL-2** would ensure that existing utilities would not be adversely affected.

Mitigation Measures

Implement Mitigation Measure **UTIL-2**.

Significance Conclusion

Less than significant with mitigation.

Energy Usage

Significance Threshold

Would the proposed Project require a substantial increase in energy usage?

Impact Analysis

The Imported Water Storage Component of the Project proposes to expand the wellfield and construct spreading basins which would increase energy usage by increasing the flow of water in the pipeline in both directions. Conveying water from the CRA to the wellfield would require approximately twice as much energy as the Groundwater Conservation and Recovery Component. This additional energy would add to the overall energy requirements of the Imported Water Storage Component.

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. The additional wells would be powered by natural gas supplied from the natural gas pipeline traversing the Cadiz property. This would double the energy consumption to approximately 100 million kWh/year, but would not change the amount of energy needed per million gallons conveyed (3,112 kWh/MG). As discussed for the Groundwater Conservation and Recovery Component, the amount of energy per gallon required to convey water to the CRA is less than half of the consumption of the SWP systems to convey the same amount of water. The additional energy would not be wasteful since much of the water would be replacing supplies that otherwise would be imported longer distances requiring greater energy demand. As a result, the additional energy requirements would not be significant.

Mitigation Measures

None required.

Significance Conclusion

Less than significant.

Mitigation Measure Summary Table

Table 4.13-1 presents the impacts and mitigation summary for Public Services and Utilities.

**TABLE 4.13-1
 IMPACTS AND MITIGATION SUMMARY**

Proposed Project Impact	Mitigation Measure	Significance Conclusion
Groundwater Conservation and Recovery Component		
Public Services	None required	Less than significant
Expansion of New Wastewater Facilities and Compliance with Wastewater Requirements	None required	Less than significant
Storm Water Drainage Facilities	HYDRO-1, HYDRO-6, and UTIL-1	Less than significant with mitigation
Expansion of New Water Supply Facilities	None required	Less than significant
Solid Waste	None required	Less than significant
Disruption of Local and Regional Utilities	UTIL-2	Less than significant with mitigation
Energy Usage	UTIL-3	Less than significant with mitigation
Imported Water Storage Component		
Public Services	None required	Less than significant
Expansion of New Wastewater Facilities and Compliance with Wastewater Requirements	None required	No impact
Storm Water Drainage Facilities	HYDRO-1, HYDRO-6, and UTIL-4	Less than significant with mitigation
Expansion of New Water Supply Facilities	None required	Less than significant
Solid Waste	None required	Less than significant
Disruption of Local and Regional Utilities	UTIL-2	Less than significant with mitigation
Energy Usage	None required	Less than significant