Initial Study
and
Mitigated Negative Declaration

for

Additional Mitigation Projects Developed by the MOU Ad Hoc Group

Los Angeles Department of Water
Environmental Services
111 North Hope Street, Room 1044
Los Angeles, CA 90012

February 2010

CITY OF LOS ANGELES

OFFICE OF THE CITY CLERK
ROOM 395, CITY HALL
LOS ANGELES, CALIFORNIA 90012

CALIFORNIA ENVIRONMENTAL QUALITY ACT

MITIGATED NEGATIVE DECLARATION

(Article I, City CEQA Guidelines)

LEAD CITY AGENCY AND ADDRESS:	**COUNCIL DISTRICT**
LOS ANGELES DEPARTMENT OF WATER AND POWER (LADWP) 111 NORTH HOPE STREET, ROOM 1044 LOS ANGELES, CA 90012	N/A
PROJECT TITLE: Additional Mitigation Projects Developed by the MOU Ad Hoc Group	**CASE NO.** N/A

PROJECT LOCATION: The eight mitigation areas are located on LADWP-owned lands in the Owens Valley, Inyo County. Freeman Creek is located west of Hwy 395, approximately 7.5 miles south of Bishop. The Hines Spring Well 355 mitigation and the Hines Spring Aberdeen Ditch mitigation are located immediately east of Hwy 395, approximately 13 miles south of Big Pine and 13 miles north of Independence. The North of Mazourka Canyon Road mitigation site is located east of Hwy 395, approximately 2.5 miles east of Independence. The Homestead mitigation site is located east of Hwy 395, approximately 4 miles east-southeast of Independence, and just west of the Lower Owens River. The Well 368 mitigation site is located east of Hwy 395, approximately 4 miles southeast of Independence and west of the Owens River. The Diaz Lake mitigation site is located west of Hwy 395, approximately 3 miles south of Lone Pine. The Warren Lake mitigation is located west of Hwy 395, approximately 3 miles northwest of Big Pine.

DESCRIPTION: The 1997 Memorandum of Understanding (MOU) among LADWP, Inyo County, California Department of Fish and Game (CDFG), the California State Lands Commission (SLC), the Sierra Club, the Owens Valley Committee (OVC), and Carla Scheidlinger outlines the requirement for additional commitments to those identified in the 1991 Environmental Impact Report (EIR) concerning LADWP's groundwater pumping and related activities (LADWP, 1991). Section III.A.3. Additional Mitigation of this MOU describes the commitment to supply 1,600 AF of water per year (AF/yr) for 1) the implementation of the on-site mitigation measure at Hines Spring identified in the 1991 EIR, and 2) the implementation of on and/or off-site mitigation in addition to that identified in the 1991 EIR for impacts that occurred at Fish Springs, Big and Little Blackrock Springs, and Big and Little Seely Springs.

With the goal of identifying reasonable and feasible measures that would provide the most environmental benefits that can be achieved with the available water, an Ad Hoc group consisting of representatives from the MOU Parties and affected ranchers (LADWP lessees) defined habitat enhancement projects at eight sites: Freeman Creek (215 AF/yr), Hines Spring Well 355 (240 AF/yr), Hines Spring Aberdeen Ditch (145 AF/yr), North of Mazourka Canyon Road (300 AF/yr), Homestead (300 AF/yr), Well 368 (150 AF/yr), Diaz Lake (250 AF/yr), and Warren Lake (to be determined annually to balance the 1,600 AF commitment). Through distribution of allocated water at each site, the Additional Mitigation Projects will enhance and create riparian, aquatic, wetland and/or spring habitats.

NAME AND ADDRESS OF APPLICANT IF OTHER THAN CITY AGENCY: None

FINDING:

See the attached Initial Study.

SEE THE ATTACHED PAGES FOR ANY MITIGATION MEASURES IMPOSED.

Any written objections received during the public review period are attached, together with the responses of the lead City agency.

THE INITIAL STUDY PREPARED FOR THIS PROJECT IS ATTACHED.

PERSON PREPARING THIS FORM	**ADDRESS**	**TELEPHONE NUMBER**
Irene Paul	111 North Hope Street, Room 1044 Los Angeles , CA 90012	(213) 367-3509

SIGNATURE (Official)	**DATE**
Charles C. Holloway Charles C. Holloway, Manager of Environmental Planning and Assessment	1/21/2010

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CEQA Initial Study
And Mitigated Negative Declaration

Additional Mitigation Projects Developed by the MOU Ad Hoc Group

February 2010

Interim General Manager
S. David Freeman

Senior Assistant General Manager – Water System
James B. McDaniel

Manager, Aqueduct Business Group
Gene Coufal

Director of Environmental Services
Mark J. Sedlacek

Prepared by:

Los Angeles Department of Water and Power
111 North Hope Street, Room 1044
Los Angeles, CA 90012

Technical Assistance Provided by:

MWH Americas, Inc.
618 Michillinda Avenue, Suite 200
Arcadia, California 91007

Los Angeles Department of Water and Power

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Project and Agency Information

1.1 PROJECT TITLE AND LEAD AGENCY

Project Title:	Additional Mitigation Projects Developed by the MOU Ad Hoc Group
Lead Agency Name:	Los Angeles Department of Water & Power
Lead Agency Address:	111 North Hope Street, Room 1044 Los Angeles, California 90012
Contact Person:	Ms. Irene Paul
Contact Phone Number:	(213) 367-3509
Project Sponsor:	Same as Lead Agency

1.2 PROJECT BACKGROUND AND OBJECTIVES

The City of Los Angeles Department of Water and Power (LADWP) has prepared this Initial Study (IS) to address the impacts of construction and operation of the Additional Mitigation Projects Developed by the MOU Ad Hoc Group (2008) (proposed project). The mitigation projects will supply a total of 1,600 acre-feet (AF) of water per year at eight sites in the Owens Valley for habitat enhancement. The IS serves to identify the site-specific impacts, evaluate their potential significance, and determine the appropriate document needed to comply with the California Environmental Quality Act (CEQA). Based on this IS, a Mitigated Negative Declaration (MND) is the appropriate CEQA document. Staff recommends that the LADWP Board of Commissioners adopt this IS/MND for the proposed project.

1.2.1 Project Background

The 1997 Memorandum of Understanding (MOU) among LADWP, Inyo County, California Department of Fish and Game (CDFG), the California State Lands Commission (SLC), the Sierra Club, the Owens Valley Committee (OVC), and Carla Scheidlinger outlines the requirement for additional commitments to those identified in the 1991 Environmental Impact Report (EIR) concerning LADWP's groundwater pumping and related activities (LADWP, 1991). Section III.A.3. Additional Mitigation of this MOU describes the commitment to supply 1,600 AF of water per year (AF/yr) for 1) the implementation of the on-site mitigation measure at Hines Spring identified in the 1991 EIR, and 2) the implementation of on and/or off-site mitigation in addition to that identified in the 1991 EIR for impacts that occurred at Fish Springs, Big and Little Blackrock Springs, and Big and Little Seely Springs.

After determination of the water requirements of the mitigation measure at Hines Spring, LADWP, Inyo County, and the Consultants (Ecosystem Sciences, Inc., ESI) evaluated opportunities for remaining water use at other mitigation sites. The goal was to identify reasonable and feasible measures which would provide the most environmental benefits that

could be achieved with the available water. The draft plans were revised by an Ad Hoc group consisting of representatives from the MOU Parties and affected ranchers (LADWP lessees) through a series of regular meetings. The Ad Hoc group used a consensus-based approach to select the proposed mitigation sites (Hines Spring plus seven additional sites) and to designate the annual allotment of water for each site.

Previous Environmental Documentation. The Hines Spring Well 355 mitigation project was specifically defined in the 1991 EIR and the 1997 MOU. The remaining seven mitigation projects were developed as additional off-site mitigation measures per the 1997 MOU.

1.2.2 Project Objectives

The Ad Hoc group defined, and LADWP proposes to implement, the Additional Mitigation Projects Developed by the MOU Ad Hoc Group in compliance with the MOU and the Third Amended Stipulation and Order related to the MOU (Case No. S1CVCV01-29768). The goal of implementing the Additional Mitigation Projects is to enhance and create riparian, aquatic, wetland and/or spring habitats. Project objectives for each mitigation site are summarized in **Table 1**.

Table 1
Objectives of the Additional Mitigation Projects

Location	Mitigation Project Objectives
Freeman Creek	• Divert Freeman Creek into ancestral washes to create a diverse riparian corridor • Provide water to lessee to increase pasture forage and to expand existing pasture • Manage project to comply with existing agreements, minimize invasive species, control mosquitoes, and prevent return flows to the LADWP aqueduct system
Hines Spring Well 355	• Restore flows to a portion of the spring channel system and an adjacent playa-like area to facilitate the re-establishment of riparian, aquatic, and spring habitats, and sub-irrigation of pasture/meadow • Create at least 1 to 2 acres of ponded water or wetland/riparian vegetation
Hines Spring Aberdeen Ditch	• Develop riparian, aquatic, and spring habitats, and sub-irrigation of pasture/meadow
North of Mazourka Canyon Road	• Create a functional spring habitat at an artesian well source • Create spring outflow channel and riparian habitat based on available water flow • Channel outflow into pond habitat at Well F045A • Construct a stock watering location via a solar pump at a monitoring well immediately north of well V008 • Maintain and monitor outflow channel habitat for proper functioning condition and sustainability
Homestead	• Use water from a new artesian well to be installed near artesian Well 044A and from existing multiple completion artesian Wells T774-T777

Location	Mitigation Project Objectives
	to create spring like habitat at the old homestead site • Increase the amount and diversity of vegetation cover • Increase the habitat for wildlife and waterfowl in the area • Provide the lessee with a consistent source of stock water
Well 368	• Create and enhance spring and riparian habitat, while maintaining or improving conditions for an existing population of endangered Owens pupfish • Provide redundancy in water supply to the existing habitat in the event that well F368 fails • Create a stock watering area in the vicinity to allow more flexible livestock management
Diaz Lake	• Secure water supply • Reduce dependence on pumping by Inyo County (from the Bairs-Georges wellfield) to supply the lake
Warren Lake	• Increase shorebird, waterfowl and wildlife habitat by providing additional water to the site

1.3 PROJECT LOCATION AND ENVIRONMENTAL SETTING

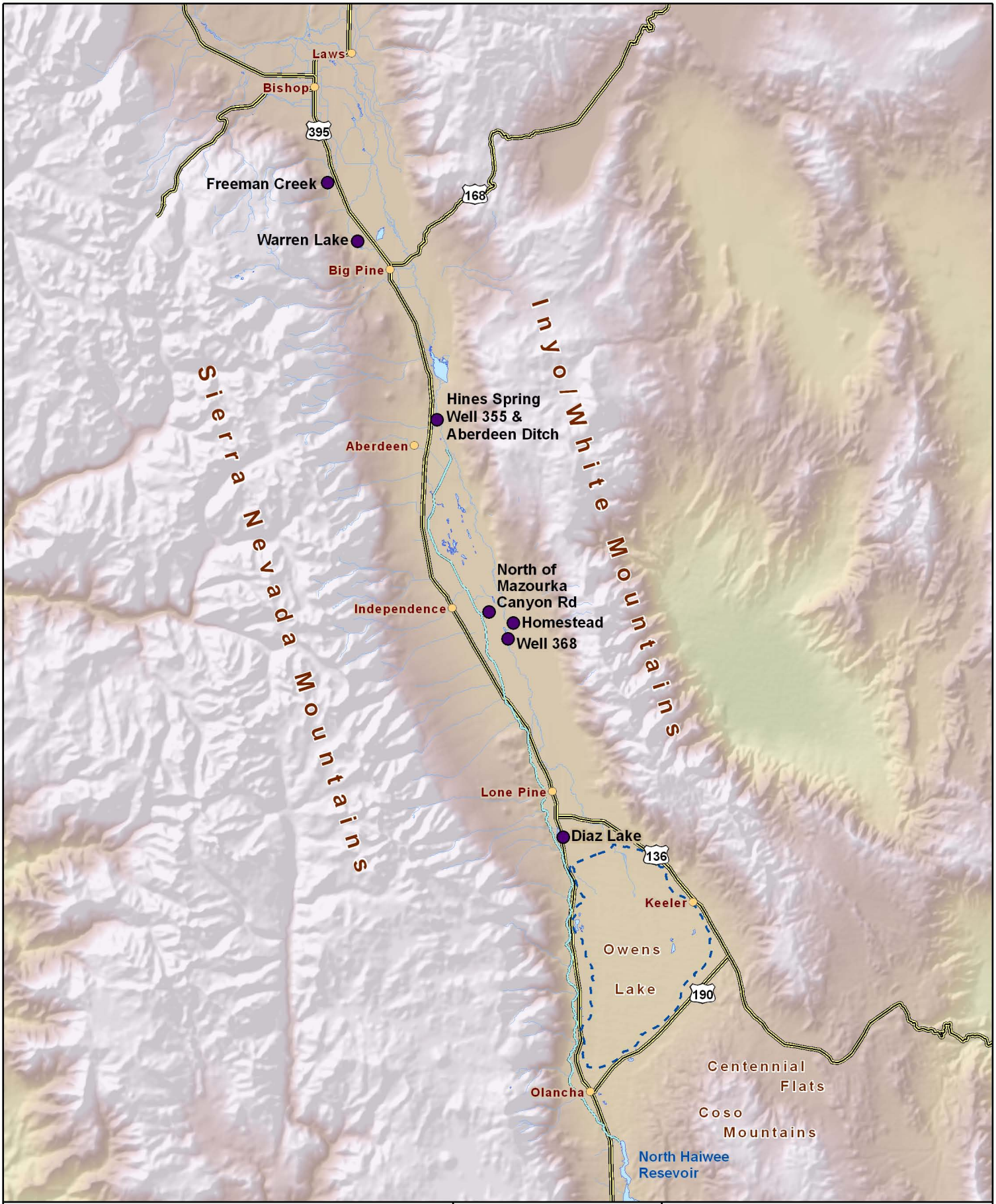
The eight mitigation areas are located on LADWP-owned lands in the Owens Valley, Inyo County (**Figure 1**).

1.3.1 Freeman Creek

The Freeman Creek mitigation site is located on the Poleta Canyon 7.5 minute U. S. Geological Survey (USGS) quadrangle, and the latitude/longitude of the approximate center of the mitigation area is 37.260597°N/118.375924°W, Sections 8 and 17, Township 8S Range 33E, Mount Diablo Baseline and Meridian (MDBM). The Freeman Creek mitigation site is located west of US Highway 395, approximately 7.5 miles south of Bishop. The mitigation site is part of the 9,177-acre Big Pine Canal Livestock Grazing Lease (RLI-438) managed by Ron Yribarren as a cow-calf operation. The project site includes areas of Alkali Meadow, Big Sagebrush Scrub, and Rush Sedge Meadow. The nearest development is Keough's Hot Spring Resort, located upstream and southwest of the mitigation area.

1.3.2 Hines Spring Well 355 and Hines Spring Aberdeen Ditch

The Hines Spring Well 355 mitigation site and the Hines Spring Aberdeen Ditch mitigation site are located on the Blackrock 7.5 minute USGS quadrangle, and the latitude/longitude of the approximate center of the mitigation areas is 37.006206°N/118.224025°W, Section 11, Township 11S Range 34E, MDBM. The mitigation areas are located immediately east of Hwy 395, approximately 13 miles south of Big Pine and 13 miles north of Independence. The area is part of the 3,081-acre Aberdeen Livestock Grazing Lease (RLI-479) managed by Dennis Winchester as a horse and mule commercial packer operation. This area is an historic spring vent area with adjacent playa.



Key to Features

- Towns
- Aqueduct
- Highways
- Rivers and Streams
- Owens Lake (Historic Shoreline)
- Mitigation Project Site

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Date: January 7, 2010

Additional Mitigation Projects Location Map

Los Angeles Department of Water & Power

Figure 1

MWH

1.3.3 North of Mazourka Canyon Road

The North of Mazourka Canyon Road mitigation site is located on the Independence 7.5 minute USGS quadrangle, and the latitude/longitude of the approximate center of the mitigation area is 36.799235°N/118.150489°W, SE ¼ of Section 15, Township 13S, Range 35E, MDBM. The mitigation area is located east of Hwy 395 (north of Mazourka Canyon Road, west of SCE power line) approximately 2.5 miles east of Independence. The project site is located within the 32,987-acre Blackrock Livestock Grazing Lease (RLI-428) managed by Mark Lacey of Lacey Livestock as a cow-calf operation with winter grazing November through June. Vegetation characteristic of Nevada Saltbush Scrub dominates the site. Existing Well V008 located on the site is used as a cattle supplement and watering site and, as a result, there is a high concentration of nutrients and disturbance at this location.

1.3.4 Homestead

The Homestead mitigation site is located on the Bee Springs Canyon 7.5 minute USGS quadrangle, and the latitude/longitude of the approximate center of the mitigation area is 36.78762°N/118.117838°W, SW ¼ of Section 24, Township 13S, Range 35E, MDBM. The mitigation area is located east of Hwy 395, approximately 4 miles east-southeast of Independence. The Homestead site is located within the 32,987-acre Blackrock Livestock Grazing Lease (RLI-428) managed by Mark Lacey of Lacey Livestock as a cow-calf operation. The southern portion of the site is an old homestead with an existing road that leads to Well 044A. The vegetation of the project area is Alkali Meadow.

1.3.5 Well 368

The Well 368 mitigation site is located on the Bee Springs Canyon 7.5 minute USGS quadrangle, and the latitude/longitude of the approximate center of the mitigation area is 36.770597°N/118.125222°W, SW ¼ of Section 24, Township 13S, Range 35E, MDBM. The mitigation area is located east of Hwy 395, approximately 4 miles southeast of Independence. Well 368 is located within the 32,987-acre Blackrock Livestock Grazing Lease (RLI-428) managed by Mark Lacey of Lacey Livestock as a cow-calf operation. The vegetation of the project area is mapped as Desert Greasewood Scrub and the existing flows from the well (approximately 0.1 cubic feet per second (cfs)) support a population of the federal and state endangered Owens pupfish (*Cyprinodon radiosus*).

1.3.6 Diaz Lake

Located about 3 miles south of Lone Pine, Diaz Lake is an approximately 75-acre lake leased from LADWP by Inyo County for a park and campground. Located on the Lone Pine 7.5 minute USGS quadrangle, the approximate latitude/longitude of the project site is 36.556744°N/118.048202°W, Section 10, Township 16S, Range 36E, MDBM.

1.3.7 Warren Lake

The Warren Lake mitigation site is located on the Big Pine 7.5 minute USGS quadrangle, and the latitude/longitude of the approximate center of the mitigation area is 37.197689°N/ 118.333969°W, Section 2, Township 9S, Range 33E, MDBM. The mitigation area is located west of Hwy 395, approximately 3 miles northwest of Big Pine. Big Pine Canal lies west of the project site. The mitigation area is part of the 20,800-acre Big Pine Parcel of the 4-J Cattle Lease (RLI-491) managed as a cow-calf operation by Mark Johns of the 4-J Cattle Company. The site is characterized by a playa that fills with water intermittently, overflowing to Klondike Lake (northeast of the site) during wet years. When the playa is covered with water, waterfowl and shorebirds use this shallow-water habitat for feeding and nesting.

1.4 PROJECT DESCRIPTION

Under the proposed project, LADWP will supply a total of 1,600 AF/yr of water for habitat enhancement at eight sites. The annual water allocation is summarized in **Table 2**.

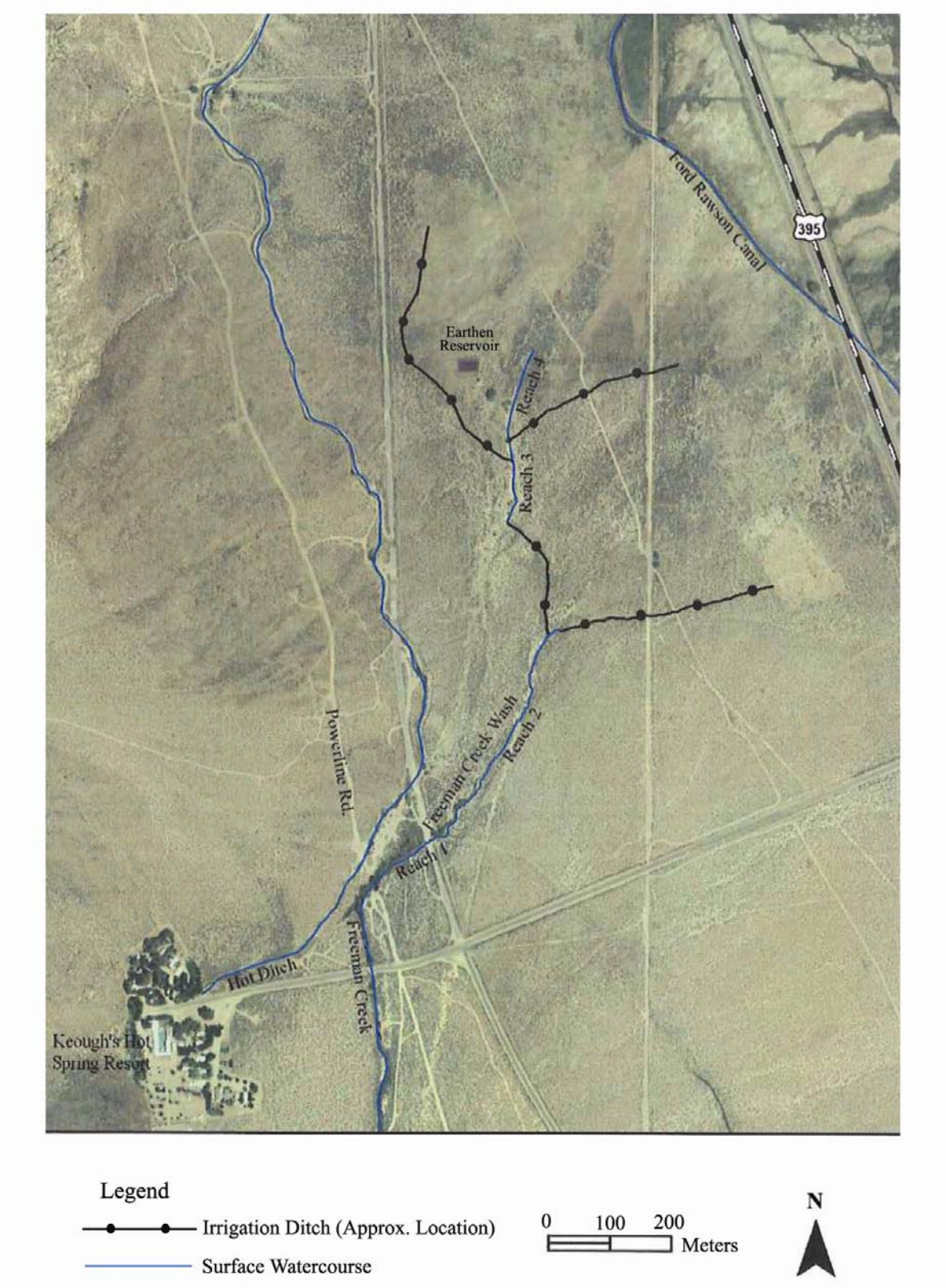
Table 2
Additional Mitigation Projects - Annual Water Allotment

Mitigation Area	Annual Water Allotment (acre-feet)
Freeman Creek	215
Hines Spring Well 355	240
Hines Spring Aberdeen Ditch	145
North of Mazourka Canyon Road	300
Homestead	300
Well 368	150
Diaz Lake	up to 250
Warren Lake	To be determined annually
TOTAL	**1,600**

1.4.1 Freeman Creek

Approximately 30 feet downstream of Powerline Road, Freeman Creek (a small perennial stream originating in the Sierra Nevada) divides into two channels (**Figure 2**). The northern branch flows to Hot Ditch; the southern branch eventually flows into the culvert under the highway and down Freeman Creek Wash. Water allotted to this project site will flow through the culvert under the highway into an ancestral wash. Water will also flow through on-site ditches and sub-irrigate a pre-1920's rectangular earthen reservoir (0.18 acres; 3 feet deep) located near the terminus of the wash to create shallow marsh habitat.

Figure 2
Freeman Creek – Proposed Project Facilities



Water reaching the lower end of the channels will be managed to benefit irrigated pasture and meadows and to prevent return flows into the LADWP aqueduct system (via Ford-Rawson canal). Ditches leading east of the watercourse will be used primarily in years of higher runoff to distribute water effectively and prevent excess irrigation in western portions of the pasture. Water below the incised portions of Freeman Creek and Keough's Wash will be made available to the lessee, who will have primary discretion on where and how to distribute water to increase pasture/alkali meadow habitat (potential increase estimated to be at least 20 acres). This will allow the lessee to cycle irrigation water between the eastern and western portions of the existing pasture.

The riparian corridors supplied with water by this project will support a vegetated strip consisting primarily of willow species with lower cover of cottonwood, birch, and herbaceous forbs. Distributed water will terminate at an existing irrigated/sub irrigated alkali meadow. It is anticipated that existing forage will improve and that sub-irrigation may create small wetlands in depressions in the existing pasture. Small seeps were reactivated when creek water was diverted into these lower portions of the project area in recent years. These seeps and possibly others would be expected to become established soon after initiation of the project.

At this time, tree removal, active plantings, and/or fence installation are not proposed at the Freeman Creek project site.

1.4.2 Hines Spring Well 355

The Hines Spring Well 355 project is specifically described in the 1991 EIR (Mitigation Measure 10-14 pg 10-62):

> *The Hines Spring vent and its surroundings will receive on site mitigation. Water will be supplied to the area from an existing, but unused LADWP well at the site" (Well 355). "As a result, approximately one to two acres will either have ponded water or riparian vegetation. Riparian trees and a selection of riparian herbaceous species will be planted on the banks. The area will be fenced." The EIR further states that "Hines Spring will serve as a research project on how to re-establish a damaged aquatic habitat and surrounding marshland."*

To meet the goals outlined in the 1991 EIR, this project, together with the Hines Spring Aberdeen Ditch project, will restore flows to a portion of the spring channel system and an adjacent playa-like area that will facilitate the re-establishment of riparian, aquatic, and spring habitats, and sub-irrigation of pasture/meadow for enhanced livestock grazing opportunities.

Well 355 will be equipped with a pump with a capacity of 153 gallons per minute (gpm) (0.34 cfs, 240 AF/yr) (**Figure 3**). A 6-inch diameter pipeline 150 meters (495 feet) long will be constructed from the well in a southeasterly direction into a portion of the historic spring vent channel that flows northeasterly, then southward onto a playa like area. The pipeline will be buried to a shallow depth of approximately 1 ft. An area/velocity (A/V) or other appropriate flow meter will be installed at the outflow end of the pipe to measure water delivery to the site. A 10-acre exclosure will be built around the project using 5-strand barbed wire to control livestock movement near newly established vegetation. There will be no surface water connection to the Hines Spring Aberdeen Ditch project.

Riparian trees and a selection of riparian herbaceous species will be planted along the channel using seeds from nearby sources hand collected and distributed. Specific locations for the distribution of seeds will be based on the observed flooding pattern.

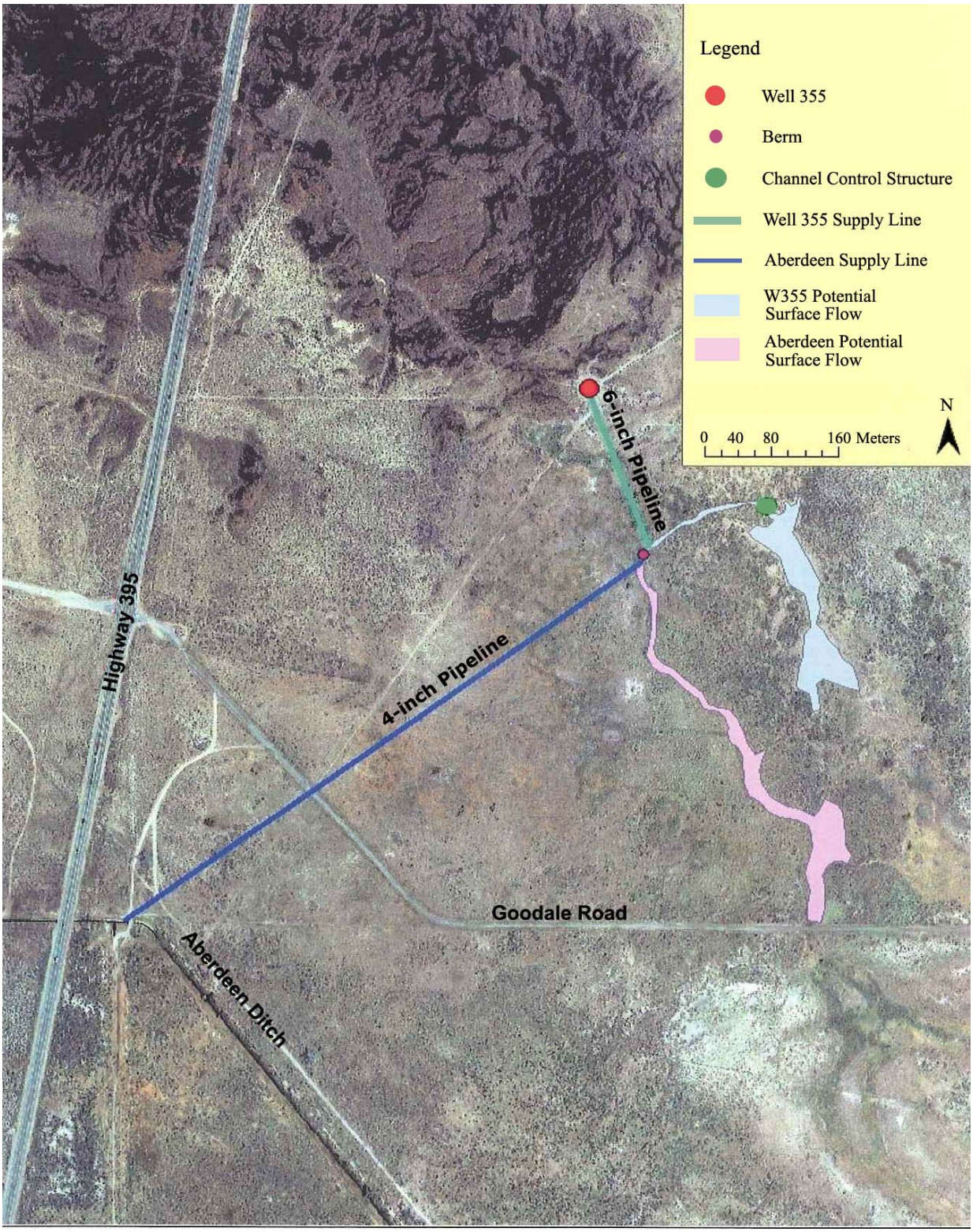
A control structure (concrete slab that serves as a barrier to flow) will be built into the channel at the point where water is diverted from the channel onto the playa. Water delivery may then be alternated between the channel that flows northeast and the playa area if tule management becomes necessary or if undesirable aquatic fauna become established. This would also allow the project to be extended to the northeast, if in time the soils become less permeable and the volume of water spreads further than anticipated. The project could also be expanded southward in the historic channel with the removal of a berm.

An adaptive management approach will be used to enhance mitigation efforts at this site. Land management activities may include changes in livestock grazing, invasive species treatment (especially for salt cedar), and pole plantings. Tree removal is not currently proposed. A number of livestock grazing changes would be possible if it were determined that grazing was impacting the success of the project. The exclosure fencing will include a number of gates that could be opened to allow limited grazing. Additional options are: temporary exclosures in conjunction with seeding or pole plantings in areas outside the main exclosure that could be moved as necessary to facilitate establishment of additional riparian species, creation of a larger pasture that could be grazed during a different portion of the year, or supplementation of livestock away from the area.

1.4.3 Hines Spring Aberdeen Ditch

Under the Hines Spring Aberdeen Ditch mitigation project, water will be transported from the Aberdeen Ditch to the historic Hines Spring channel (**Figure 3**). The goals of this project are the development of riparian, aquatic, and spring habitats, and sub-irrigation of pasture/meadow as described in the Hines Spring Well 355 project.

Figure 3
Hines Spring Well 355 and Aberdeen Ditch – Proposed Project Facilities



An existing diversion structure on Aberdeen Ditch will be modified to divert 0.2 cfs (145 AF/yr) from the ditch through a french drain (ditch covered with gravel or rock) or other suitable fish barrier, into a 4-inch diameter pipeline (Aberdeen Supply Line). The 2,500-ft pipeline will extend from the diversion to the channel area. Water from the ditch will then flow southward in a historic spring channel (area shaded pink on Figure 3) and will be kept separate from the surface flows released from the Hines Spring Well 355 project (area shaded blue on Figure 3). An A/V or other appropriate flow meter will be installed at the outflow of the pipe to measure water delivery to the site.

As described above for the Well 355 project, an adaptive management approach will be used to enhance mitigation efforts at this site.

1.4.4 North of Mazourka Canyon Road

At this site two artesian wells will be developed to create physical conditions and habitat types consistent with Owens Valley springs. Flows from Well V008GP (previously installed as part of the LADWP/ Inyo County Water Department (ICWD) Cooperative Drawdown Study) will be conveyed in a 10-inch pipeline to an outflow channel east of the SCE Powerline Road (**Figure 4**). From that point a riparian/alkali meadow reach will follow existing drainage features, and terminate at a pond habitat west of the Owens Valley Fault at well F045A. A stock watering trough will be constructed near the current watering site at Well V008GP. Well V008GP may be retrofitted with a tee and valve system to supply both this trough and the outflow channel; total flows from this well will be 150 AF/yr.

A second artesian well will be installed north of the outflow channel. Flow from this well (150 AF/yr) will be conveyed in a 6-inch diameter buried pipeline to the outflow from Well V008GP so that the channel can continue below the pond, across the Owens Valley fault to an existing sag pond, and eastward towards a terrace on the Owens River. A weir or other appropriate measuring device will be installed east of Powerline Road below the confluence of both well channels to allow flow measurement.

Fencing may be installed at the pipe outlet for habitat protection, along the riparian outflow channel as part of temporary or seasonal (spring) exclosures, and around the pond habitat if necessary.

1.4.5 Homestead

Currently, water leaking from the Stevens Ditch and multiple completion artesian Wells T774-T777 (labeled as T775 on **Figure 5**) (approximate flow rate of 0.2 cfs; 150 AF/yr) supports vegetation on the northern portion of the site. On the southern portion of the site, an old spring channel leads east from Well 044A and splits into several other channels. Well 044A has very little flow due to a collapsed or clogged casing. The pond area is currently dry but it has outlets located on the north and south ends.

Figure 4
North of Mazourka Canyon Road – Proposed Project Facilities

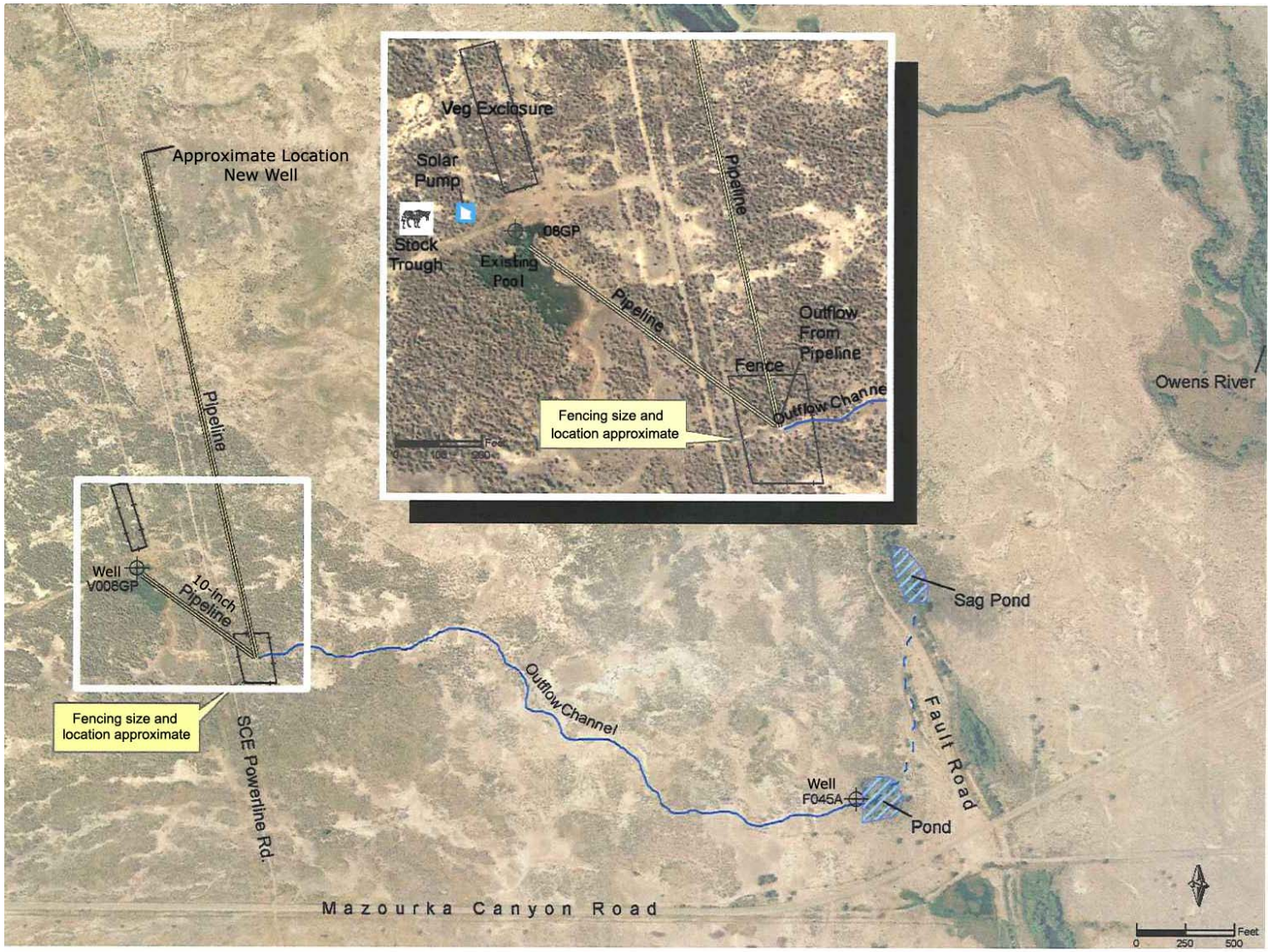
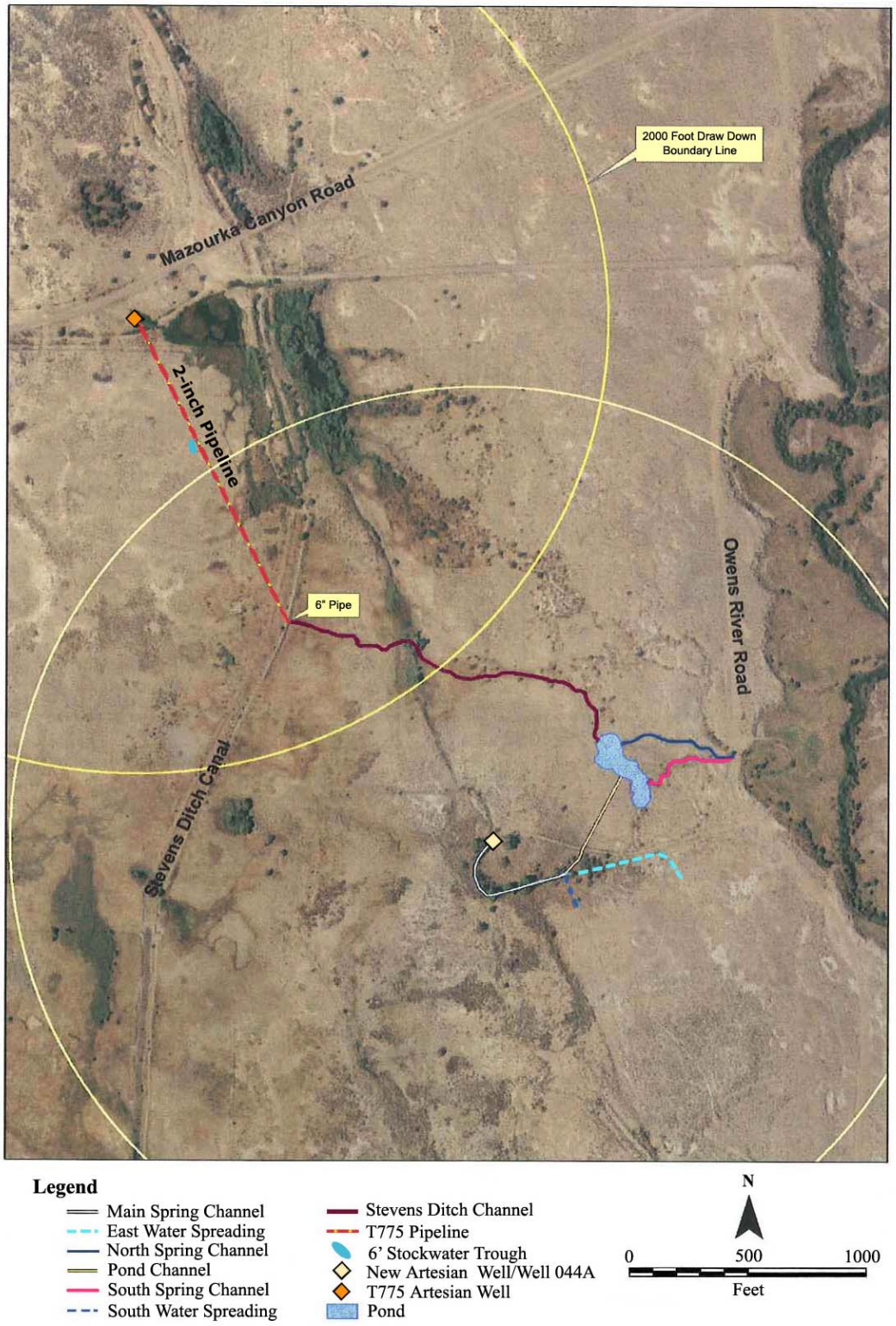


Figure 5
Homestead – Proposed Project Facilities



The project consists of drilling a new artesian well at the Well 044A location with an approximate flow rate of 0.2 cfs (150 AF/yr). Water will flow south and then east and downgradient in what will be called the Main Spring Channel (464 feet) to a pond approximately 1 acre in area. A diversion will be built 200 feet downstream on the Main Spring Channel in order to divert excess water to the south for irrigation. The 1-acre pond area has two existing outflow channels identified as the North Spring Channel (488 feet) and South Spring channel (433 feet). These channels drain east towards the Owens River Road where there is an old culvert that spills onto the Owens River floodplain.

The project also includes capping Wells T774-T777 located in the northwest portion of the project site along Mazourka Canyon Road and piping the flows in a buried 2-inch PVC pipe that will head southeast approximately 770 feet to a stock water trough (6 foot diameter). The trough will be plumbed with an on/off valve and float by installing a tee in the main 2-inch diameter PVC artesian pipeline. This will allow the flows to remain constant and continue on for another 770 feet to a valve box located on the west side of the Stevens Ditch Canal. The valve box will allow the flow to be regulated before it enters a 6-inch pipeline. The 6-inch pipeline will flow to an existing channel that will be called the Stevens Ditch Channel. The Stevens Ditch Channel will then flow 1,314 feet southeast to the 1-acre pond, which lies southeast and down slope allowing the natural gradient to convey the water.

Project creation of 3,860 ft of spring channels and approximately 1 acre of pond will increase the amount and diversity of vegetation cover and the amount of wildlife and waterfowl in the area, while providing the lessee with a consistent source of stock water.

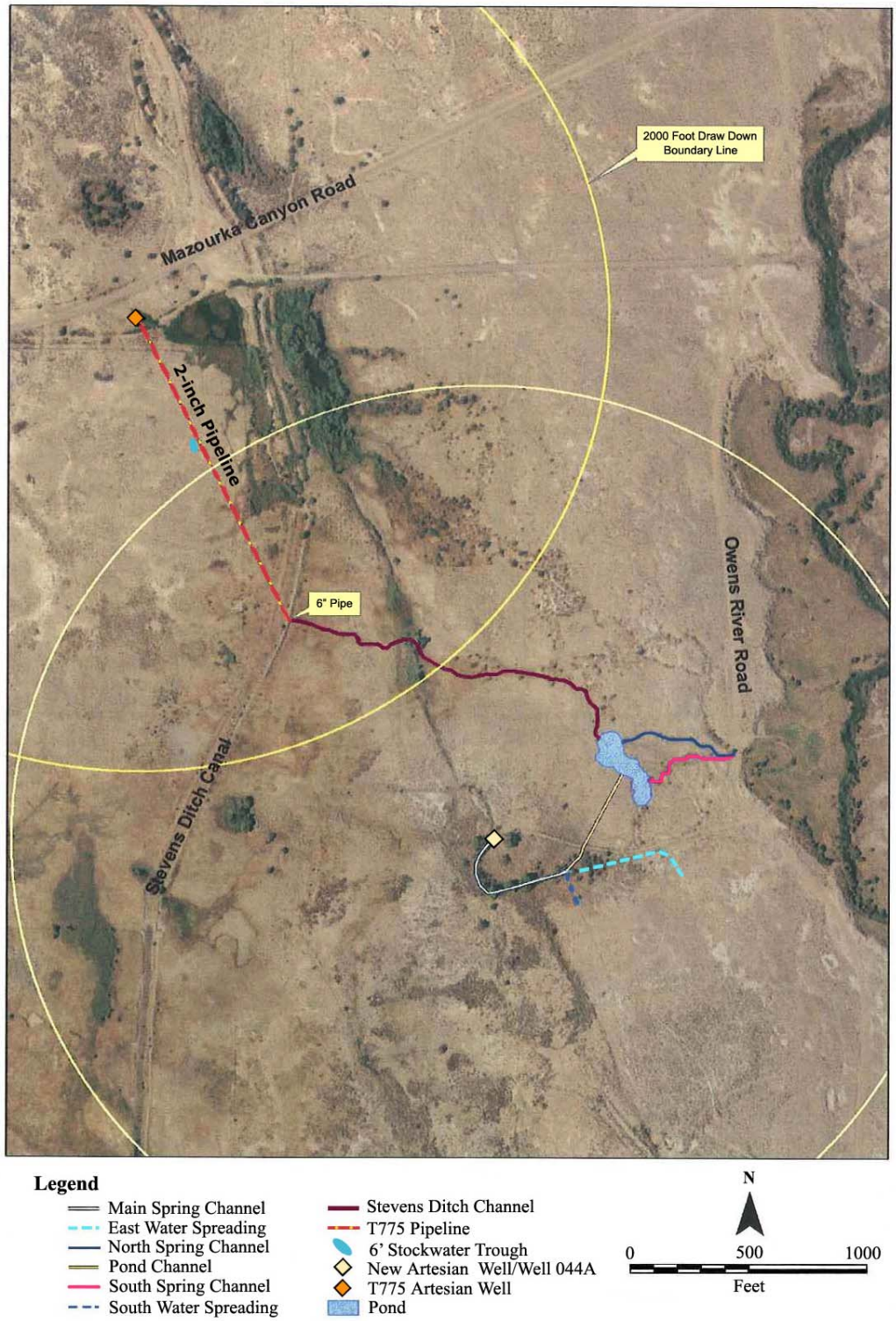
Under an adaptive management approach, flow regulation will be changed, if needed, to prevent excess water from reaching the Owens River. This irrigation water will be sent south or east out of the Main Spring Channel. Grazing and recreation management will not change unless there is a negative impact to the project area.

No fencing is proposed at this time at the Homestead mitigation project site.

1.4.6 Well 368

Artesian Well F368 (**Figure 6**) was drilled in 1978 to a depth of 200 feet below ground surface (bgs) and screened between 150 and 180 feet bgs. Current flows (approximately 0.1 cfs) have supported aquatic habitat and a population of Owens pupfish since 1986. To create and enhance spring and riparian habitat maintained by the existing flow, and to provide a redundant water supply in the event that Well F368 fails, a new well will be installed to the north. Water from the new well will be conveyed and released in a drainage that leads to the habitat maintained by well F368.

Figure 6
Well 368 – Proposed Project Facilities



To minimize the effect of the radius of influence of the new artesian well on the current artesian well, it will be drilled at least 2,000 feet away. The new well will be drilled to approximately 500 feet bgs, sufficient to draw from the deep aquifer. The water will be conveyed in a 6-inch pipeline (buried to a depth of 1 foot) roughly following the Owens River Road to a small drainage north of Well F368. The water will then flow out of the pipeline for 82 feet in a southwesterly direction along an abandoned road alignment, joining the existing channel about 180 feet downstream of the current well. An A/V or other appropriate measuring device will be installed at the end of the pipeline in order to measure water delivered to the site. This supplemental water will create spring habitat in the new channel and augment existing habitat downstream of the confluence.

A cattle trough with a float to regulate flow will be installed adjacent to the new artesian well where a portion of the water will be diverted for cattle watering. The majority of the area around Well F368 is currently fenced.

Under an adaptive management approach, planting, seeding, or other measures may be implemented in the future to facilitate recruitment if recruitment of woody riparian or wetland species does not occur.

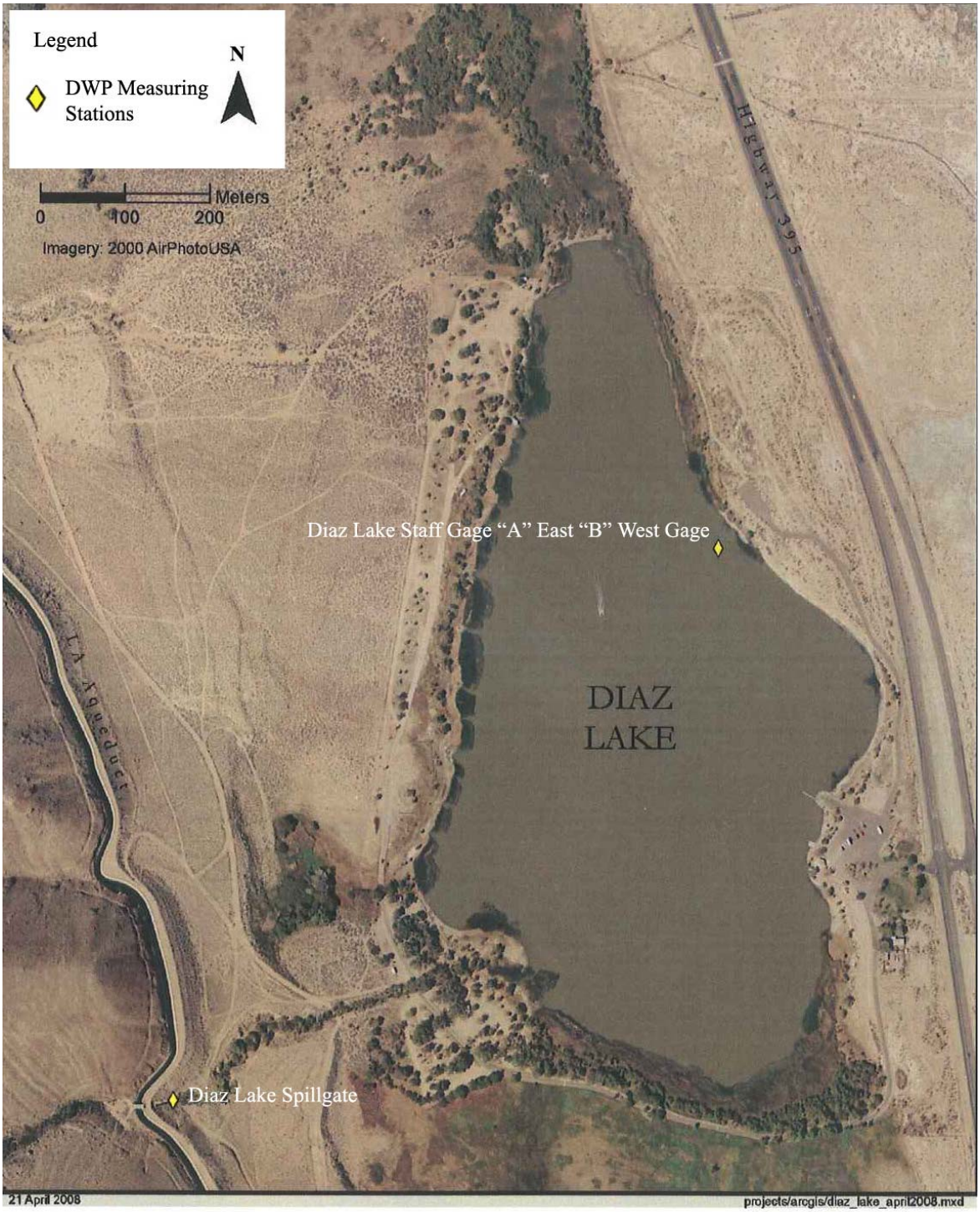
1.4.7 Diaz Lake Mitigation Project

Since natural inflow to Diaz Lake (**Figure 7**) is limited, water releases to the lake are required to maintain lake levels. Under existing conditions, planned releases occur when requested by Inyo County or when necessary to manage Los Angeles Aqueduct (Aqueduct) flows. Inyo County then pumps Well 82 in the Bairs-Georges wellfield (well capacity of 192 AF/yr) to the Aqueduct to offset water diverted from the Aqueduct for lake level maintenance.

Under the Diaz Lake Mitigation project, LADWP will provide up to 250 AF/yr from the Aqueduct to Diaz Lake to reduce pumping from the Bairs-Georges wellfield. No additional infrastructure or monitoring devices are necessary for the project. The lease agreement will be revised to reflect the additional water supply commitments and accounting requirements. LADWP will measure the lake stage before and after releases from the Aqueduct.

The amount of water delivered to Diaz Lake will be based on the change in lake volume during the release of water as determined by the change in stage (staff gage reads) and the Diaz Lake area-capacity curve. Water requested by the County and delivered to the lake in excess of 250 AF/yr will be replaced with water pumped from Well 82. Inyo County will be responsible for Well 82 operations in accordance with the lease agreement. If less than 250 AF/yr is delivered to Diaz Lake, the shortfall will not be carried over to subsequent years, but will be released to Warren Lake. At the end of the runoff year, if the County has requested less than 250 AF/yr and LADWP has provided 250 AF/yr or more for any reason, the obligation to supply this project for that year shall be considered met. Once LADWP's obligation to provide 250 AF/yr has been met, whether from operational releases or releases at the County's request, the County may request and receive additional releases, and the water shall be replaced with pumped water from Well 82.

Figure 7
Diaz Lake – Proposed Project Facilities



1.4.8 Warren Lake

The goal of this project is to increase shorebird, waterfowl and wildlife habitat at Warren Lake by providing additional water to the site (**Figure 8**). The project may increase wet meadow and seasonal wetland habitats, depending on the water supply. When water is provided, shallow-water habitat for shorebird and waterfowl foraging will be created. Shorebirds and waterfowl may also nest at Warren Lake as a result of this project if the timing and duration of the water releases are appropriate.

Warren Lake will receive water diverted from Big Pine Canal via an existing diversion structure and ditch. A flume and flow meter will be installed at the diversion structure to quantify the amount of water provided to the project. Controls for water level will need to be placed in the Big Pine Canal to provide optimum flow into the diversion. Additionally, the ditch may be cleaned. No fencing or changes to normal ranch operations are required to implement this project.

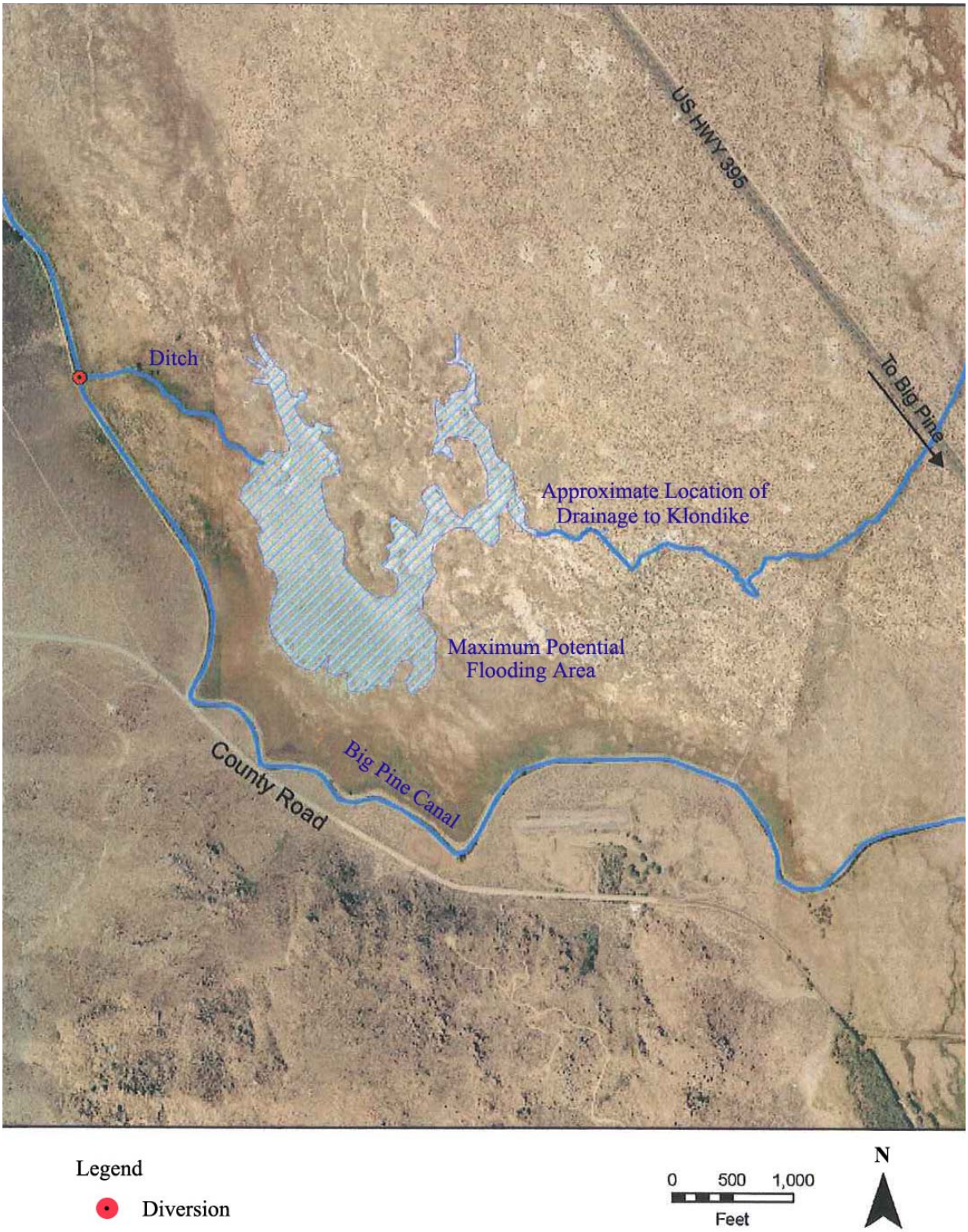
This project has been selected by the *Ad Hoc* Group to serve to balance the annual 1,600 acre-foot water commitment for this provision of the MOU. The water supply for this project may not be provided annually and, when receiving water, will not be consistent from year to year but will vary to balance the annual 1,600 acre-foot water commitment.

1.5 PROJECT CONSTRUCTION

To effectively distribute 1,600 AF of water per year at the eight project locations, the following construction activities/equipment use may be required:

- Berm creation and removal - backhoe
- Pipeline installation - 1-foot deep trench with a ditch witch (vegetation may be mowed as necessary - where vegetation is sparse, clearing is not required), backhoe to move dirt, trucks to transport pipe and personnel
- Flow monitoring devices – minor work with hand tools
- French drains – trench with ditch witch and truck with gravel fill
- Channel control structures – minor concrete work
- Well installation – drill rig within an approximately 150 by 150 ft area (where vegetation is sparse, clearing is not required)
- Minor road grading – to locate drill rig, with associated spreading of dirt piles
- Stockwater troughs – truck or backhoe to place pre-formed troughs
- Fence installation (54-inch high 5-strand barbed wire fences with metal T-posts every 10 feet) – vegetation may be mowed as necessary, dandy digger, quad-all terrain vehicles and/or light duty trucks, ASV (tracked Bobcat used for mowing and T-Post pounding), backhoe, air compressor, generator
- Pole plantings - power augers, backhoe, light duty trucks, dump trailer pulled by light truck, quad-all terrain vehicles, transport vehicles, dandy digger
- Channel clearing – backhoe, hand tools

Figure 8
Warren Lake – Proposed Project Facilities



1.6 INVASIVE SPECIES MANAGEMENT

Additional water provided under the project, and minor surface disturbances necessary to install project facilities, will increase the potential for invasive species to become established at the project sites. Therefore, early detection and treatment of invasive species is common to all of the project sites and will be done in accordance with existing LADWP procedures.

LADWP is a partner of the Eastern Sierra Weed Management Area (ESWMA) along with the Inyo/Mono Counties Agricultural Commissioner's Office, ICWD, California Department of Food and Agriculture, Bureau of Land Management (Bishop Field Office), California Department of Forestry, Inyo/Mono Resource Conservation District, Inyo National Forest, Toiyabe National Forest, California Department of Transportation District 9, Inyo/Mono Cattleman's Association, California State Parks, Natural Resource Conservation Service, and the Bishop Paiute Tribe Environmental Office. Consistent with the ESWMA's Strategic Plan (ESWMA, undated) and as part of LADWP's on-going weed eradication program, a weed survey of the project areas will be completed, focused on perennial pepperweed (*Lepidium latifolium*) and salt-cedar (*Tamarisk ramosissima*) and other State of California A-rated invasive species[1]. Timing of weed treatment will be tailored to accommodate the most effective season to treat the target species.

Management techniques for perennial pepperweed and other weeds include:

- Herbicide application (e.g., Telar (active ingredient chlorsulfuron) in areas away from waterways and Rodeo® or Roundup® (active ingredient glyphosate) or Weedar 64® (active ingredient 2,4-Dichlorophenoxyacetic acid) near waterways
- Hand pulling
- Mechanical cutting, disking, or mowing

Saltcedar treatment methods used in the Owens Valley include:

- Hand pulling of small plants
- Cut stump treatment (The plant is cut at the base, then Garlon 4® (active ingredient triclopyr), a chemical herbicide, is applied to prevent re-sprouting.)
- Basal bark applications of herbicide (The lower portions of smaller plants are sprayed with Garlon 4®.)
- Foliar applications of herbicide

[1] According to the State of California Department of Food and Agriculture (California Administrative Code 4500), "A" rated Noxious weeds are to be eradicated, contained or refused entry. "B" rated Noxious weeds are more widespread, and therefore more difficult to contain and eradication is left up to local county Agricultural Commissioners. "C" rated Noxious weeds may be so wide spread that the state does not endorse eradication or containment.

- Cutting and submerging the plants under water for extended periods, typically 2 weeks (The required duration of submersion depends on environmental conditions such as turbidity of the water, since availability of light promotes saltcedar re-sprouting.)

Consistent with existing LADWP procedures, manufacturer's instructions documented on the Specimen Label for each specific herbicide are followed for the protection of workers, other people in the area, and the environment. Herbicides other than those noted above may also be used as appropriate.

Additionally, if noxious weeds are found during LADWP's annual rare plant surveys, the survey crew notifies LADWP and appropriate treatment is administered jointly by staff with expertise in identifying rare plants and staff qualified for noxious weed treatment. Noxious weed treatment in the vicinity of rare plants is conducted using a weed wipe (equipment designed to apply herbicides only to plants that come into contact with the applicator) or by hand, as necessary, to prevent any adverse effects of herbicide application on the rare plants.

1.7 FIVE-YEAR MONITORING FRAMEWORK

The plan for the Additional Mitigation Projects Developed by the MOU Ad Hoc Group includes a 5-Year Monitoring Framework with responsibilities to be determined by the Technical Group. At a minimum, monitoring will comprise:

- Conduct flow measurement – monthly
- Perform rapid assessment by walking the project sites - at the peak of the growing season annually, then at end of season if modifications have been implemented
- Map extent of project using remote sensing for water spread and plant communities
- Survey for plant species and communities and map extent of:
  - Invasive or undesirable species, recommend control method if necessary
  - Native and desirable (spring obligate) species, recommend measures to improve recruitment if necessary
- Conduct photo points, and mark and label them
- Note recruitment of woody species (riparian/wetland obligates), decide if planting or other measures are needed to facilitate recruitment
- Assess fence condition, the need for additional fences, and recommend repairs and/or modifications if necessary - annually
- Assess survival of plantings and recommend additions if necessary - annually
- Determine if goals have been met - at 5-year evaluation

An annual report for the project will be prepared by LADWP and/or Inyo County, and provided for review by incorporation in the annual Owens Valley report as required by the MOU. Recommendations for adaptive management and water use may be made at this time.
CDFG will annually survey for spring/seep obligates (invertebrates and others; invasives/undesirables and natives/desirables) and recommend measures to improve site conditions. Laboratory support that may come from the Cooperative Study, or another source, not to exceed $3,000/year.

After 5 years, project success, monitoring schedule, and water use will be reviewed. Recommendations for project modifications will be made. The 5-year report will be submitted to all MOU parties' governing boards for review.

1.8 APPLICABLE PLANS AND POLICIES

The project sites are located on LADWP-owned land within Inyo County. The Inyo County General Plan designates the areas as Natural Resources planning area. The zoning overlay is Open Space; 40-acre minimum.

1.9 PROJECT APPROVALS

The proposed project has been defined in cooperation with the MOU parties and the relevant lessees. The project is also consistent with LADWP policies regarding land management, grazing, recreation, and fire control. Alterations to waters of the state are subject to CDFG Code Section 1602 (streambed alteration agreements). Installation of the fences and vegetation removal from surface water conveyance features may be deemed consistent with the existing LADWP agreement with CDFG for Routine Maintenance Work for Waterways in Inyo and Mono County (CDFG, 2008). Due to the presence of the federal and state endangered Owens pupfish, modifications to Well 368 will be done in coordination with CDFG and USFWS. Installation permits will be obtained from Inyo County for project sites where new wells are proposed. Permits or approvals from other agencies are not anticipated.

Section 2
Environmental Analysis

2.1 ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

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

☐ Aesthetics	☐ Greenhouse Gas Emissions	☐ Population and Housing
☐ Agricultural Resources	☐ Hazards and Hazardous Materials	☐ Public Services
☐ Air Quality	☐ Hydrology and Water Quality	☐ Recreation
☐ Biological Resources	☐ Land Use and Planning	☐ Transportation and Traffic
☐ Cultural Resources	☐ Mineral Resources	☐ Utilities and Service Systems
☐ Geology and Soils	☐ Noise	☐ Mandatory Findings of Significance

2.2 AGENCY DETERMINATION

On the basis of this initial evaluation:

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

☒ I find that although the project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the applicant. A MITIGATED NEGATIVE DECLARATION will be prepared.

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

☐ I find that the project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the project, nothing further is required.

Signature: Charles C. Holloway Title: Manager of Environmental Assessment

Printed Name: Charles C. Holloway Date: 2/3/2010

2.3 ENVIRONMENTAL CHECKLIST

2.3.1 Aesthetics

Issues and Supporting Information Sources	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☒	☐
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☒	☐
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	☒	☐
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☐	☒

Discussion:

a) and c) **Less than Significant Impact.** Each of the project sites is located in an open space area used for recreation, habitat, and ranching (seven of the sites are active ranches, Diaz Lake has ranches as adjacent parcels). Views from and of the project sites vary, but all are located in areas with scenic vistas including views of lakes, scattered boulders, riparian and wetland vegetation, open space vegetated with great basin scrub, and the Inyo/White and Sierra Nevada Mountains.

Construction of project elements will require berm removal and creation, pipeline and french drain installation, vegetation mowing, exotics removal and treatment, minor concrete work for construction of channel control structures, drill rigs for well installation, minor road grading to locate drill rigs, fence installation, pole plantings, and channel clearing. Within the context of the project areas, the impact of ground and vegetation disturbance associated with installation of project facilities will be temporary and less than significant on the visual character of the project sites. Existing landscape elements such as the downed snags of cottonwood and willow trees at Freeman Creek will remain in place (except where they represent an obvious obstruction to flow). The intent of the projects is to create additional riparian, aquatic, wetland and/or spring habitats. The impact on aesthetics from project operation will be beneficial.

b) **Less than Significant Impact.** Scenic roadways are designated by BLM, Inyo National Forest, California Department of Transportation (Caltrans), and the Federal Highway Administration. State Highway 395 is an officially designated State Scenic Highway from Independence to north of Tinemaha Reservoir (postmiles 76.5 to 96.9) (Caltrans, 2008). State Highway 395 is eligible for designation in the portions north and south of that segment

(Caltrans, 2008). The project sites are located within 3 miles of the State Highway 395. Implementation of the mitigation projects at the various project sites will result in the enhancement of riparian, aquatic, and spring habitats. Tree removal will be limited to invasive species control. As such, the project will enhance the overall natural aesthetic of each of the proposed areas, a beneficial effect. Therefore, the impact on scenic roadways will be less than significant.

d) **No Impact.** The proposed project does not include use or installation of new sources of lighting. There will be no impacts on light or glare that could affect day or nighttime views of the project areas.

2.3.2 Agricultural and Forest Resources

Issues and Supporting Information Sources	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	☒
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☒	☐

Discussion:

a) **No Impact.** The Farmland Mapping and Monitoring Program (FMMP) does not include Inyo County, therefore the proposed project will have no impact on conversion of FMMP designated Farmland.

b) **No Impact.** Existing zoning by Inyo County of the mitigation sites is OS-40 (Open Space, 40 acre minimum lot size) with a land use designation of NR (Natural Resources) (Inyo County, 2009). Since Inyo County does not offer a Williamson Act program, the proposed project will have no impact on agricultural zoning or Williamson Act contracts.

c) and d) **No Impact.** The project sites are not zoned as forested land nor will the proposed project result in conversion of forest land to non-forest use. Public Resources Code Section 12220 (g) defines "Forest land" as land that can support 10-percent native tree cover of any species, including hardwoods, under natural conditions, and that allows for management of one or more forest resources, including timber, aesthetics, fish and wildlife, biodiversity, water quality, recreation, and other public benefits. Removal of native trees is not proposed; therefore, the proposed project will have no impact on forest lands.

e) **Less Than Significant Impact.** Seven of the project sites are located on active ranches, Diaz Lake is surrounded by ranches.

At Freeman Creek, water downgradient of the incised portions of Freeman Creek and Keough's Wash will be made available to the lessee who will have primary discretion where and how to distribute water to increase pasture/alkali meadow habitat (potential increase estimated to be at least 20 acres). This will allow the lessee to cycle irrigation water between the eastern and western portions of the existing pasture. Once riparian vegetation has become established, evapotranspiration will limit or possibly eliminate water available for irrigation except in winter months.

At the Hines Spring Well 355 and Aberdeen Ditch site, a fenced exclosure is proposed but it will include a number of gates to allow limited grazing. Temporary exclosures at this site are also potential adaptive management measures to facilitate the establishment of riparian vegetation.

At the North of Mazourka Canyon Road site, a small area will be fenced at the pipe outlet but larger areas may be fenced in the future to protect habitat along the riparian outflow channel.

These changes will have no impact on conversion of designated Farmland to non-agricultural use, or forest land to non-forest use, since lands with these designations are not present on the project sites. The projects will have an impact on local agriculture by restricting the operations of lessees on LADWP-owned lands and restricting small portions of the sites to non-agricultural use at times (within the exclosures). While these restrictions include construction of limited fencing, they do not represent irrevocable conversion of land use. Additionally, at three project sites (North of Mazourka Canyon Road, Homestead, and Well 368) stockwater troughs will be installed to provide the ranchers with appropriately-located cattle watering facilities. Since these restrictions do not eliminate grazing on the leases and are management actions necessary to meet the multi-purpose uses of the parcels (agriculture, wildlife habitat, and recreation), the impact will be less than significant.

2.3.3 Air Quality

Issues and Supporting Information Sources	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☐	☒
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☐	☒	☐
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	☐	☐	☒	☐
d) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
e) Create objectionable odors affecting a substantial number of people?	☐	☐	☒	☐

Discussion:

The southern Owens Valley is located in the Great Basin Unified Air Pollution Control District (GBUAPCD). The valley has been designated by the State and EPA as a non-attainment area for the state and federal 24-hour average PM10 standards. Wind-blown dust from the dry bed of Owens Lake is the primary cause of the PM10 violations. The area has been designated as attainment or unclassified for all other ambient air quality standards. Air quality is considered excellent for all criteria pollutants with the exception of PM10. Large industrial sources are absent from the Owens Valley. The major sources of criteria pollutants, other than wind-blown dust, are woodstoves, fireplaces, vehicle tailpipe emissions, fugitive dust from travel on unpaved roads, prescribed burning, and gravel mining.

a) **No Impact.** The relevant air quality plan for the project area is the Final 2008 Owens Valley PM10 Planning Area Demonstration of Attainment State Implementation Plan (SIP) (GBUAPCD, 2008). The focus of this planning document is implementation of dust control measures at Owens Dry Lake, the major particulate matter sources in the valley. The Diaz Lake site is the only project element located near the lake but no construction is required to implement the project at that site. Since the other projects are not located at the lake and will not substantially increase particulate matter, there is no impact on the applicable air quality plan.

b) **Less Than Significant Impact.** The GBUAPCD has not established specific quantitative thresholds of significance for air emissions related to construction. However, emissions thresholds for permitting new stationary sources (GBUAPCD Rule 209-A) can be used as screening criteria to evaluate the potential significance of project emissions during construction. [Since the carbon monoxide threshold in Rule 209-A is not a numeric standard, the South Coast Air Quality Management District threshold was used for this analysis.]

Emissions during project construction will result from the operation of the equipment listed in Section 1, including: drill rig, ditch witch, power augers, air compressors, generators, light duty trucks, all terrain vehicles, backhoes, and transport trucks. **Table 3** summarizes worst-case peak-day emissions estimates for a hypothetical day with construction activity at multiple project locations. Since emissions are estimated to be substantially below significance thresholds, the impact on air quality from project construction is less than significant. Operations-related air pollutant emissions will result from infrequent vehicle trips to the project sites – the same as under existing conditions. Therefore, the impact on air quality from project operation will be less than significant.

c) **Less Than Significant Impact.** The project area is a non-attainment area for PM10. Construction and operation of the projects will result in dust emissions from earth disturbance (pipeline, well, ditch, and fence installation). LADWP must meet GBUAPCD Rule 401, which requires that fugitive dust emission control measures be implemented to adequately prevent visible dust from the leaving the property and to maintain compliance with the PM10 standard. Due to the small acreages of disturbance planned (e.g., 0.5 acre maximum for well installation) and the use of water trucks as warranted, dust emissions related to project construction are not be anticipated to be visible off the project sites. Therefore, project-related impacts on PM10 will be less than significant.

d) **Less Than Significant Impact.** Sensitive receptors include schools, day-care facilities, nursing homes, and residences. The closest sensitive receptor to any of the project sites is the Keough's Hot Spring Resort located adjacent to the Freeman Creek site. However, earthwork is not required for project implementation at Freeman Creek. The closest sensitive receptors to any other sites are residences located over 1 mile away, and the Keith Bright School, located over 1 mile from the North of Mazourka Canyon Road mitigation site. As noted above, construction of the proposed project will include operation of mechanical equipment. Due to the limited air pollutant emissions from the small number of equipment, the short period of equipment use, and the distance to the receptors, the impact on sensitive receptors will be less than significant.

e) **Less Than Significant Impact.** Project construction and operation will result in minor localized odors associated with fuel use for equipment and vehicles. These odors are common, not normally considered offensive, and will not be experienced by any residences since none are immediately adjacent to the project sites. Odor impacts to potential recreation visitors at the sites during construction activities will be temporary and less than significant.

Table 3
Summary of Estimated Worst-Case Peak Day Construction Emissions

Emissions Source (on-road vehicles and ATVs)	Vehicle Type	No.	Est Max miles per day	Emission Factor (lbs/mi) [1]						Estimated Peak Day Emissions (lbs/day)					
				CO	VOC	NOx	SOx	PM10	PM2.5	CO	VOC	NOx	SOx	PM10	PM2.5
Light Duty Truck	PV	10	20	0.008263	0.000914	0.000918	0.000011	0.000087	0.000055	1.653	0.183	0.184	0.002	0.017	0.011
ATV	PV	8	20	0.008263	0.000914	0.000918	0.000011	0.000087	0.000055	1.322	0.146	0.147	0.002	0.014	0.009
Transport Vehicles	HHDT	3	40	0.011955	0.003042	0.038221	0.000041	0.001831	0.001601	1.435	0.365	4.587	0.005	0.220	0.192
Emissions Source (construction equipment)	No.	Est Max hrs of use per day	Emissions Factor (lbs/hr) 2							Estimated Peak Day Emissions (lbs/day)					
			CO	VOC	NOx	SOx	PM10	PM2.5 [3]		CO	VOC	NOx	SOx	PM10	PM 2.5
Backhoe/Bobcat	4	4	0.393	0.1021	0.6747	0.0008	0.0521	0.0464		6.288	1.634	10.795	0.013	0.834	0.742
Air Compressor	2	8	0.3613	0.112	0.732	0.0007	0.0526	0.0468		5.781	1.792	11.712	0.011	0.842	0.749
Generator	2	8	0.3293	0.0961	0.644	0.0007	0.0396	0.0352		5.269	1.538	10.304	0.011	0.634	0.564
Drill Rig	1	12	0.5146	0.1052	1.1331	0.0017	0.0498	0.0443		6.175	1.263	13.598	0.021	0.598	0.532
Total										27.9	6.9	51.3	0.1	3.2	2.8
Significance Thresholds [4]										550 [5]	250	250	250	80	55 [3]

Notes: PV: passenger vehicles, HHDT: heavy-heavy-duty trucks

Sources:

1 SCAQMD. 2007a. EMFAC2007 version 2.3 Emission Factors for On-Road Passenger Vehicles & Delivery Trucks. Scenario Year 2010.

2 SCAQMD 2007b. SCAB Fleet Average Emission Factors (Diesel). Scenario year 2010.

3 SCAQMD. 2006. Final – Methodology to Calculate Particulate Matter (PM) 2.5 and PM 2.5 Significance.

4 GBUAPCD. 1993. Rule 209-A Standards for Authorities to Construct.

5 SCAQMD. 1993. CEQA Air Quality Handbook.

2.3.4 Biological Resources

Issues and Supporting Information Sources	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☐	☒	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☐	☒	☐
c) Have a substantial adverse effect on federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☒	☐
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of wildlife nursery sites?	☐	☐	☒	☐
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☒	☐
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☒	☐

Discussion: Vegetation communities present on the project sites include:

Freeman Creek – Big Sagebrush Scrub, Alkali Meadow, Rush/Sedge Meadow, and some scattered riparian trees
Hines Spring Well 355/Aberdeen Ditch – Alkali Meadow
North of Mazourka Canyon Road – Nevada Saltbush Scrub, Nevada Saltbush Meadow, and a small area of emergent aquatic vegetation
Homestead – Alkali Meadow, Desert Sink Scrub, and some riparian trees
Well 368 – Desert Greasewood Scrub with some riparian trees
Diaz Lake – Permanent Lake, Mojave Riparian Forest
Warren Lake – Playa, Alkali Meadow, Desert Sink Scrub

a) **Less Than Significant Impact.** Based on California Natural Diversity Data Base (CNDDB) listings for the Big Pine, Poleta Canyon, Blackrock, Bee Springs, Independence, and Lone

Pine USGS quadrangles, and LADWP knowledge of the areas, the following sensitive species may have the potential to occur on or near the project sites (**Table 4**).

Table 4
Sensitive Species Known or with the Potential to Occur on the Project Sites

Common Name	Scientific Name	Status	USGS Quadrangle
northern leopard frog	*Lithobates pipiens*	CSSC	PC, BP, BR
Inyo Mountains slender salamander	*Batrachoseps campi*	CSSC	BSC
Owens Valley web-toed salamander	*Hydromantes* sp. 1	CSSC	IN
Sierra Nevada yellow-legged frog	*Rana sierrae*	FC, CSSC	LP
northern harrier	*Circus cyaneus*	CSSC	PC
Cooper's hawk	*Accipiter cooperii*	WL	BP
Swainson's hawk	*Buteo swainsoni*	ST	PC, BP
Least bittern	*Ixobrychus exilis*	CSSC	IN
Western snowy plover	*Charadrius alexandrinus nivosus*	FT, CSSC	LP
Western yellow-billed cuckoo	*Coccyzus americanus occidentalis*	FC, SE	BP, IN
Willow flycatcher	*Empidonax traillii*	SE	IN
Least Bell's vireo	*Vireo bellii pusillus*	FE, SE	LP
Long-eared owl	*Asio otus*	CSSC	BP, BR
Yellow-breasted chat	*Icteria virens*	CSSC	BP, IN, LP
Summer tanager	*Piranga rubra*	CSSC	BP
Loggerhead shrike	*Lanius ludovicianus*	CSSC	PC, BP, BSC, LP, BR, IN
Owens tui chub	*Gila bicolor snyderi*	FE, SE	PC, BP, BSC, LP
Owens speckled dace	*Rhinichthys osculus ssp. 2*	CSSC	PC, BR
Owens pupfish	*Cyprinodon radiosus*	FE, SE	PC, BP, BSC, BR
spotted bat	*Euderma maculatum*	CSSC	PC, LP
Townsend's big-eared bat	*Corynorhinus townsendii*	CSSC	PC, BSC
Pallid bat	*Antrozous pallidus*	CSSC	IN, LP
Owens Valley vole	*Microtus californicus vallicola*	CSSC	PC, IN, LP
Sierra Nevada bighorn sheep	*Ovis canadensis sierrae*	FE, SE	LP
pinyon rock-cress	*Arabis dispar*	CNPS 2.3	BR
foxtail thelypodium	*Thelypodium integrifolium ssp. complanatum*	CNPS 2.2	BR
Sagebrush loeflingia	*Loeflingia squarrosa var. artemisiarum*	CNPS 2.2	BP
Inyo blazing star	*Mentzelia inyoensis*	CNPS 1B.3	BSC
Ripley's alicellia	*Aliciella ripleyi*	CNPS 2.3	BSC
Coyote gilia	*Aliciella triodon*	CNPS 2.2	BSC, IN
Parry's monkeyflower	*Mimulus parryi*	CNPS 2.3	BSC
Parish's popcorn-flower	*Plagiobothrys parishii*	CNPS 1B.1	PC, IN, LP
falcate saltbush	*Atriplex gardneri var. falcata*	CNPS 2.2	PC
Horn's milk-vetch	*Astragalus hornii* var. *hornii*	CNPS 1B.1	LP
Shockley's milk-vetch	*Astragalus serenoi var. shockleyi*	CNPS 2.2	PC, BP
Booth's hairy evening-primrose	*Camissonia boothii ssp. intermedia*	CNPS 2.3	BR
Torrey's blazing star	*Mentzelia torreyi*	CNPS 2.2	BR
Geyer's milk-vetch	*Astragalus geyeri var. geyeri*	CNPS 2.2	BR
Inyo phacelia	*Phacelia inyoensis*	CNPS 1B.2	PC, BP, LP
Owens Valley checkerbloom	*Sidalcea covillei*	SE, CNPS 1B.1	PC, BP, IN, LP

Common Name	Scientific Name	Status	USGS Quadrangle
July gold	*Dedeckera eurekensis*	SR, CNPS 1B.3	PC
Nevada oryctes	*Oryctes nevadensis*	CNPS 2.1	PC, BP, BSC, LP, BR
hot springs fimbristylis	*Fimbristylis thermalis*	CNPS 2.2	PC
Hillman's silverscale	*Atriplex argentea var. hillmanii*	CNPS 2.2	BR
Inyo County star-tulip	*Calochortus excavatus*	CNPS 1B.1	PC, BP, IN, LP, BR
King's eyelash grass	*Blepharidachne kingii*	CNPS 2.3	BP

Source: CDFG, 2010.
USGS Quadrangles: PC – Poleta Canyon, BP – Big Pine, BR – Blackrock, BSC – Bee Springs Canyon, IN – Independence, LP – Lone Pine
Species Status: FD – Federal Delisted, FE – Federal Endangered, FC – Federal Candidate, FT – Federal Threatened, SE – State Endangered, SR – State Rare, WL – State Watch List, CSSC – State Species of Concern, CNPS – California Native Plant Society listing (1A Plants presumed extinct in California; 1B Plants rare, threatened, or endangered in California and elsewhere; 2 Plants rare, threatened, or endangered in California, but more common elsewhere; 3 Plants about which we need more information - a review list; 4 Plants of limited distribution - a watch list)

Sensitive Amphibian Species. The frog and salamander species listed on the CNDDB for the project site quadrangles are not known to occur in the specific project locations. The northern leopard frog and the Sierra Nevada yellow legged frog have not been documented to occur on the valley floor. In addition, both salamander species are known to occur on talus slopes near springs within the applicable quadrangles, not on the valley floor. The project sites lie outside the limited range and lack the very specialized habitat needed to support these salamanders. Therefore, installation of the proposed wells, pipelines, ditches, and/or other project facilities will not adversely affect these species. Water provided to the sites under the proposed project would have a beneficial impact on amphibians if they were to be present.

Sensitive Bird Species. The project sites contain habitat potentially suitable for foraging, nesting, and wintering of sensitive avian species. Some of the species noted above are known for the sites; specific surveys have not been completed, but Loggerhead shrike and northern harrier are the two sensitive species most likely to nest in the project areas. Other sensitive species may occur as transients or migrants. Any impacts to sensitive bird species as a result of the project are expected to be beneficial.

Sensitive Fishes. Populations of the federal- and state-endangered Owens pupfish have been declining due to competition and predation by non-native species and adverse habitat modifications. A population of Owens pupfish is present at Well 368. The objective of the proposed project at that site is to provide a reliable water supply for the protection of the existing population. No disturbance to existing Owens pupfish habitat will occur. This project should benefit Owens pupfish by providing additional habitat in which this species may colonize and by providing redundancy in the water supply. There is no significant likelihood of disrupting normal behavior patterns, including breeding or feeding, since only water of similar quality coming from the same underground aquifer will be added to existing Owens pupfish habitat. The project is consistent with recovery efforts for this fish species which include livestock management, protection of springflows and management of non-native deleterious species. The impact is beneficial.

The other two sensitive fish species listed on the CNDDB for the relevant quadrangles are not known to occur in the specific project locations.

Sensitive Bat Species. The sensitive bat species known for the general project area may forage at the project sites and may potentially roost in available rock crevices or hollow trees. Bat foraging would not be expected to be impacted since construction activity will occur in the daytime. If a bat roost is identified and expected to be impacted, the situation will be evaluated and appropriate action taken to avoid impacts such as exclusion measures or providing an alternative roost site. Implementation of the project will improve riparian habitat for sensitive bat species on the leases. The impact is beneficial.

Other Sensitive Mammals. Owens Valley vole, a subspecies of the California vole, is known from wetlands, grasslands, and other grass-dominated sites. The Owens Valley vole may occur at some of the project sites; however, after completion of temporary construction activities, the project will result in overall benefits for the species.

Summary of Impacts to Sensitive Animal Species. Temporary impacts on sensitive animal species during project construction will be less than significant. With the improvements to riparian habitats from provision of the additional water, project operation will have a beneficial impact on sensitive animal species.

Sensitive Plant Species. Based on observations by LADWP and ESI staff, the following special status plant species are known to occur in or around the project sites:

- Hot springs fimbristylis – Freeman Creek. The precise location is not known, assumed to be along the upper section of Hot Ditch west of the old highway. Since construction is not proposed at Freeman Creek, there will be no impacts to this species.
- Inyo County star tulip – This species is known to occur in the vicinity, but not in the project sites at Warren Lake, and Hines Springs Well 355 and Aberdeen Ditch.

The other species noted on the CNDDB for the relevant quadrangles are not known for the project sites. Since sensitive plants are not known for the project sites, construction of proposed facilities will not impact these plant species.

b) and c) **Less Than Significant Impact**. The mitigation sites include riparian habitat and wetlands potentially under federal jurisdiction (Clean Water Act Section 404 administered by the U.S. Army Corps of Engineers) such as areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support wetland vegetation. Enhancement goals for these spring, riparian, and aquatic habitats is summarized in **Table 5**.

Table 5
Additional Mitigation Projects – Habitat Enhancement Goals

Mitigation Site	Habitat Enhancement Goals
Freeman Creek	• Divert Freeman Creek into ancestral washes to create a diverse riparian corridor expected to consist of willow species with lower cover of cottonwood, birch, and herbaceous forbs • Create marsh and small seeps in the pasture
Hines Spring / Aberdeen Ditch	• Re-establish riparian, aquatic, and spring habitats, and sub-irrigation of pasture/meadow • Create at least 1 to 2 acres of ponded water or wetland/riparian vegetation
North of Mazourka Canyon Road	• Create functional spring habitat • Create spring outflow channel and riparian habitat • Channel outflow into pond habitat
Homestead	• Provide riparian/spring habitat • Improve existing alkali meadow • Create approximately 3,860 feet of spring channel to benefit riparian dependent birds and mammal species • Create 1-acre pond to benefit fish, invertebrates and waterfowl
Well 368	• Create and enhance spring and riparian habitat • Maintain or improve conditions for the existing population of endangered Owens pupfish • Provide redundancy in water supply to the existing habitat in the event that Well F368 fails
Diaz Lake	• Provide a secure water supply for Diaz Lake and reduce the dependence on pumping conducted by Inyo County to supply the lake
Warren Lake	• Increase shallow-water shorebird, waterfowl and wildlife habitat, potentially including (depending on timing and duration of water releases) shorebird and waterfowl nesting habitat • Increase wet meadow and seasonal wetland habitats (depending on the water supply)

To achieve these goals, temporary disturbance of small areas on the project sites will occur for installation of project pipelines, wells, and ditches. Additionally, capping the multiple completion artesian Wells T774-T777 at the Homestead site will eliminate the existing pond and the surrounding area may dry up. The surrounding area may continue to be sub-irrigated due to the location of the fault line, but this is uncertain. However, in the context the habitat enhancements anticipated from implementation of the proposed project, impacts to sensitive natural communities including wetlands from project construction are less than significant. As noted above, project operation will have a beneficial impact on sensitive riparian, spring, wetland, and aquatic habitats.

d) **Less Than Significant Impact.** Since wildlife movements are often concentrated along riparian corridors, the project sites are likely used by wildlife populations such as mule deer and tule elk on a regular basis, and by migratory birds such as waterfowl on a seasonal basis. Fencing is proposed at several of the project sites, with the largest exclosure (10 acres) proposed for Hines Spring Well 355. Elk crossings will be integrated at this project site to

protect riparian vegetation while facilitating wildlife movement. Therefore, the impact is less than significant.

e) **Less Than Significant Impact.** No tree ordinances apply to the proposed project sites. The Inyo County General Plan Goals and Policies document (2001) cites the preservation and protection of riparian and wetland areas and the restoration of degraded biological communities as Biological Resources Goals (Policies BIO-1.2 and BIO-1.3). Since the proposed project is consistent with this goal and since the only tree removal planned is of invasive species, the impact on local policies or ordinances protecting biological resources is less than significant.

f) **Less Than Significant Impact.** The proposed project is a habitat mitigation plan that will be adopted by LADWP. There are no Significant Natural Areas (SNAs) as determined by CDFG at the mitigation sites. LADWP is currently preparing a Habitat Conservation Plan (HCP) for LADWP-owned lands in Inyo County; this plan is not yet finalized.

Critical habitat is designated for a few of the federally designated species with the potential to occur on the project sites. Western snowy plover critical habitat is designated for the coastal population (USFWS, 2005a) and is therefore not relevant to the project sites. Willow flycatcher critical habitat is not designated in Inyo County (USFWS, 2005b) but LADWP has established a Conservation Strategy for managing Southwestern Willow Flycatcher on City lands with the U.S. Fish and Wildlife Service (LADWP, 2005). Critical habitat for Owens tui chub (USFWS, 1985) and Sierra Nevada bighorn sheep (USFWS, 2008) is designated in Inyo County but not within any of the mitigation sites for this project.

As noted above, a population of Owens pupfish is present at the Well 368 mitigation site. The U.S. Fish and Wildlife Service (USFWS) prepared the Owens Basin Wetland and Aquatic Species Recovery Plan (USFWS, 1998) to describe actions necessary to restore the populations and enhance habitat for Owens pupfish and two other federally listed species that occur in the Owens Valley – Owens tui chub, and Fish Slough milk-vetch. The recovery plan identifies conservation actions and programs to serve as a foundation for future Habitat Conservation Plans for these species, as well as several others – Owens Valley vole, Owens Valley speckled dace, Long Valley speckled dace, Owens Valley springsnail, Fish Slough springsnail, Owens Valley checkerbloom, and Inyo County star tulip. The proposed mitigation project at Well 368 is consistent with the recovery plan since the project will provide a reliable water supply for the protection of Owens pupfish. The impact is beneficial. The overall impact on conservation planning is less than significant.

2.3.5 Cultural Resources

Issues and Supporting Information Sources	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	☐	☒	☐	☐
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☒	☐	☐
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☒	☐	☐
d) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☒	☐	☐

Discussion: A field survey of six of the project sites for observable cultural resources was conducted by archaeologists and a paleontologist from Garcia and Associates on September 15 – 17, 2009 and again on November 7 – 9, 2009. Warren Lake and Lake Diaz were also visited, but no ground disturbing activities are planned for either site. The Cultural Resources Survey Reports completed for the project are on file with LADWP. To protect resources, site records are not appended to the Initial Study.

a and b) **Less than Significant Impact with Mitigation Incorporated.** A records search was performed on October 1, 2009 at the Eastern Information Center (EIC) at the University of California Riverside for a 0.5 mile radius of the project sites. The following sources were consulted:

- EIC base maps: USGS series topographic quadrangles.
- Pertinent survey reports and archaeological site records were examined to identify recorded archaeological sites and historic-period built-environment resources (such as buildings, structures, and objects) within or immediately adjacent to the project areas.
- The California Department of Parks and Recreation‘s California Inventory of Historic Resources (1976) and the Office of Historic Preservation‘s Historic Properties Directory (2007), which combines cultural resources listed on the California Historical Landmarks, California Points of Historic Interest, and those listed in or determined eligible for listing in the National Register of Historic Places (NRHP) or the California Register of Historical Resources (CRHR).

Based on the records search, 13 previous studies were conducted in the vicinity of the project sites: one at North of Mazourka Canyon and Homestead, three at Hines Spring, three at Freeman Creek, four at Diaz Lake, and two at Warren Lake. Record searches performed by the EIC on October 6, 2009 (EIC-INY-ST-604) determined that 31 prehistoric and/or historic resources were recorded within a 0.5 mile radius of the project areas. These resources comprise two prehistoric sites in the Well 368 area; seven prehistoric sites and five historic

sites in the North of Mazourka Canyon Road / Homestead areas; six prehistoric sites and one historic site in the Freeman Creek area; six prehistoric sites, one prehistoric isolate, one multi-component prehistoric and historic site, and one historic site in the Diaz Lake area; and one historic linear feature in the Warren Lake area.

Other research included a review of U.S. General Land Office (GLO) plat maps of the project areas from the Bureau of Land Management (BLM). The GLO plat maps revealed no historic resources within the project areas. However, a review of historic USGS topographic maps (available online) reveals the presence of two structures within the project areas. The 1913 and the 1930 reprint of the USGS Bishop Quadrangle shows a structure in or near the Freeman Creek project area, possibly related to Keough Hot Springs, which was not formally established until 1919. The 1905, 1907, 1919, 1930 USGS Mount Whitney Quadrangles show a structure located in or near the Homestead project area.

A search of the Sacred Lands File housed at the Native American Heritage Commission (NAHC) resulted in the identification of Native American cultural resources within a 0.5 mile radius of three project areas: Freeman Creek, Hines Spring, and Homestead.

The project areas were surveyed via pedestrian transects at 20 m intervals, and a Trimble Geo Explorer 2008 gps unit was used to map the locations of cultural resources. Visibility was good (75 percent or better) in most areas. No cultural materials were collected or removed from any of the proposed project areas.

A total of 11 archaeological sites and 12 isolated artifacts were recorded during the pedestrian survey of five areas; no cultural resources were identified in the remaining three areas. The archaeological sites had prehistoric, historic, and multi-component surface manifestations. Specifically, in the Well 368 project area, three prehistoric sites, one historic site, four prehistoric isolated artifacts, and one historic isolated artifact were recorded. One multi-component site was identified in the Homestead project area, whereas the Hines Spring Aberdeen Ditch and Well 355 project areas yielded two multi-component sites, one prehistoric site, four prehistoric isolated artifacts, two historic isolated artifacts, and one isolate comprising one prehistoric and historic artifact. In the Freeman Creek project area, one prehistoric site, one historic site, and one multi-component site were identified and recorded.

Although cultural resources are known for the Freeman Creek project site, no earthwork is proposed for project implementation. No cultural resources were identified in the North of Mazourka Canyon Road project area, so no further investigation is necessary. No ground disturbing activities are proposed at Diaz Lake or Warren Lake. Therefore, for these project sites, there will be no impact on cultural resources from implementation of the mitigation projects.

At the Hines Spring Well 355 and Aberdeen Ditch, Homestead, and Well 368 project sites, installation of the proposed pipelines and wells has the potential to disturb surface and subsurface archaeological materials. None of the sites recorded in the project areas have been formally evaluated to determine their significance under CEQA, therefore disturbance

to the sites is a potentially significant impact. Therefore, the following mitigation measures shall be implemented to reduce impacts to below a level of significance:

CUL-1 Hines Spring Well 355 and Aberdeen Ditch. The Aberdeen Supply Line will be relocated to an area where the density of cultural materials appears to be very light or non-existent. Specific locations will be determined in coordination with a qualified archaeologist during a field visit.

CUL-2 Homestead. The new artesian well shall be installed away from existing Well 044A and multi-component cultural resources Site 1600 AF-06/H to a location without known cultural resources. The pipeline from the T774-T777 complex shall be installed along either side of the road leading to the Homestead project area from the access road, or to another location without known cultural resources. Specific locations will be determined in coordination with a qualified archaeologist during a field visit.

CUL-3 Well 368. The short east-west portion of the pipeline from the new artesian well to the access road will be installed in the existing berm or road, or other location without known cultural resources. The north-south portion of the pipeline from the access road to the Well F368 area will be re-aligned west approximately 200 feet from the access road, or to another location without known cultural resources. Specific locations will be determined in coordination with a qualified archaeologist during a field visit.

If relocation of these pipelines is impractical, an archaeological testing and evaluation program will be conducted for sites 1600 AF-02 and 1600 AF-03.

CUL-4. At the Homestead, Well 368, Hines Spring Well 355 and Aberdeen Ditch project sites, pipeline and well installation shall be monitored by a qualified archaeologist. Based on the NAHC contact list for the project, Native American representatives shall be notified of project construction schedules at the Homestead, Well 368, Hines Spring Well 355 and Aberdeen Ditch project sites, and invited to be present during well and pipeline installation on a volunteer basis.

CUL-5. If previously unrecorded cultural resources are encountered during the project, all work shall cease within 100 feet of the discovery until the find can be evaluated by a qualified archaeologist.

With implementation of the above mitigation measures, project-related impacts on cultural resources will be less than significant.

c) **Less than Significant Impact with Mitigation Incorporated.** A fossil locality search was conducted on November 30, 2009, using the Berkeley Natural History Museum (BNHM) online database, which includes data from the University of California, Museum of Paleontology (UCMP, 2009). The database search identified 734 fossil localities within Inyo County. They include 19 specimens from the Precambrian, 281 from the Cambrian, 146 from the Ordovician, 35 from the Silurian, 106 from the Carboniferous, 80 from the Permian, 35 from the Tertiary, 7 from the Quaternary and 14 of unknown age.

Geological formations of the project sites are of Cenozoic age, chiefly quaternary. Within all eight project locations, the following paleontologically-sensitive geologic units have been mapped by Paul Bateman (1964) and Donald Ross (1964):

- **Valley Fill -** This unit consists of unconsolidated sand, silt and clay. Valley fill has the potential for rapid burial, and as a consequence thereof, also a higher potential for the preservation of fossils. This geologic unit has a high paleontological sensitivity.
- **Younger alluvial fan deposits of Holocene and Pleistocene age -** This geological unit consists of alluvial fan deposits, stream deposits of gravel, sand and silt, windblown sand, and deposits of silt and clay. This geologic unit has a high paleontological sensitivity.

Other sensitive geologic units that are specific to Diaz Lake, and potentially to Warren Lake, have been mapped by Paul Stone (1994):

- **Older lake deposits (Holocene and Pleistocene) -** This geological unit consists of mostly light-tan silt and sand, and includes some gravel deposits near paleoshorelines. This unit has recently been found to contain numerous fish fossils and other fossils (bird) of Pleistocene and tertiary age (Orme et al., 2008; Smith et al., 2009).

Other geologic units with low paleontological sensitivity have been mapped by Paul Bateman (1964), Donald Ross (1964), and Paul Stone (1994):

- **Holocene glacial and alluvial deposits -** Differentiation of Holocene and Pleistocene alluvial deposits has been mapped in detail only by Paul Stone (1994) for Diaz Lake. Here, several units consist of Holocene sediments such as sand, fine to coarse gravel, and boulder-sized glacial deposits. Modern Holocene deposits can probably be found at all locations, but they have not been mapped.
- **Basalt (QB)** - This unit consists of black olivine basalt that extruded from vents and fissures along the Sierra Nevada front. There are no known fossils associated with this unit - it has a low paleontological sensitivity. This unit has been mapped at the Hines Spring Well 355 and Aberdeen Ditch project areas.

A preliminary paleontological field survey was conducted by archaeologists cross-trained in paleontology. During the survey, one fossilized bone fragment was identified along the pipeline route to the proposed Hines Spring Well 355 project area. The fossil was not relocated during a supplemental survey by a paleontologist on November 9, 2009, and the fossil was not evaluated. Several other partially mineralized bone fragments were identified

within the Hines Spring Well 355 project area; however, they were determined to be of modern age. None of the eight survey locations yielded any other evidence of paleontological material.

No paleontological resources were observed. Since the project includes only minimally invasive excavation for installation of project facilities, impacts to paleontologically sensitive geologic units will be less than significant with mitigation incorporated.

With implementation of the following mitigation measure, CUL-6, project-related impacts on paleontological resources will be less than significant.

CUL-6. During earthwork necessary for installation of project facilities (wells, pipelines, ditches), the construction crew and/or archaeological monitors shall implement the following measures if there is a discovery of paleontological resources:

- Stop all construction work within a 50-foot radius of the find until a qualified paleontologist or paleontologically-trained archaeologist can assess the significance of the find. If the discovery is significant or potentially significant, then the following would apply: data recovery and analysis, preparation of a data recovery report or other reports, and accession of recovered fossil material at an accredited paleontological repository (e.g., the University of California's Museum of Paleontology).

d) **Less than Significant Impact with Mitigation Incorporated.** Human remains were not found in the course of the 2009 pedestrian surveys at the project sites. However, in the unexpected event that human remains are discovered, the Inyo County Coroner would be contacted, the area of the find would be protected, and provisions of State CEQA Guidelines Section 15064.5 would be followed.

With implementation of the mitigation measure below, CUL-7, project-related impacts on cultural resources will be less than significant.

CUL-7. In the unexpected event that human remains are discovered, the Inyo County Coroner shall be contacted, the area of the find shall be protected, and provisions of State CEQA Guidelines Section 15064.5 shall be followed.

2.3.6 Geology and Soils

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

Discussion:

The project areas lie in eastern California, between Lone Pine and Bishop in the Owens Valley. The Owens Valley of eastern California is a deep north-south trending basin, lying between the Sierra Nevada to the west and the White-Inyo Mountains to the east. The Owens Valley was formed as a fault block basin with the valley floor dropped down relative to the mountain blocks on either side.

The Owens Valley is the westernmost basin in a geologic province known as the Basin and Range, a region of fault-bounded, closed basins separated by parallel mountain ranges stretching from central Utah to the Sierra Nevada and encompassing all of the state of Nevada. Geological formations in the project areas are of Cenozoic age, chiefly Quaternary.

The soils in Owens Valley contain mostly Quaternary alluvial fan, basin-fill, and lacustrine deposits (Miles and Goudy, 1997). On alluvial fans, the soils are mostly Xeric and Typic Torrifluvents, Xeric and Typic Torriorthents, and Xeric and Typic Haplargids (Miles and Goudy,

1997). All soils on alluvial fans are well drained (Miles and Goudy, 1997). In general, the project sites are characterized by gravelly sandy soils; the water courses have high infiltration rates, but should provide favorable substrate for aquatic habitat. Soil infiltration tests conducted in 2007 at Hines Spring indicated that the project site is underlain by permeable basalt.

a)-i) and a)-ii) **Less Than Significant Impact.** The project areas are all located within U.S. Geological Survey quadrangles containing delineated Alquist-Priolo special studies zones (California Geological Survey). Surface rupture on these faults is also possible outside of the currently mapped active traces of these range-front faults in the vicinity of the project sites. Since habitable structures will not be built as part of the proposed project, people will not be exposed to adverse effects involving seismic ground shaking. Proposed structures include wells, pipelines, french drains, flow monitoring devices, and fences; damage to these facilities could be easily repaired and impacts will therefore be less than significant.

a)-iii) **Less Than Significant Impact.** The project does not expose people or structures to potential substantial adverse effects involving strong seismic related ground failure. Ground failure by liquefaction requires saturated soils, which will be present on some of the project sites as a result of surface water discharges and adjacent flowing creeks. Locations with coarse-grained, well drained and well graded soils are less susceptible to liquefaction than finer grained, poorly graded soils such as occur closer to the axis of the Owens Valley. Since habitable structures will not be built as part of the proposed project, people will not be exposed to adverse effects involving seismic-related ground failure. Proposed structures include wells, pipelines, french drains, flow monitoring devices, and fences; damage to these facilities could be easily repaired and impacts will therefore be less than significant.

a)-iv) **Less Than Significant Impact.** The project sites are located well away from the mountain front, which has slopes steep enough to initiate a landslide during an earthquake. Portions of the locations could experience debris flows if saturated materials within nearby mountain stream valleys were released during an earthquake or as a result of an extreme meteorological event (e.g., heavy rainfall, rapid melt of a high snowpack). However, since habitable structures will not be built as part of the proposed project, people will not be exposed to adverse effects involving landslides. Proposed structures include wells, pipelines, french drains, flow monitoring devices, and fences; damage to these facilities could be easily repaired and impacts will therefore be less than significant.

b) **Less Than Significant Impact.** The proposed project includes minor soil disturbance related to installation of wells, pipelines, french drains, flow monitoring devices, and fences. Since the areas to be affected are small, impacts related to erosion and loss of topsoil will be less than significant.

c) **Less Than Significant Impact.** Liquefaction is potentially applicable at the project sites. However, since no habitable structures will be built as part of the proposed project, the impact will be less than significant.

d) **No Impact.** Habitable structures will not be built as part of the proposed project. There will be no project-related impacts from expansive soils.

e) **No Impact.** Sanitation facilities are not present or proposed for the project site. There will be no impact on soils related to wastewater disposal.

2.3.7 Greenhouse Gas Emissions

Issues and Supporting Information Sources	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☐	☒

Discussion:

a) **Less Than Significant Impact.** Greenhouse gases include, but are not limited to, carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons and sulfur hexafluoride. Project-related emissions of greenhouse gases will be limited to air pollutants generated during the temporary construction activities. Operations-related air pollutant emissions will result from infrequent vehicle trips to the project sites – the same as under existing conditions. Since operation of the project will not increase air pollutant emissions over existing conditions, the project will have no significant impact on climate change. Increases in vegetated area resulting from the project will have a beneficial impact. As described above, construction of the project will result in less than significant combustion emissions from vehicles and equipment. The impact on emissions of greenhouse gases and therefore climate change will be less than significant.

b) **No Impact.** The following policies and regulations are relevant to climate change in California:

- **Global Change Research Act of 1990** - In 1990, Congress passed and the President signed Public Law 101-606, *the Global Change Research Act of 1990*. The purpose of the legislation was . . . *to require the establishment of a United States Global Change Research Program aimed at understanding and responding to global change, including the cumulative effects of human activities and natural processes on the environment, to promote discussions towards international protocols in global change research, and for other purposes.*

  To that end, Global Change Research Information Office (GCRIO) was established in 1991 to serve as a clearinghouse of information and to provide interagency Global Change Data and Information System (GCDIS) to high level users. In 2000, the National Assessment Syntheses Team (NAST) formed under the United States Global Change Research Program (USGCRP) completed a report, entitled *National Assessment of the Potential Consequences of Climate Variability and Change,* to

assess the potential impacts on a national and regional level. The U.S. Climate Change Science Program (USCCSP) was launched in February 2002 as a collaborative interagency program, under a new cabinet-level organization designed to improve the government wide management of climate science and climate-related technology development. The CCSP incorporates and integrates the USGCRP with the Administration's U.S. Climate Change Research Initiative (CCRI).

The CCRI builds on the USGCRP, with a focus on accelerating progress over a 5-year period on the most important issues and uncertainties in climate science, enhancing climate observation systems, and improving the integration of scientific knowledge into policy and management decisions and evaluation of management strategies and choices.

- **State of California Executive Order S-3-05** - The Governor of California signed Executive Order S-3-05 on June 1, 2005. The Order recognizes California's vulnerability to climate change, noting that increasing temperatures could potentially reduce snowpack in the Sierra Nevada, a source of water supply in the State. Additionally, according to this Order, climate change could influence human health, coastal habitats, microclimates, and agricultural yield. To address these potential impacts, the Order mandates greenhouse gas emission reduction targets. More specifically, by 2010, greenhouse gas emissions are expected to be reduced to 2000 levels; by 2020, emissions are expected to reach 1990 levels; and by 2050, emissions are expected to be 80 percent below 1990 levels.

  The Secretary of the California Environmental Protection Agency (CEPA) will oversee the reduction program targets and coordinate efforts to meet these provisions with numerous State agencies, such as the Resource Agency, which includes the DWR. The Secretary of CEPA will also provide biannual reports to the Governor and the State Legislature regarding: (1) progress toward meeting the greenhouse gas emissions targets; (2) the ongoing impacts of global warming in the State, including impacts to water supply and the environment; and (3) potential mitigation and adaptation plans to combat these impacts. In order to achieve the climate change emission targets, in June 2005, the Secretary of CEPA formed the Climate Action Team (CAT). The CAT includes representatives from Air Resources Board; Business, Transportation, and Housing Agency; Department of Food and Agriculture; California Energy Commission (CEC); California Integrated Waste Management Board, Resources Agency (including DWR), and Public Utilities Commission. The CAT submitted a report in 2006 outlining the preliminary strategy to reduce GHG emission.

- **State of California Assembly Bill 32 –** California Global Warming Solutions Act - Assembly Bill (AB) 32, *California Global Warming Solutions Act of 2006*, was signed into law on September 27, 2006. With the Governor's signing of AB 32, the Health and Safety Code (Section 38501, Subdivision (a)) now states the following: *"Global warming poses a serious threat to the economic well-being, public health, natural resources, and the environment of California. The potential adverse impacts of global warming include the exacerbation of air quality problems, a reduction in*

the quality and supply of water to the state from the Sierra snowpack, a rise in sea levels resulting in the displacement of thousands of coastal businesses and residences, damage to marine ecosystems and the natural environment, and an increase in the incidences of infectious diseases, asthma, and other human health-related problems."

AB 32 requires the California Air Resources Board (CARB), in coordination with State agencies as well as members of the private and academic communities, to adopt regulations to require the reporting and verification of statewide greenhouse gas emissions and to monitor and enforce compliance with this program. Similar to Executive Order S-3-05, under the provisions of the bill, by 2020, statewide greenhouse gas emissions will be limited to the equivalent emission levels in 1990. To achieve the 2020 reduction goal, by January 2011, CARB shall adopt emission limits and reduction measures, which may include a system of market-based declining annual aggregate emission limits for sources or categories of sources that emit greenhouse gases. It is anticipated that limits and emission standards adopted by the CARB will become operative beginning January 2012. In addition, the CAT established by the Governor to coordinate the efforts set forth under Executive Order S-3-05 is expected to continue its role coordinating overall climate policy. On December 12, 2008, CARB adopted its Climate Change Scoping Plan pursuant to AB 32 (CARB, 2008).

- **State of California Senate Bill 375 -** On September 30, 2008, Governor Arnold Schwarzenegger signed Senate Bill (SB) 375, which seeks to reduce GHG emissions by discouraging sprawl development and dependence on car travel. SB 375 helps implement the AB 32 GHG reduction goals by integrating land use, regional transportation and housing planning.

As a habitat enhancement plan with the potential to increase vegetated area, the proposed project is consistent with greenhouse gas policies and regulations. Therefore, there is no impact on these policies and regulations.

2.3.8 Hazards and Hazardous Materials

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

Discussion:

a) and b) **Less Than Significant Impact.** Construction and operation of the proposed project will require the routine transport of limited quantities of fuel and herbicide. Fuel will be used for vehicles and power equipment during well, pipeline, french drain, and fence installation, and planting of riparian vegetation. Fuel will be contained within the manufacturer's tanks on all powered heavy equipment onsite, or in approved canisters for powered hand equipment. If necessary, a fuel/service truck will visit the sites, parking at a non-sensitive location such as a road shoulder on level ground. Equipment operators will move equipment to the fuel/service truck for refueling. No fuel will be stored onsite at the project locations.

Herbicides will be used for invasive species control. Pesticides will be applied by trained personnel in a highly targeted manner to individual woody plants or targeted patches. Pesticides will not be applied when weather conditions, including wind conditions are unsuitable for application. Pesticides used to control invasive plants and weeds will conform to the requirements of the California Food and Agriculture Code. Herbicides to be used may include (but may not be limited to):

- Garlon 4® Herbicide (active ingredient triclopyr (as butoxyethylester; BEE)) - According to the Material Safety Data Sheet (MSDS) (Dow, 2009), Garlon 4® is highly toxic to aquatic organisms on an acute basis and slightly toxic to birds on an acute basis.
- Telar (active ingredient chlorsulfuron) in areas away from waterways – According to the MSDS for the compound (DuPont, 2009), the active ingredient is considered to have very low to slight aquatic toxicity.
- Rodeo® (active ingredient glyphosate) in areas near waterways - According the MSDS for this compound (Dow, 2004), it is practically non-toxic to aquatic organisms on an acute basis.
- Roundup® (active ingredient glyphosate) in areas near waterways - According the MSDS for this compound (Monsanto, 2001), in small quantities it has low environmental hazard.
- Weedar 64® (active ingredient 2,4-Dichlorophenoxyacetic acid) in areas near waterways – According to the MSDS for the compound (Nufarm, 2002), 2,4-D DMA salt rapidly dissociated to the parent acid in the environment.

Herbicides will be contained on-site only in small quantities (e.g., 2.5 gallon containers) sufficient for a single day use by backpack-sized sprayers. Since herbicides can be toxic to aquatic organisms, all label directions will be followed during use including avoidance of exposure of aquatic habitats. Per manufacturer's instructions, compounds will be prevented from entering soils, ditches, sewers, waterways and/or groundwater.

As is the current practice by LADWP, use of these hazardous materials will be carefully monitored to limit exposure of humans or environmental receptors. Therefore, impacts related to release or accidental exposure to humans or the environment will be less than significant.

The project includes distribution of water to surface features and therefore the project has the potential to create mosquito habitat. The Owens Valley Mosquito Abatement Program (OVMAP), part of Inyo County Environmental Health Services, currently conducts vector monitoring, and applies biological controls and adulticides where warranted. In addition to these vector management activities, adaptive management of the projects will be used as necessary to control vector populations. For example, at Freeman Creek irrigation management could rotate water around the pasture to provide for drying periods for mosquito control. At Warren Lake, the timing of the release could be altered to prevent mosquito breeding. Since adaptive management measures are included as part of the project, project impacts related to mosquitoes will be less than significant.

c) **Less Than Significant Impact.** There are no schools with ¼ mile of any of the project sites. The closest school is the Keith Bright School, located over 1 mile from the North of

Mazourka Canyon Road project site. Hazardous materials use will be limited to herbicides and fuels. Since these materials will be properly handled (as described above), the impact on the schools from hazardous materials will be less than significant.

d) **No Impact.** Section 65962.5 of the California Government Code requires the California Environmental Protection Agency (CalEPA) to update a list of known hazardous materials sites, which is also called the "Cortese List." The sites on the Cortese List are designated by the State Water Resources Control Board, the Integrated Waste Management Board, and the Department of Toxic Substances Control.

Based on a search of hazardous waste and substances sites listed in the Department of Toxic Substances Control (DTSC) "EnviroStor" database; a search of leaking underground storage tank (LUST) sites listed in the State Water Resources Control Board (SWRCB) "GeoTracker" database; and a search of solid waste disposal sites identified by the SWRCB with waste constituents above hazardous waste levels outside the waste management unit, there were no sites listed on or adjacent to the eight mitigation sites. Therefore, the projects will have no impact related to hazardous waste sites.

e) and f) **No Impact.** The project areas are not located sufficiently near either a private airstrip or public airport to pose a safety risk. The Independence Airport is located over 3 miles west of the North of Mazourka Canyon Road project site. There will be no project-related impacts on airport safety.

g) **Less Than Significant Impact.** Since construction activities will only occur within the habitat areas, construction activities or vehicles will not interfere with the movement of emergency vehicles on public roads. The impact from travel of the construction workers and equipment to the project sites will have a less than significant impact on emergency access and evacuation plans.

h) **Less Than Significant Impact.** Proposed structures include wells, pipelines, french drains, flow monitoring devices, and fences; habitable structures do not exist and none are proposed on the project sites. The goal of implementing the Additional Mitigation Projects is to enhance and create riparian, aquatic, wetland and/or spring habitats. Project implementation will increase vegetation and therefore the volume of fuel – potentially increasing fire frequency and intensity. However, each of the project sites is located on LADWP-owned land subject to LADWP's fire management strategies. If warranted, seasonal grazing within exclosures may be used to reduce fire hazards. Burning, firewood cutting and wood gathering are done in coordination with LADWP. Unintentional fires in riparian areas will be given high priority for fire suppression. With implementation of the fire control strategies, impacts on people and structures from wildland fires will be less than significant.

2.3.9 Hydrology and Water Quality

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

Discussion:

Surface waters on the project sites are:

- **Freeman Creek** - a small perennial stream originating in the Sierra Nevada. Average annual flow in Freeman Creek is 214 AF/yr (excludes years with partial data). In most years, Freeman Creek runoff provides less than 200 AF, but the distribution is highly skewed with the highest values two or three times greater than typical annual flows. In some summer months, the creek flow is near zero. Hot Ditch flows north from Keough's Hot Spring Resort, which is southwest of the Freeman Creek project site.
- **Hines Spring Well 355** – Hines Spring is an historic spring vent area that has been dry for many years.
- **Aberdeen Ditch** – Aberdeen Ditch flows from the west to the southeast from south of Hines Spring to the Aqueduct.
- **North of Mazourka Canyon Road** – Artesian flow from Well V008 supports a small wetted area. Emergent vegetation and infiltration prevent significant flows in the outflow channel.
- **Homestead** – Stevens Ditch Canal runs north-south to the west of the Homestead mitigation site.
- **Diaz Lake** – Diaz Lake is an approximately 75-acre lake leased from LADWP by Inyo County for a park and campground. Natural input is limited to groundwater discharge and precipitation. The lake has no natural outlet and losses occur primarily through evapotranspiration.
- **Warren Lake** – Warren Lake is a playa that fills with water intermittently. The playa has overflowed to the east to Klondike Lake during wet years.

a) and f) **Less than Significant Impact.** Beneficial uses and water quality objectives are specified in the Water Quality Control Plan for the Lahontan Region (Basin Plan) prepared by the Lahontan Regional Water Quality Control Board (Regional Board, 2005). Relevant to the project sites, beneficial uses are designated for Keough Hot Springs, Big Pine Canal, Warren Dry Lake Wetlands, Diaz Lake, as well as minor surface waters and minor wetlands within the Owens River watershed (**Table 6**).

Table 6
Beneficial Uses of Surface Waters on or near the Project Sites
(Regional Board, 2005)

Surface water	MUN	ARG	IND	GWR	FRSH	NAV	REC-1	REC-2	COMM	WARM	COLD	WILD	RARE	SPWN	WQE	FLD
Keough Hot Springs		X		X			X	X	X	X	X	X				
Big Pine Canal, Canal	X	X		X			X	X			X	X				
Big Pine Canal, Wetlands	X	X		X	X		X	X		X		X			X	X
Warren Dry Lake wetlands	X	X		X			X	X		X		X			X	X
Diaz Lake	X	X		X		X										
Minor surface waters – Lower Owens hydrologic unit	X	X	X	X			X	X	X	X	X	X	X	X		
Minor wetlands - Lower Owens hydrologic unit	X	X		X	X		X	X	X	X	X	X			X	X

MUN – municipal and domestic supply; AGR – agricultural supply; IND – industrial service supply; GWR – groundwater recharge, FRSH – freshwater replenishment, NAV – navigation; REC-1 – water contact recreation; REC-2 – noncontact water recreation; COMM – commercial and sportfishing; WARM – warm freshwater habitat; COLD – cold freshwater habitat, RARE – rare, threatened, or endangered species; SPWN – spawning, reproduction and development; WQE – water quality enhancement; FLD - flood peak attenuation/flood water storage.
Source: Regional Board, 2005.

Waterbody-specific numeric objectives for the protection of these beneficial uses are not specified in the Basin Plan for the surface waters relevant to the project sites. However, narrative and numeric water quality standards applicable to all surface waters (including wetlands) in the region are applicable for: ammonia, bacteria, coliform, biostimulatory substances, chemical constituents, chlorine, total residual color, dissolved oxygen, floating materials, oil and grease, non-degradation of aquatic communities and populations, pesticides, pH, radioactivity, sediment, settleable materials, suspended materials, taste and odor, temperature, toxicity, and turbidity.

No waste discharges are associated with operation of the proposed project. During project construction, minor disturbance to surface soils will result from well, pipeline, and ditch installation, from plantings, and from minor grading of dirt roadways if necessary to locate the drill rig. Since the volume of soil to be disturbed under the project is minor, increases of sediment load in stormwater will not adversely affect surface water beneficial uses and impacts will therefore be less than significant. Distribution of water to previously dry washes may result in erosion of accumulated sand. The impact on water quality will be temporary until equilibrium with the new hydrology is reached. The impact on water

quality will be less than significant. The impacts on designated beneficial uses related to habitat and recreation are beneficial.

b) **Less than Significant Impact.** The mitigation projects involve:

- Water diversions from one surface water to another – At Freeman Creek, flows in Hot Ditch will be reduced and flows to Freeman Creek Wash and Keough's Wash, and on-site ditches will increase. At Aberdeen Ditch, flows from the ditch to the Aqueduct will be reduced and flows to Hines Spring will increase. At Warren Lake, flows in Big Pine Canal will decrease and flows to Warren Lake will increase.

- Water diversions to reduce groundwater pumping – At Diaz Lake, flows to the Aqueduct to Diaz Lake will increase (250 AF/yr) and pumping from Well 82 will be reduced.

- New pumped well – At Hines Spring Well 355, the new pump at Well 355 will produce 240 AF/yr.

- New artesian wells – At North of Mazourka Canyon Road, Homestead, and Well 368 a total of five artesian wells will flow to surface (150 AF/yr per well). Using data from a multi-completion well, and in consideration of historic fluctuations, there is sufficient head in the deep aquifer east of Independence and west of the Owens Valley fault to allow installation of flowing wells as close as 2,000 feet apart (LADWP Staff Analysis).

Overall at the eight project sites, pumped groundwater will be similar to existing conditions (an increase of 240 AF/yr at Hines Spring and a decrease of 250 AF/yr at Diaz Lake). Artesian groundwater flow will increase at three of the project sites. At the other sites, surface waters will be diverted but net groundwater recharge from the surface waters will not be substantially impacted. Increases in vegetation resulting from the project will change evapotranspiration rates over existing conditions, but this minor effect will not substantially deplete groundwater supplies or impact off-site groundwater users. The projects are mitigation for impacts associated with the increased water exports from the Owens Valley since 1970 via the second barrel of the Aqueduct. The project will not substantially deplete groundwater supplies; the impact is less than significant on groundwater volumes.

c) and d) **Less than Significant Impact.** Additional physical alterations that will affect site drainage are not planned at Freeman Creek but additional flows will be provided to Freeman Creek Wash, Keough's Wash, and on-site ditches. The Hines Spring / Aberdeen Ditch, North of Mazourka Canyon Road, Homestead and Well 368 projects will not alter site drainage but will provide additional volumes of water to low points on the project sites to enhance and create riparian, aquatic, wetland and/or spring habitats. To implement these projects, limited areas (e.g., 0.5 acres for new wells) will be disturbed resulting in minor changes to site drainage patterns. The only structures proposed are new well heads, stockwater troughs, fence posts, and small berms. Since these minor improvements are so limited in area, alteration to surface drainage and exiting flooding patterns will not be substantial. The impact on erosion and flooding is less than significant.

e) **No Impact**. Stormwater flows across the project sites and infiltrates or enters existing surface water features, sometimes reaching the Owens River and the Aqueduct. Since the projects will not alter the volume of stormflows, and since engineered stormdrains are not

present on the project site and are not proposed, there will be no impact on the capacity of existing or planned stormwater drainage systems nor an addition of substantial new sources of polluted runoff.

g), h) and i) **No Impact.** A 100-year floodplain has not been delineated on Freeman Creek in the project area, Aberdeen Ditch at Hines Spring, the outflow channel at the North of Mazourka Canyon Road site, Stevens Ditch Channel at the Homestead site, or at the Well 368 site (FEMA, 1985). Some of the sites are in close proximity to the 100-year floodplain of the Owens River. However, no aboveground structures aside from well heads, stockwater troughs, fence posts, and small berms are proposed as part of the projects. Aside from redirection of flows proposed as part of the projects (e.g., proposed channel control structure at Hines Spring Well 355), there will be no impediment or redirection of flood flows, nor risks to habitable structures. No levees or dams are present on the project sites and no off-site levees or dams will be modified as part of project implementation. The project will have no impact on housing or structures in a 100-year flood hazard area.

j) **Less than Significant Impact.** Due to the distance to large surface water features from the project sites with new facilities, seiche and tsunami are not relevant for the proposed project. However, mudflows originating at higher elevations above project areas and then moving across the sites are a possible phenomenon. Since no habitable structures are planned as part of the project, people will not be exposed to injury or death from mudflows. Well heads, stockwater troughs, fence posts, and small berms are the only project elements that could potentially be damaged in the event of mudflow. Since the damage could be readily repaired by re-installing the facilities, the impact will be less than significant.

2.3.10 Land Use and Planning

Issues and Supporting Information Sources	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Physically divide an established community?	☐	☐	☐	☒
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☒
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	☒

Discussion:

a) **No Impact.** The proposed project is located in an area zoned for open space and used for ranching, wildlife habitat, and recreation. No habitable structures are located on or immediately adjacent to the properties, and none are planned as part of the proposed project. Therefore, there will be no project-related impacts on established communities.

b) **No Impact.** The Inyo County General Plan (2001) includes Goal BIO-1: Maintain and enhance biological diversity and healthy ecosystems through the County. Policy BIO-1.2 calls for the preservation of riparian habitat and wetlands and Policy BIO-1.3 calls for the restoration of biodiversity. As a project expected to result in the enhancement or creation of riparian, aquatic, wetland and/or spring habitats, the proposed project is consistent with these General Plan goal and policies. Accordingly, there will be no adverse impacts on applicable land use plans and policies.

c) **No Impact.** There are no Significant Natural Areas (SNAs) as determined by CDFG at the mitigation sites, and there are no adopted habitat conservation plans or natural community conservation plans for these sites. LADWP is currently preparing a Habitat Conservation Plan (HCP) for LADWP-owned lands in Inyo County; this plan is not yet finalized. The proposed project is a habitat enhancement plan that will be adopted by LADWP. Therefore, there will be no impact on any other adopted habitat plan or natural community conservation plan.

2.3.11 Mineral Resources

Issues and Supporting Information Sources	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	☐	☐	☐	☒

Discussion:

a) and b) **No Impact.** There is no existing mining activity at the project sites. None of the mitigation sites are locally-important mineral resource recovery sites. Implementation of the proposed project is anticipated to result in habitat, riparian, and wetland enhancement. These actions will not limit future mineral recovery activities or result in the loss of availability of known mineral resources. There will be no project-related impacts on mineral resources.

2.3.12 Noise

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

Discussion:

a) and d) **Less Than Significant Impact.** Aside from the Keough's Hot Spring Resort at the Freeman Creek site, no habitable structures are located on or immediately adjacent to the properties, and none are planned as part of the proposed projects. Construction is not proposed at Freeman Creek, therefore no project-related noise impacts will result at the resort. The mitigation areas are located on active ranches; the nearest residences are located over 1 mile from any of the project sites (residences in Aberdeen are over 1 mile west of the Hines Spring Well 355 and Aberdeen Ditch project sites). The nearest school to any of the project sites is the Keith Bright School, located on Mazourka Canyon Road over 1 mile from the North of Mazourka Canyon Road mitigation area.

Noise generating equipment that will be used to construct project facilities will include drill rigs, power augers, air compressors, ditch witches, backhoes, and potentially all terrain vehicles. Given the distance of the mitigation areas from residences and schools, noise generated during construction will be inaudible at these sensitive receptors. Noise may be temporarily noticeable to ranch workers or persons visiting the sites for recreation. Project operation will generate minor noise related to invasive species management and infrequent vehicle travel. Therefore, noise impacts during construction and operation will be less than significant.

b) **Less Than Significant Impact.** Well drilling and the use of power augers for fence installation may create minor groundborne vibration or groundborne noise. Since the closest buildings to the project sites with wells or fence installation planned are over 1 mile away, impacts related to temporary groundborne vibration or noise will be less than significant.

c) **No Impact.** Noise generated during project operation will include intermittent vehicle travel and ranch operations-related noise - the same as existing conditions. Therefore, there will be no permanent increase in ambient noise levels related to the project.

e) and f) **No Impact.** The project areas are not located sufficiently near either a private airstrip or public airport to expose people residing or working in the area to experience excessive noise levels. The Independence Airport is located over 3 miles west of the North of Mazourka Canyon Road project site. There will be no project-related impacts on noise near an airport/airstrip.

2.3.13 Population and Housing

Issues and Supporting Information Sources	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	☒
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

Discussion:

a) through c) **No Impact.** Aside from the Keough's Hot Spring Resort at the Freeman Creek site, no habitable structures are located on or immediately adjacent to the properties, and none are planned as part of the proposed projects. The resort property is located upstream of the project site at Freeman Creek and will therefore not be impacted by project activities. There will be no impacts on population and housing from implementation of the mitigation projects.

2.3.14 Public Services

Issues and Supporting Information Sources	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
i) Fire protection?	☐	☐	☒	☐
ii) Police protection?	☐	☐	☐	☒
iii) Schools?	☐	☐	☐	☒
iv) Parks?	☐	☐	☐	☒
v) Other public facilities?	☐	☐	☐	☒

Discussion:

a)-i) **Less Than Significant Impact.** The goal of implementing the Additional Mitigation Projects is to enhance and create riparian, aquatic, wetland and/or spring habitats. Project implementation will increase vegetation and therefore the volume of fuel – potentially increasing fire frequency and intensity. However, each of the project sites is located on LADWP-owned land subject to LADWP's fire management strategies. If warranted, seasonal grazing within exclosures may be used to reduce fire hazards. Burning, firewood cutting and wood gathering are done in coordination with LADWP. Unintentional fires in riparian areas will be given high priority for fire suppression. With implementation of the fire control strategies, increases in the need for fire services will therefore be less than significant.

a)-ii – v) **No Impact.** Habitable structures are not present on the project sites and none are proposed as part of the projects. Keough's Hot Spring Resort is located upstream of project facilities at the Freeman Creek site, but will not be impacted by project activities. Recreation use and the subsequent need for police services will be the same as existing conditions. Therefore, there will be no project-related impacts on police protection, schools, parks, or other public facilities.

2.3.15 Recreation

	Issues and Supporting Information Sources	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a)	Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☒	☐
b)	Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☒	☐

Discussion:

a) **Less Than Significant Impact.** Habitable structures are not present on the project sites and none are proposed as part of the project. Keough's Hot Spring Resort is located upstream of project facilities at the Freeman Creek site, but will not be impacted by project activities. Therefore, the project will not result in population increases that will subsequently increase the use of park and recreational facilities. Diaz Lake is currently used as a recreational area; the property is leased from LADWP by Inyo County for a park and campground. Under the project, 250 AF/yr will be allotted to Diaz Lake; no additional infrastructure or monitoring devices will be constructed. Therefore, the project will result in a less than significant, but beneficial, impact to Diaz Lake. No impact to the other seven mitigation areas will occur relative to recreation.

b) **Less Than Significant Impact.** Unless increased demand or conflicts require increased management, new procedures to manage recreation at the mitigation sites is not proposed. Construction of project facilities may temporarily impact fishing, hunting, hiking, bird-watching, and biking in the project areas. However, since the intent of water distribution at the project sites is to enhance and create riparian, aquatic, wetland and/or spring habitats, the impact on recreation is less than significant, but beneficial.

2.3.16 Transportation and Traffic

Issues and Supporting Information Sources	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	☐	☐	☒	☐
b) Conflict with an applicable congestion management program, including but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	☐	☐	☒	☐
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☐	☒
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☒	☐
e) Result in inadequate emergency access?	☐	☐	☐	☒
f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	☐	☐	☐	☒

Discussion:

a) and b) **Less Than Significant Impact.** Construction of the project will result in a minimal number of construction vehicles and workers traveling to the project sites. There will be no impact on traffic patterns in the nearby towns of Big Pine, Aberdeen, and Independence. The temporary increase in traffic in and around the rural project sites is less than significant.

c) **No Impact.** The project areas are not located sufficiently near either a private airstrip or public airport, nor does the project contain features that will alter air traffic patterns. The Independence Airport is located over 3 miles west of the North of Mazourka Canyon Road project site. No impacts on air safety will occur.

d) **Less Than Significant Impact.** Substantial roadway alterations are not proposed as part of the project. Placement of drill rigs at the North of Mazourka Canyon Road, Homestead, and Well 368 project sites may require minor grading of existing dirt access roads. These roadways will continue to be suitable for their existing uses and no new roadway hazards will be created. The impact is less than significant on roadway hazards.

e) **No Impact.** Aside from minor grading potentially required to bring drill rigs to three of the project sites, roadway alternations are not proposed as part of the project so access to the project sites will not be altered. As is existing practice, keys to gates at the project areas will be provided to emergency service providers. There will be no impact on emergency access.

f) **No Impact.** The project does not include housing, employment, or roadway improvements relevant to alternative transportation measures. Recreational biking (but not commuting) within the project area is an existing use that will continue under the proposed project. Therefore, there will be no project-related impacts on alternative transportation.

2.3.17 Utilities and Service Systems

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

Discussion:

a) through c) and e) through g) **No Impact.** The project does not include or induce housing or employment which will result in the need for public services and utilities. With the exception of irrigation water features, the project sites do not contain water, sewage, or solid waste infrastructure, nor are any proposed under the project. There will be no project-related impacts on public utilities and service systems.

d) **No Impact.** There is no plumbed potable water serving the project sites. Water troughs for livestock will be supplied at the North of Mazourka Canyon Road, Homestead, and Well 368 project sites. The project will have no impact on water utility service.

2.3.18 Mandatory Findings of Significance

	Issues and Supporting Information Sources	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a)	Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?	☐	☒	☐	☐
b)	Does the project have the potential to achieve short-term, to the disadvantage of long-term, environmental goals?	☐	☐	☐	☒
c)	Does the project have impacts that are individually limited, but cumulatively considerable ("cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, effects of other current projects, and the effects of probable future projects.)?	☐	☐	☒	☐
d)	Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☒	☐

Discussion:

a) **Less Than Significant Impact With Mitigation Incorporated.** Project operation will have a beneficial impact on sensitive riparian, spring, wetland, and aquatic habitats. In addition, the project will provide a reliable water supply to support an existing population of the federal- and state-endangered Owens pupfish at Well 368. The impacts on biological resources are beneficial.

Cultural resources are present on the project sites. Mitigation measures have been defined to re-align proposed facilities to avoid existing resources, and to monitor construction activities for unknown resources. Therefore, with implementation of mitigation measures, impacts on cultural resources will be less than significant.

b) **No Impact**. The goal of implementing the Additional Mitigation Projects Developed by the MOU Ad Hoc Group is to distribute allotted water to enhance and create riparian, aquatic, wetland and/or spring habitats. This is a long-term goal of habitat enhancement. There are no short-term goals related to the project that will be disadvantageous to this long-term goal.

c) **Less Than Significant Impact.** There are no known projects in the immediate area of the project sites that will have overlapping construction schedules with the proposed project. Therefore, cumulative construction-related impacts on air quality, noise, and traffic will be less than significant. Cumulatively with other habitat enhancement efforts in the Owens Valley, the proposed project will be beneficial.

d) **Less Than Significant Impact.** The proposed project will have an impact on local agriculture by restricting the operations of lessees on LADWP-owned lands. While these restrictions include construction of limited fencing, they do not represent irrevocable conversion of land use. Since these restrictions do not eliminate grazing on the lease and are management actions necessary to meet the multi-purpose uses of the parcels (agriculture, wildlife habitat, and recreation), the impact will be less than significant.

Section 3
References, Abbreviations and Report Preparation

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3.2 ACRONYMS AND ABBREVIATIONS

AF	Acre-feet
APE	Area of Potential Effect
AQMP	Air Quality Management Plan
bgs	below ground surface
BLM	(United States) Bureau of Land Management
BMPs	best management practices
CalEPA	California Environmental Protection Agency
Caltrans	California Department of Transportation
CDF	California Department of Forestry
CDFG	California Department of Fish and Game
CEQA	California Environmental Quality Act
cfs	cubic feet per second
CNDDB	California Natural Diversity Database
CRHR	California Register of Historic Resources
EIC	Eastern Information Center (at University of California at Riverside)
EIR	Environmental Impact Report
ESI	Ecosystem Sciences, Inc.
ESWMA	Eastern Sierra Weed Management Area
Farmland	Prime Farmland, Unique Farmland, or Farmland of Statewide Importance
FEMA	Federal Emergency Management Agency
GBUAPCD	Great Basin Unified Air Pollution Control District
GCRIO	Global Change Research Information Office
GLO	(United States) General Land Office
gpm	gallons per minute
HCP	Habitat Conservation Plan
ICWD	Inyo County Water Department
IS	Initial Study
LADWP	(City of) Los Angeles Department of Water and Power
LUST	Leaking underground storage tank
MDBM	Mount Diablo Baseline and Meridian
MND	Mitigated Negative Declaration

MOU	Memorandum of Understanding
NAHC	Native American Heritage Commission
NRHP	National Register of Historic Places
OVC	Owens Valley Committee
OVMAP	Owens Valley Mosquito Abatement Program
PM10	particulate matter 10 microns or less in diameter
SCAQMD	South Coast Air Quality Management District
SIP	state implementation plan
SLC	State Lands Commission
SNA	Significant Natural Areas
SWRCB	State Water Resources Control Board
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey

3.3 PREPARERS OF THE INITIAL STUDY

Los Angeles Department of Water & Power
Environmental Services
111 N. Hope Street, Room 1044
Los Angeles, CA 90012

Charles Holloway, Manager of Environmental Planning and Assessment
Irene Paul, Project Manager

TECHNICAL ASSISTANCE PROVIDED BY

MWH Americas, Inc.
Sarah Garber, Project Manager
Dr. Janet Fahey, P.E., Technical Reviewer
Lauren Siniawer, Environmental Planner

Garcia and Associates
Carole Denardo, RPA, Cultural Resources Manager
Phil Reid, Archaeologist
Ferdinand Oberle, Paleontologist