# Initial Study

**for**

# Owens Dry Lake
# Phase 7a Dust Control Measures

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

**May 2011**

# CEQA Initial Study

# Owens Dry Lake Phase 7a Dust Control Measures

May 2011

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# Section 1
# Project and Agency Information

## 1.1 PROJECT TITLE AND LEAD AGENCY

| | |
|---|---|
| **Project Title:** | Owens Dry Lake Phase 7a Dust Control Measures |
| **Lead Agency Name:** | Los Angeles Department of Water & Power |
| **Lead Agency Address:** | 111 North Hope Street, Room 1044<br>Los Angeles, California 90012 |
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| **Project Sponsor:** | Same as Lead Agency |

## 1.2 PROJECT BACKGROUND AND OBJECTIVES

### 1.2.1 Background

The City of Los Angeles Department of Water and Power (LADWP) is currently implementing the Owens Lake Dust Mitigation Program (OLDMP) on Owens Dry Lake in order to reduce exceedances of the state and federal particulate matter ($PM_{10}$) air quality standards. LADWP constructs and operates dust control measures (DCMs) on the lake in compliance with Agreements with the Great Basin Unified Air Pollution Control District (GBUAPCD) under the authority of California Health & Safety Code Sec. 42316, legal settlement agreements with GBUAPCD, lease agreements for use of state lands (administered by the California State Lands Commission (CSLC)), and other regulatory approvals.

Under Phase 7 of the OLDMP, seven parcels on 3.5 square miles of Owens Dry Lake were proposed for the implementation of Moat and Row DCM. A lease from CSLC for one of the seven parcels (area T1A-1) was granted in December 2009 for the installation of sand fences on approximately 0.4 square miles; construction of the sand fences was completed in October 2010. However, a lease to construct the Moat and Row facilities on the remaining 3.1 square miles was denied in April 2010. In May 2010, LADWP proposed to amend the project description for the Phase 7 Moat and Row project to include Tillage on a portion of the project area as an interim DCM. Tillage on 3.1 square miles (within six parcels) was approved by GBUAPCD, but because of challenges related to soil conditions and the need for special tilling equipment in five of the six targeted parcels, implementation was not completed. Tillage is proposed to be implemented in T12-1 as part of the Phase 7a project. Since implementation of the Moat and Row DCM is no longer planned, LADWP has defined a new project, Phase 7a, to control dust on the previously identified Phase 7 Moat and Row areas (T1A-3, T1A-4, T12-1, T32-1, T37-1, and T37-2) that had been identified as emissive by GBUAPCD.

LADWP has prepared this Initial Study (IS) to address the impacts of construction and operation of the Owens Dry Lake Phase 7a DCMs (Phase 7a project). Phase 7a will expand and modify the existing system of DCMs on the lake by installation of DCMs on currently uncontrolled areas and modification of existing DCMs in other areas of the lake (Transition Areas). Phase 7a includes Best Available Control Measures (BACM) approved for controlling dust emissions on Owens Dry Lake: Gravel Cover, Shallow Flooding and Managed Vegetation.

The IS has been prepared in accordance with the California Environmental Quality Act (CEQA), Public Resources Code Section 21000 et seq., and the State CEQA Guidelines, Title 14 California Code of Regulations (CCR) Section 15000 et seq. The IS serves to identify the site-specific impacts, evaluate their potential significance, and determine the appropriate document needed to comply with CEQA. For this project, LADWP has determined, based on the information reviewed and contained herein, that the proposed Phase 7a project could potentially have a significant environmental impact. Based on this IS, an Environmental Impact Report (EIR) is the appropriate CEQA document.

### 1.2.2 Project Objectives

The Phase 7a project will be implemented in compliance with Order 110317-01 of the GBUAPCD. The objective of the Phase 7a project is to control dust emissions by implementation of BACM on 3.1 square miles of Owens Dry Lake in a manner that does not increase water commitments. To meet this objective, dust control will be installed on 3.1 square miles of area identified as emissive by GBUAPCD. In addition, 3 to 4 square miles of existing shallow flooding dust control areas (DCAs) will be transitioned to a Hybrid dust control method. Hybrid dust control is a new concept that will incorporate the use of the three approved dust control measures: Shallow Flooding, Managed Vegetation and Gravel Cover. The transition to Hybrid dust control will allow a more efficient use of water at Owens Dry Lake. The Phase 7a Project consists of a total of 3.1 square miles of new DCAs and 3 to 4 square miles of Transition Areas for a total area of 6.1 to 7.1 square miles.

#### 1.2.2.1 Previous Environmental Documentation

To analyze the environmental effects of the Owens Valley $PM_{10}$ Planning Area Demonstration of Attainment State Implementation Plan (SIP) (GBUAPCD, 2008a), the GBUAPCD prepared and certified a Final Subsequent Environmental Impact Report (2008 SIP FSEIR) (GBUAPCD, 2008b) on February 1, 2008 and authorized the implementation of 15.1 square miles of dust control within the Owens Lake Planning Area. As noted above, approximately 3.5 square miles of this area was proposed for construction of Moat and Row DCM. LADWP prepared and certified a Supplemental EIR for the Owens Lake Revised Moat and Row DCMs in 2009 (LADWP, 2009) which tiered off the 2008 SIP FSEIR to address changes to the design and operation and maintenance plan for the Moat and Row DCMs. An Addendum to the Moat and Row SEIR was prepared by LADWP in May 2010 to address the change in the project description to add Tillage as an interim DCM.

Under the Phase 7a project, LADWP will implement current BACM including Gravel Cover, Shallow Flooding, and Managed Vegetation within six subareas totaling 3.1 square miles of the surface of the Owens Dry Lake playa to reduce $PM_{10}$ emissions. Additionally, 3 to 4 square

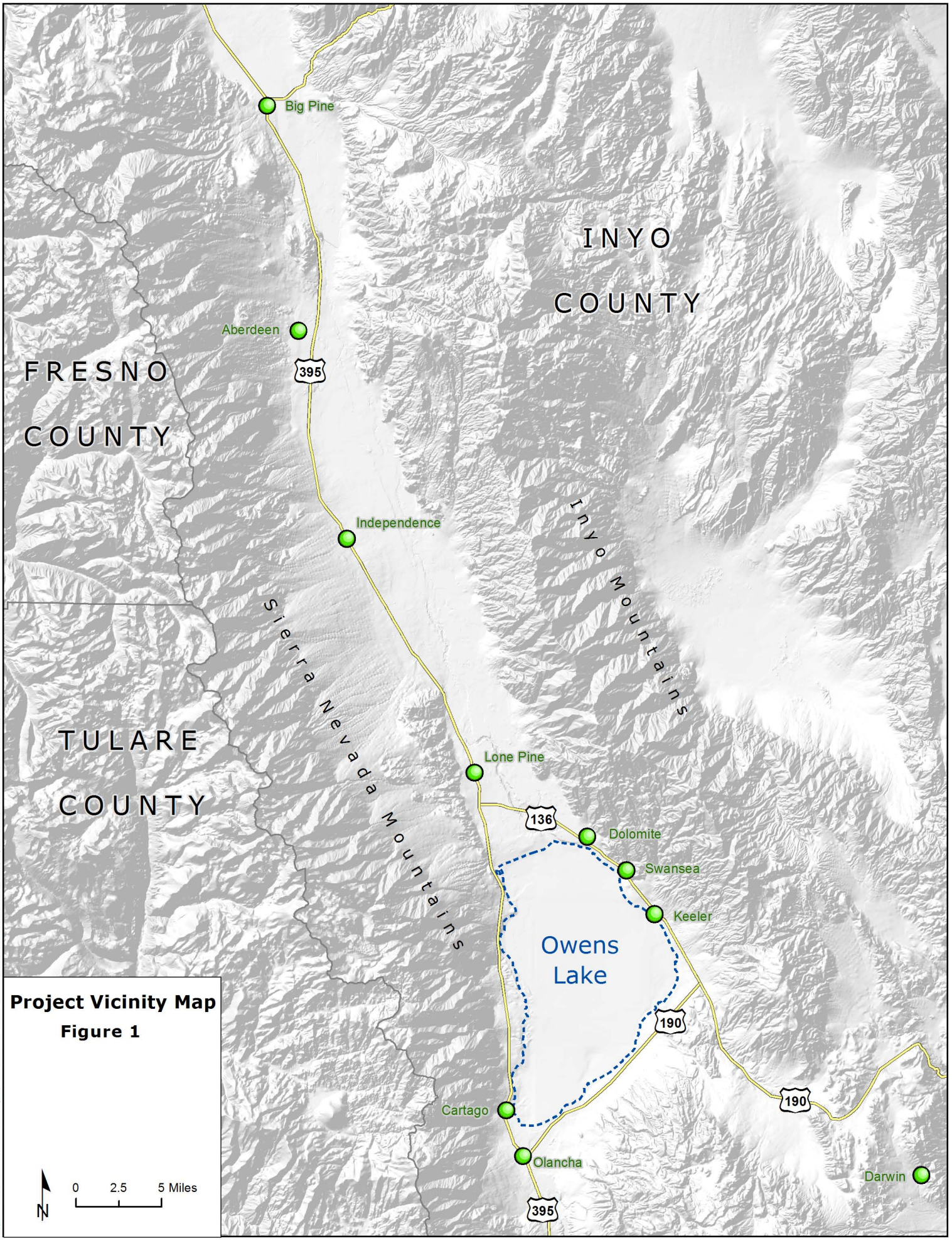
miles of existing Shallow Flooding DCAs (out of 6 square miles under consideration) will be transitioned to a mix of BACM to conserve water. A total of 9.1 square miles (the 3.1 square miles of new DCAs plus the 6 square miles of potential Transition Areas) is the subject of this environmental review document.

## 1.3 PROJECT LOCATION AND ENVIRONMENTAL SETTING

The 110-square-mile Owens Dry Lake is located in Inyo County, California, approximately 5 miles south of the community of Lone Pine (**Figure 1**) and approximately 61 miles south of the city of Bishop. Owens Dry Lake is bounded by State Route (SR) 136 to the north and east, SR 190 to the south, and U.S. Highway (U.S.) 395 to the west. Phase 7a project areas are located as noted in **Table 1** and **Figure 2**. Other nearby communities include Swansea and Dolomite to the northeast, Keeler to the east, and Cartago and Olancha to the south.

**Table 1**
**Locations of Phase 7a Dust Control Areas**

| DCA | Size (acres) | USGS 7.5 Min Quadrangle | Nearest Community - Distance (miles) |
|---|---|---|---|
| T1A-3 | 517 | Vermillion Canyon | Cartago - 2.3 |
| T1A-4 | 621 | Vermillion Canyon | Cartago - 3.4 |
| T12-1 | 209 | Owens Lake | Keeler - 7.1 |
| T32-1 | 101 | Dolomite | Keeler - 4.3 |
| T37-1 | 137 | Lone Pine | Dolomite - 4.8 |
| T37-2 | 378 | Bartlett | Dolomite - 5.9 |
| T1A-2_a | 259 | Olancha/Vermillion Canyon | Cartago - 1.3 |
| T10-2_a | 270 | Vermillion Canyon | Olancha - 6.6 |
| T2-1 | 334 | Owens Lake | Cartago - 1.3 |
| T5-1 | 87 | Vermillion Canyon | Olancha - 4.6 |
| T5-3 | 141 | Vermillion Canyon | Olancha - 4.9 |
| T5-3 Addition_a | 86 | Vermillion Canyon | Olancha - 5.4 |
| A5-3 Addition_b | 52 | Vermillion Canyon | Olancha - 5.4 |
| T26 | 853 | Owens Lake | Keeler - 0.3 |
| T28N | 454 | Owens Lake / Dolomite | Swansea - 1.0 |
| T28S | 300 | Owens Lake | Swansea - 1.6 |
| T30-1_a | 169 | Dolomite | Swansea - 0.4 |
| T30-1_b | 523 | Dolomite | Swansea - 0.4 |
| T35-1 | 79 | Lone Pine | Dolomite - 3.4 |
| T35-2 | 85 | Lone Pine | Swansea - 3.5 |
| T36-1_b | 309 | Dolomite | Dolomite - 2.9 |


Big Pine
INYO
COUNTY
Aberdeen
395
FRESNO
COUNTY
Independence
Inyo Mountains
Sierra Nevada Mountains
TULARE
COUNTY
Lone Pine
136
Dolomite
Swansea
Keeler
Owens
Lake
190
190
Cartago
Olancha
Darwin
395
Project Vicinity Map
Figure 1
0
2.5
5 Miles
N
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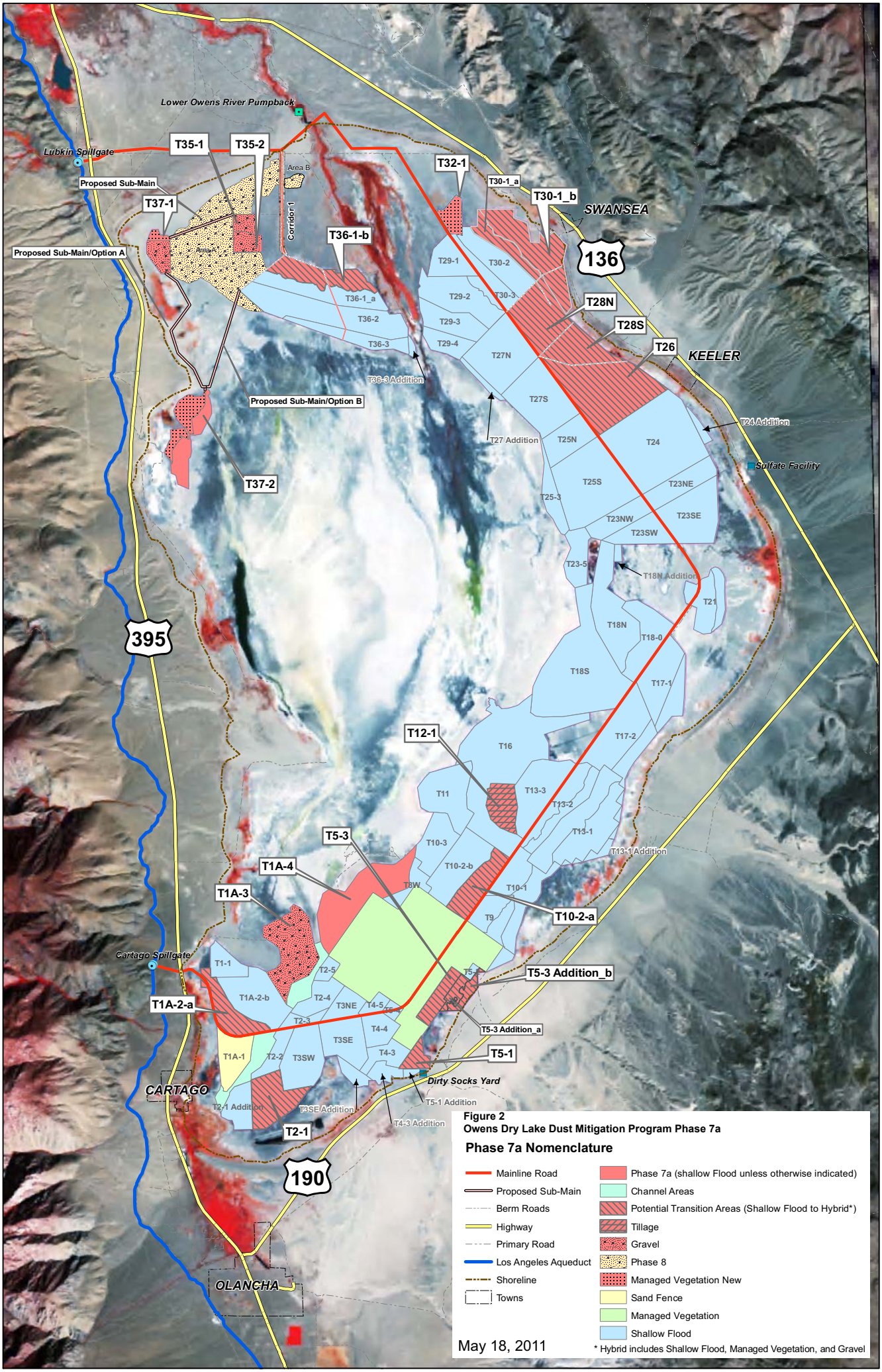



**Figure 2**
**Owens Dry Lake Dust Mitigation Program Phase 7a**

## Phase 7a Nomenclature

- Mainline Road
- Proposed Sub-Main
- Berm Roads
- Highway
- Primary Road
- Los Angeles Aqueduct
- Shoreline
- Towns
- Phase 7a (shallow Flood unless otherwise indicated)
- Channel Areas
- Potential Transition Areas (Shallow Flood to Hybrid*)
- Tillage
- Gravel
- Phase 8
- Managed Vegetation New
- Sand Fence
- Managed Vegetation
- Shallow Flood

May 18, 2011

* Hybrid includes Shallow Flood, Managed Vegetation, and Gravel

New Phase 7a DCAs (T1A-3, T1A-4, T12-1, T32-1, T37-1, and T37-2) are predominantly barren playa with limited vegetative cover. Areas of vegetation are present in T32-1, T37-1 and T37-2. The remaining Phase 7a areas are existing Shallow Flooding DCAs (T1A-2_a, T10-2_a, T2-1, T5-1, T5-3, T5-3 Addition_a, T5-3 Addition_b, T26, T28N, T28S, T30-1_a, T30-1_b, and T36-1_b, and potentially T35-1 and T35-2) proposed for transition to BACM Hybrid.

## 1.4 PROJECT DESCRIPTION

The Phase 7a Project consists of a total of 3.1 square miles of new DCAs and 3 to 4 square miles of transitioned dust controls for a total area of 6.1 to 7.1 square miles. The 3.1 square miles of new DCAs consist of six separate subareas. Within five of these subareas totaling 2.77 square miles, LADWP will implement current BACM including Gravel Cover, Shallow Flooding, and Managed Vegetation. The remaining sixth area (0.33 square miles) is currently planned for a Tillage BACM test (**Figure 2**). The Phase 7a project components are:

- Shallow Flooding in T1A-4 and a portion of T37-2
- Managed Vegetation in T32-1 and portions of T37-1 and T37-2
- Gravel Cover in T1A-3 and a portion of T37-1
- A Tillage BACM test in T12-1

Water demand related to implementation of BACM on the new Phase 7a dust control areas (DCAs) will be balanced with water conservation measures at existing DCAs, including:

- Conversion of approximately 3 to 4 square miles of existing Shallow Flooding to a hybrid of BACM including Managed Vegetation, Gravel Cover and Shallow Flooding (Transition Areas). The 3 to 4 square miles of Transition Areas will be selected from the following 6 square miles of existing Shallow Flooding areas: T1A-2_a, T10-2_a, T2-1, T5-1, T5-3, T5-3 Addition_a, T5-3 Addition_b, T26, T28N, T28S, T30-1_a, T30-1_b, and T36-1_b

- Conversion of existing Shallow Flooding areas T35-1 and T35-2 to Gravel Cover

### 1.4.1 Shallow Flooding

#### 1.4.1.1 Shallow Flooding Description

This DCM consists of releasing water into a (generally) bermed DCA and allowing it to spread, wet the surface, and thereby suppress windborne dust. In order to meet the requirements for dust control in the 2008 SIP for Shallow Flooding, at least 75 percent of the surface must be wet or have saturated soil. The performance requirements for Shallow Flood BACM are set forth in detail in the 2008 SIP.

Lateral Shallow Flooding is proposed for subarea T1A-4 and a portion of subarea T37-2 (the portion where it is anticipated that vegetation cannot be established). Located in the southern portion of the dry lake adjacent to the existing Managed Vegetation areas (T5 through T8),

Subarea T1A-4 occupies approximately 0.97 square miles. Area T37-2 is located on the western edge of the lake, west of the brine pool and occupies approximately 0.59 square miles. It is estimated that the Shallow Flood portion of T37-2 will comprise approximately two-thirds of T37-2.

A lateral Shallow Flooding network for T1A-4 will include two 18- to 24-inch diameter buried pipelines (mainlines) that will supply water to the lateral submains (4- to 12-inch diameter buried pipelines), which will be spaced up to 1,400 feet apart. The network includes a modified whipline array (diameter to be determined by available equipment and cost), spaced up to 120 feet apart and with a length of up to 700 feet. The whipline array includes sprinkler heads spaced up to 70 feet apart or bubblers. Laterals up to 4,000 feet in length will have risers with drains at the end. Lateral valves will be placed at each intersection with the mainline. Flush lines will be incorporated for lateral and whipline drainage and to reduce plugging. A small pump station (capacity determined by infrastructure installed) will be located at the lowest point to drain the system. Drain water will most likely be recycled within T1A-4. A second supply alternative to TA1-4 will also be evaluated during project design that consists of a single 24-inch mainline connected to the zonal mainline near the T1A-1 turnout.

The components of the lateral Shallow Flooding network for T37-2 are similar to the Shallow Flooding design for T1A-4, with the exception of spacing. The lateral submains will be spaced up to 1,000 feet apart. The whiplines in T37-2 will be up to 500 feet long and spacing will be up to 60 feet. Approximately the western third of this area will be designed, constructed, and operated as Managed Vegetation.

**Turnout Facilities.** Water to the lateral Shallow Flooding will be distributed to the lake bed DCAs via area turnouts. Turnouts consist of above grade piping, pressure reducing valves (PRV), control valves (CV), magnetic flow meters (or flow elements, FE), isolation valves, combination air-vacuum release valves (CARV), pressure indicating transmitters (PIT), filtering system control valve filters, electric equipment, and monitoring and automatic control instrumentation. The turnouts are typically constructed on raised earthen pads adjacent to the DCAs. The turnouts include mechanical equipment and electrical equipment on concrete pads; **Figure 3** is an existing turnout located on the lakebed. It is anticipated that four turnouts will be constructed under the Phase 7a project.

The turnouts will be connected to the zonal mainline that is a continuous loop connecting to the Los Angeles Aqueduct at the north and south ends of the Owens Lake Dust Mitigation Program (OLDMP) area.

Water enters a Shallow Flood area through PRVs, located at the turnouts. The turnouts distribute freshwater to the DCAs via area Shallow Flood submains. The PRVs at the turnouts function to lower the zonal mainline pressure to the submain operating pressure for the shallow flood submains. The PRVs at the laterals function to control and further lower the Shallow Flood submain pressure to the lateral operating maximum pressure.

**Figure 3**
**Existing Turnout on Owens Dry Lake**

Source: LADWP, November 2010 (T1A-2)

The PRVs at the turnouts are hydraulically controlled valves. These valves operate by using pilot water (supplied by the freshwater from the submains) to control the valves. The freshwater from the submains contain large quantities of sediments which will clog up the PRVs. To prevent the PRVs from clogging, the pilot water is diverted through a separate pilot water filtration system. Tailwater and Drainwater pump stations collect and recirculate flow within a given shallow flood area and submain to optimize use of water within the irrigated zone and minimize loss of water offsite.

**New Supply Pipeline.** Two new pipelines will be constructed - one to deliver water from T35-1 to T37-1, and a second pipeline to deliver water to T37-2. Two options are being considered for the pipeline to T37-2. Option A would deliver water from T37-1 to T37-2; Option B – would deliver water from T36-2 to T37-2. The final pipeline alignment will be selected based on soils analyses and constructability review (currently in progress).

Both pipelines will be up to 30 inches in diameter and made from high density polyethylene (HDPE) material. Both pipelines will be installed underneath new roadways to allow for year-round accessibility for maintenance of the pipe and the T37-1 and T37-2 irrigation systems (**Figure 2**). The roadbed for both pipelines will be raised approximately 3 feet, with culverts installed to prevent stormwater from being impounded. Additionally, a load bearing pathway

(approximately 16 feet wide, 1 to 2 feet high prefabricated bridge or portable decking) may be installed between the northern and southern portions of T37-2 for maintenance access.

#### 1.4.1.2 Shallow Flooding Construction

Construction of Shallow Flood DCAs for Phase 7a is estimated to occur over 14 months at T1A-4 and at T37-2 with the heaviest levels of construction activity occurring during the dry season. Anticipated sequential activities are:

- Installation of new turnouts
- Land leveling
- Installation of berms
- Pipe and electrical cable excavation
- Placement of irrigation pipes and sprinklers

To the maximum extent feasible, earthwork in each area will be balanced onsite. As suitable, onsite material will be used to build berms and turnout earthen pads. Excess soil from one DCA may be relocated to other areas of the lake for reuse. In some cases, suitable material may be disked and spread to reduce moisture content before placement. Sand bedding, base course, and riprap will be imported to the DCAs. It is anticipated that this material will be obtained from a local gravel production operations such as the LADWP Shale borrow pit and the Federal White Aggregate (F.W. Aggregate) Dolomite mine.

Land leveling will be performed based on existing topography and final design to achieve required 75 percent surface cover of water and consideration of excavation of suitable material for berm and turnout pad construction. It is anticipated that berm heights will vary from 3 to 5 feet or less and the turnout earthen pads may range up to 5 to 8 feet in height to protect facilities from localized flooding. Over excavation will be done underneath proposed earthen berm alignments to remove any unsuitable material. Geotextile fabric will then be placed directly on the existing surface to create a firm base. The earthen berm will be constructed over the geotextile fabric. Earthen berm side slopes facing water will be armored with riprap. Earthen berm slopes not directly in contact with water and travel surfaces will be covered with road base.

### 1.4.2 Managed Vegetation

#### 1.4.2.1 Managed Vegetation Description

Vegetation on the playa reduces sand motion and soil erosion. Aboveground cover acts as a wind break, lowering the velocity at the playa surface. Under Phase 7a, Managed Vegetation is proposed for the 0.16-square-mile area of T32-1, the northern and western perimeters of T37-1, and a portion of the western half of T37-2. In T37-1 and T37-2 existing vegetation will be enhanced and new vegetation may be planted; the specific acreage of Managed Vegetation will be determined based on soil conditions at the time of construction.

Currently, only saltgrass (*Distichilis spicata*) is approved as a vegetation dust control measure on Owens Dry Lake; existing Managed Vegetation areas T5 through T8, located in the southeastern portion of the dry lake, are planted with saltgrass. A revised plant species list for Owens Dry Lake BACM was developed in 2010 and has been approved by GBUAPCD, but awaits approval by the CSLC. The plant species on this list meet the locally-adapted native criterion specified by the 2008 SIP adopted by the GBUAPCD. In addition to saltgrass, 39 species have been proposed to increase the habitat diversity of the Managed Vegetation areas, reduce fertilizer need, and increase the diversity and amount of seed produced on the playa for use in future projects (**Table 2**). The final species mix in T32-1, T37-1, and T37-2 will depend on the availability of planting material, and suitability of species to soil and hydrologic conditions. The T32-1 area is relatively well drained and will probably be reclaimed (i.e., decline in salinity) fairly rapidly. T37-2 is less well drained and may require additional time for reclamation. The initial cover may be achieved by fast-growing species, but after some time, the stand will probably change and diversify, partly from planted material, and partly from volunteer plants establishing from windblown seed.

An existing supply of 600 pounds of saltgrass seed is stored by S&S Seeds (in Carpinteria, California), and is available for use. Although seed of most species other than saltgrass will need to be collected, some additional seed may be available commercially. If the full complement of desired species is not available initially, the area may be over-seeded or interplanted with additional species in the future.

Seed supply for T32-1, T37-2 and the Transition Areas will be collected by hand, and by targeted mowing of existing vegetated DCAs. Seed of some herbaceous species may be multiplied by planting in managed areas and then harvesting. Once collected and cleaned, seed will be tested for germination, dried, and stored. Before planting, some seed may require special treatment to break dormancy. While seeding is preferred, some species may also be transplanted to accelerate establishment of vegetative cover. The finished landscape will consist of a variety of plants native to the Owens Valley area.

The goal for these areas will be to establish a compliant vegetative cover (per cover requirements in the SIP) as quickly as possible. Vegetative cover is assessed each fall, and compliance is determined by comparing cover levels with criteria contained in the BACM definition. The criteria contained in the 2008 SIP are currently in effect, but a modification providing for the compliance methodology on existing Managed Vegetation area to be applied to new managed Vegetation areas is pending before the GBUAPCD's Board, having already gained a staff recommendation for approval. These new criteria accommodate levels of soil and drainage variability that occur on the playa, while maintaining needed levels of dust control. They are likely to be the basis for evaluating new Managed Vegetation on Owens Dry Lake. The criteria have been applied to the existing Managed Vegetation site during the 2009 and 2010 seasons under a Managed Vegetation Operations and Management Plan with good agronomic and dust control results.

## Table 2
## Species Proposed for Managed Vegetation DCAs

| Scientific Name | Common Name |
|---|---|
| **Alkali Marsh Species** | |
| *Amphiscirpus nevadensis* | Nevada bulrush |
| *Anemopsis californica* | Yerba mansa |
| *Schoenoplectus maritimus* | Saltmarsh bulrush |
| *Cordylanthus maritimus* | Bird's beak |
| *Distichlis spicata* | Saltgrass |
| *Eleocharis parishii* | Spikerush |
| *Frankenia salina* | Alkali heath |
| *Helianthus annuus* | Sunflower |
| *Heliotropium curassavicum* | Heliotrope |
| *Juncus arcticus var. balticus* | Wire rush |
| *Juncus arcticus var. mexicanus* | Mexican rush |
| *Nitrophila occidentalis* | Alkali pink |
| *Poa secunda* | Blue grass |
| *Schoenoplectus americanus* | Bulrush |
| *Sporobolus airoides* | Alkali sacaton |
| *Sesuvium verrucosum* | Verrucose seapurslane |
| **Playa Scrub Species** | |
| *Atriplex confertifolia* | Shadscale |
| *Atriplex lentiformis ssp. torreyi* | Torrey's saltbush |
| *Atriplex parryi* | Parry's saltbush |
| *Atriplex phyllostegia* | Leafcover saltweed |
| *Cleome sparsifolia* | Fewleaf bee plant |
| *Cleome lutea* | Yellow bee plant |
| *Cressa truxillensis* | Alkali weed |
| *Kochia californica* | Mojave red sage |
| *Poa secunda* | Blue grass |
| *Sarcobatus vermiculatus* | Greasewood |
| *Suaeda moquinii* | Bush seepweed |
| *Chrysothamnus nauseosus* | Rubber rabbitbrush |
| *Machaeranthera carnosa* | Shrubby alkaliaster |
| **Marsh and Riparian Species** | |
| *Paspalum distichum* | Knotgrass |
| *Populus fremontii* | Fremont cottonwood |
| *Salix lasiolepis* | Arroyo willow |
| *Schoenoplectus californicus* | Bulrush |
| *Typha domingensis* | Southern cattail |
| *Typha latifolia* | Broad-leaved cattail |
| *Cyperus laevigatus* | Smooth flatsedge |
| *Juncus torreyi* | Torrey's rush |
| *Triglochin concinna* | Slender arrowgrass |
| *Muhlenbergia asperifolia* | Scratchgrass |
| *Phragmites australis* | Common reed |

With fall seeding, a fast-growing early-cover species mix, and potentially some spring transplants, compliance in these areas may be achieved during the first growing season. In the event that this does not occur, areas with the most limited growth would be assessed for drainage limitations. Drainage would be improved by constructing surface, French, or subsurface drains, and the area might be replanted. The site would continue to be managed to comply and/or control dust as swiftly as possible.

#### 1.4.2.2 Managed Vegetation Construction

During installation and establishment, several steps will be required to create an environment where plants can thrive on the otherwise dry and hypersaline playa:

- Irrigation systems will be installed and may include sprinklers, bubblers or drip irrigation. For areas with sprinklers or bubblers, irrigation piping will be buried to avoid damage from traffic, animals, temperature fluctuations, and UV radiation. Sprinkler heads or bubblers in these areas will rise from the buried laterals to allow water to be dispersed across the planted area during irrigation. Some irrigation systems (i.e., drip irrigation) require filtration of water; filters would be located at the turnout and at times in the field. Liquid fertilizer will periodically be blended into irrigation water at relatively low rates that have been shown to accelerate growth and increase salinity tolerance (and therefore plant growth and survival) of several native species studied on Owens Dry Lake. No new permanent fertilizer stations are proposed. The Phase 7a Managed Vegetation areas will be designed with concrete pads (with containment) that can used for portable fertilizer delivery tanks. Periodic fertilizer delivery would be by flatbed or pickup truck. The specific locations of these concrete pads will be determined during project design.

- Broad, raised ridges will be formed to provide a reclaimed drained area within which plants can grow. Without this feature, saline shallow groundwater can easily invade the root zone, especially during and after storms, and kill plants. The ridges will be laid out such that they traverse topographic contours, allowing surface water to drain downhill along the low areas. Closed depressions that would otherwise prevent surface drainage will be opened by grading. Starter fertilizer needed to promote early growth and expansion will be applied and incorporated into the soil. The amounts of fertilizer applied to native plant stands are typically very low relative to what is used for agricultural production, but the ability of plants to tolerate drought and salinity, and to rapidly expand to protect the soil, is greatly enhanced.

- Initial reclamation (reduction of salt concentration in the surface soil by irrigation) will be completed before planting. This will likely require several irrigation events that may occur over up to 30 or 40 days. Once monitored soil salinity levels have declined to acceptable levels, the land will be allowed to dry sufficiently until it can again bear equipment traffic.

- Seeding will be done with a brillion seeder (wheeled seed bin that tows behind a tractor) and an air disc/drill. Seed is dispensed from the bottom of the box and buried by

pulverizing discs that also break up surface soil, providing good seed-soil contact needed for germination and emergence.

### 1.4.3 Gravel Cover

#### 1.4.3.1 Gravel Cover Description

Under the Phase 7a project, LADWP will install a 4-inch layer of coarse gravel to T37-1 and T1A-3, and potentially T35-1 and T35-2, to reduce $PM_{10}$ emissions by: (a) preventing the formation of efflorescent evaporite salt crusts at the surface, because the large pore spaces between the gravel particles disrupt the capillary movement of saline water to the surface where it can evaporate and deposit salts; and (b) creating a surface that has a high threshold wind velocity so that direct movement of the large gravel particles is prevented and the finer particles of the underlying lake bed soils are protected.

The term "gravel" includes clasts from both fluvial and alluvial sources and crushed stone. The gravel will be screened to greater than ½-inch in diameter, pursuant to the specifications issued by the GBUAPCD (GBUAPCD, 2008a). Gravel application was estimated at approximately 122,000 tons distributed over 0.21 square miles of T37-1; depending on the acreage of Managed Vegetation in this DCA, the volume of gravel installed will be reduced. Other gravel application includes: approximately 447,000 tons distributed over 0.79 square miles of T1A-3, 67,000 tons distributed over 0.11 square miles of T35-1, and 92,000 tons over 0.15 square miles of T35-2.

**Gravel Sources**. It is anticipated that gravel will be obtained from local gravel production operations such as the F.W. Aggregate Dolomite mine or the LADWP State Route 136 Shale borrow pit (LADWP Shale borrow pit). The LADWP Shale borrow pit is located just west of the Keeler Fan gravel site – a site previously considered as a gravel source and referenced in the Memorandum of Agreement between LADWP and the GBUAPCD (1998 MOA). The LADWP Shale borrow pit is located east of SR 136, approximately 1.5 miles southeast of Keeler, and less than 2 miles from the lakebed. The LADWP Shale borrow pit is located on public lands managed by the U.S. Bureau of Land Management (BLM) and operated per the requirements of the Surface Mining and Reclamation Act (SMARA). Shale is a fine-grained sedimentary rock consisting of compacted and hardened clay, silt or mud. The LADWP Shale borrow pit is currently permitted for 40 acres of development.

The F.W. Aggregate Dolomite mine is a privately owned commercial aggregate facility located in Dolomite, California, approximately 0.75 miles southeast of Swansea. The access point for the mine is directly off SR 136, between Swansea and Keeler. The Dolomite mine is situated on both privately owned lands and public lands managed by the BLM. Three subareas of the mine (Durability, North Pole, and Translucent) total approximately 480 acres and are able to produce up to 50 million tons; the site is permitted up to the year 2057 (T. Lopez, pers. comm., June 25, 2010). Rock at the F.W. Aggregate site is obtained from a dolomitic limestone source (mountain face), which is blasted and crushed to supply primarily white decorative rock. The existing 0.14 square miles of Gravel Cover DCM area (Corridor 1 which separates Phase 8 Areas A and B) was covered with limestone from the Dolomite mine. This source has also supplied other areas on the lakebed where gravel and rip-rap were necessary for road construction and for armoring of berms.

**Gravel Effectiveness**. The effectiveness of Gravel Cover is summarized from the 2008 SIP (GBUAPCD, 2008a). According to GBUAPCD, gravel blankets (also known as Gravel Cover) are effective at controlling dust emissions on essentially any type of soil surface. A gravel layer forms a non-erodible surface when the size of the gravel is large enough that the wind cannot move the surface. If the gravel surface does not move, it protects finer particles from being emitted from the surface. Gravel and rock coverings have been used successfully to prevent wind erosion from mine tailings in Arizona (Chow and Ono, 1992).

The GBUAPCD estimated the potential $PM_{10}$ emissions from a gravel layer using the U.S. Environmental Protection Agency (USEPA) emission calculation method for industrial wind erosion for wind speeds above the threshold for the surface (GBUAPCD, 2008a). $PM_{10}$ will not be emitted if the wind speed is below the threshold speed. With a minimum particle size of ½ inch, a gravel layer will have a threshold wind speed of more than 90 miles per hour measured at 10 meters (Transportation Research Board, 1992; Ono and Keisler, 1996). The GBUAPCD predicted that $PM_{10}$ emissions would be virtually zero for a gravel layer since the threshold wind speed to entrain gravel, and thus $PM_{10}$, is above the highest wind speeds expected for the area. A 100 percent reduction of $PM_{10}$ from areas that are covered by gravel was predicted.

The proposed 4-inch thick gravel layer is intended to prevent capillary movement of salts to the surface. Were fine sands and silts to fill in void spaces in the gravel, capillary rise of salts might ensue and reduce the dust control effectiveness of a gravel layer. In addition, finer particles would lower the average particle size and lower the threshold wind speed for the surface. The GBUAPCD performed small-scale gravel test plots at two sites on Owens Dry Lake starting in June 1986. These tests showed that 4-inch thick gravel blankets composed of ½- to 1½-inch and larger rocks prevented capillary rise of salts to the surface. Observations of un-graveled test plots in the same area, one with no surface covering and another with local unscreened alluvial soil, showed that salts would otherwise rise to the surface (Cox, 1996).

**Permeable Geotextile Fabric**. Gravel Cover will be placed over a nonwoven geotextile fabric (anticipated to be approximately 2.3 millimeter (90 mils) thick to prevent gravel from settling into lakebed sediments and thereby losing effectiveness in controlling dust emissions. The permanent geotextile will be permeable to allow draining. Geotextile membranes are artificial fabrics that have a variety of uses including: filtration/drainage, ground stabilization, structural waterproofing, land containment, as well as weed and root control. The geotextile is chemically inert and generally not affected by acids and alkalis that may be present in the soils.

**Access Roadways for Gravel Areas**. The boundaries surrounding T37-1 and T1A-3 will have raised roadbeds for vehicle access and for wind protection to limit sand inundation of the gravel. The roadbeds will be earthen, approximately 3 feet high, 16 feet wide and armored with gravel. Vehicle bypass pads (turnoff or turnaround pads) (approximately 20 feet by 40 feet in area) will facilitate vehicle travel in two directions. Geotextile fabric may be placed directly on the existing surface to create a firm base. The earthen raised roadway will be constructed over the geotextile fabric. Earthen side slopes facing water or adjacent to potential runoff flows will be armored with rip rap. Earthern slopes not directly in contact with water and travel surfaces will be covered with road base. Installation of access roadways on the boundaries of T37-1 and

T1A-3 will include earthwork inside of the boundary of the DCAs; suitable earth material will be scraped, used to construct the raised roadway, and then the area will be smoothed to an even slope. Base course (crushed rock less than ¾ inch) from a local gravel source would then be placed on the travel surface. To the extent feasible, Gravel Cover for the access roadways shall be consistent with the type, size, and color of the Gravel Cover placed on the adjoining lakebed areas.

#### 1.4.3.2 Gravel Cover Construction

Construction activities for gravel installation at T1A-3, T35-1, T35-2 and T37-1 for Phase 7a are:

- Development of gravel stockpile area
- Installation of access roadways
- Gravel conveyance
- Geotextile and Gravel installation

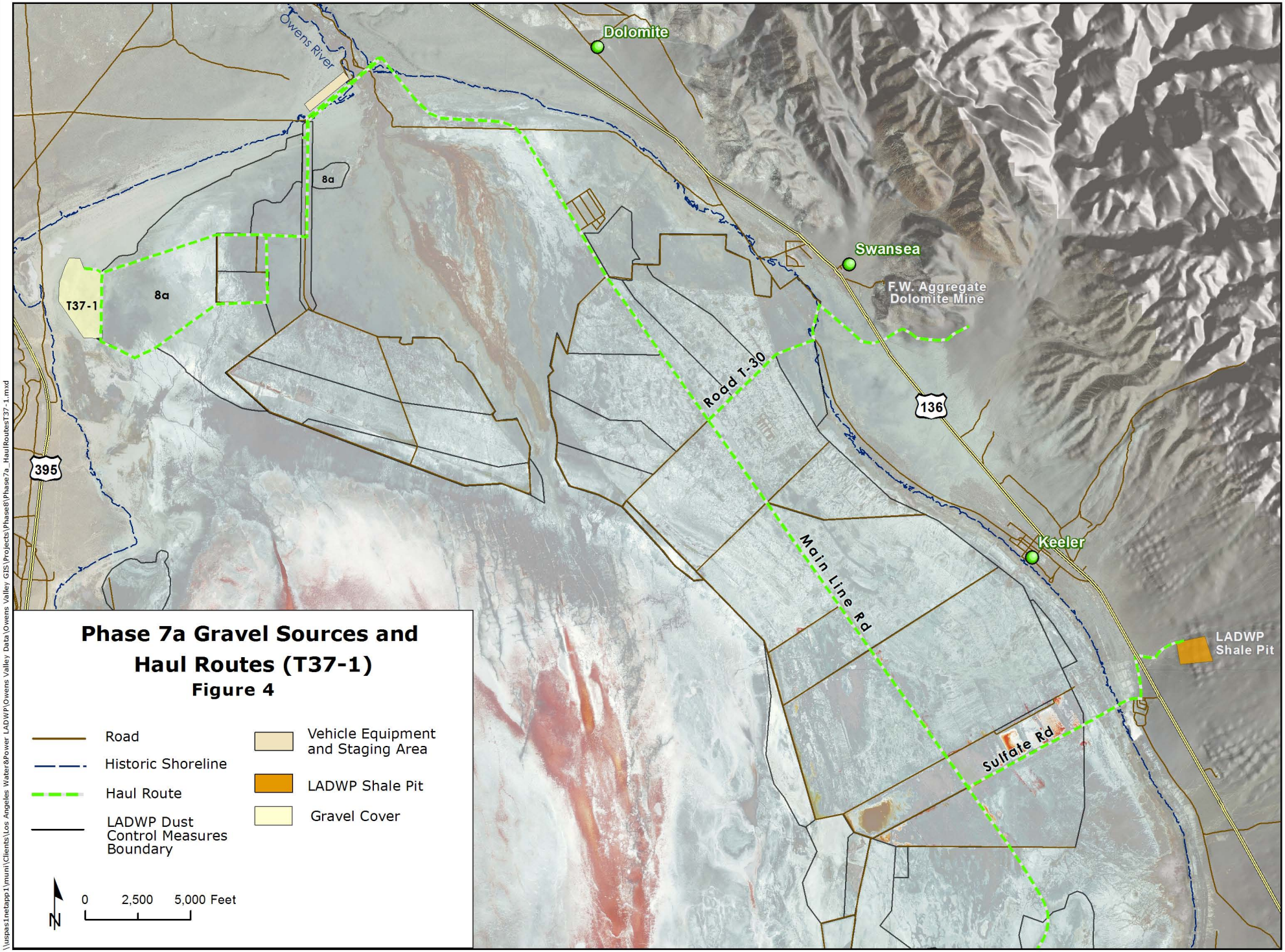
**Gravel Stockpile.** Gravel stockpile areas will be developed within the boundaries of both T1A-3 and T37-1. These areas will be covered with aggregate to prepare the sites for gravel deliveries during the initial months of construction. Dump trucks will deposit gravel and a dozer will be used to pile the aggregate. Assuming 25 tons per truck, approximately 3,000 tons per day will be transported to each staging area location. Gravel transport will continue throughout the construction period concurrent with geotextile fabric and gravel installation. From the stockpile location, low ground pressure (LGP) vehicles will be used for travel directly on the playa.

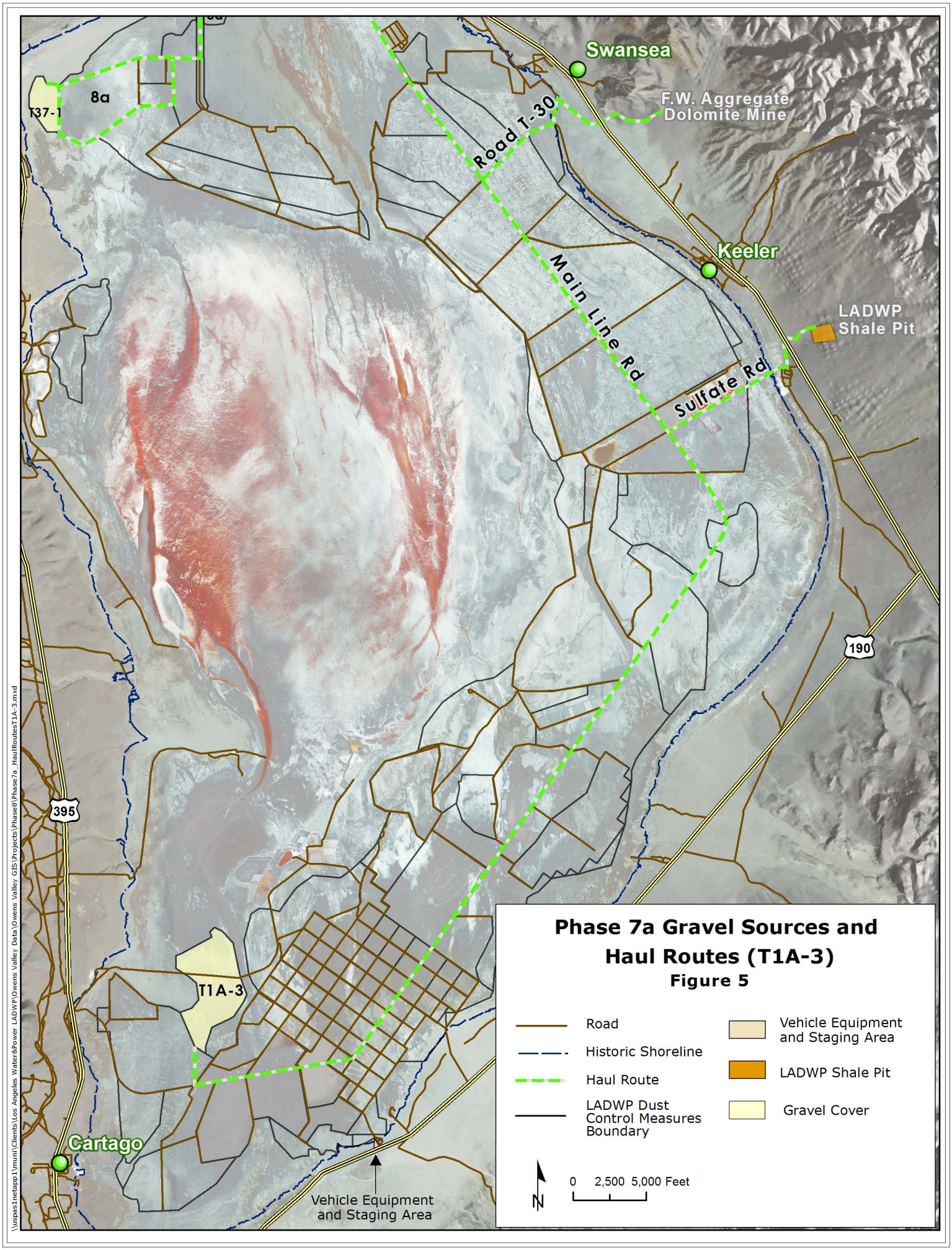
**Gravel Conveyance**. If gravel is obtained from the LADWP Shale borrow pit, trucks will cross SR 136 to Sulfate Road to Main Line Road and then to the stockpile locations (at T37-1 or T1A-3) (**Figures 4** and **5**). Although a conveyor is not currently installed at the borrow pit, if one was constructed in the future it could be used to convey gravel across SR 136 to the LADWP Sulfate Facility and then trucks would be used to transport gravel to the stockpile locations.

If gravel is obtained from F.W. Aggregate Dolomite mine, trucks will cross SR 136 to the T30 road to Main Line Road and then to the stockpile locations (at T37-1 or T1A-3).

**Geotextile Installation**. Before installation of the geotextile membrane, minor land leveling may be required in areas where obstructions will damage the fabric. A pipe dragged behind a tractor will remove localized high and low spots and prepare the surface; there will be no import or export of soils related to this minor site preparation. It is assumed that the fabric will be delivered to the site on spools carried by flatbed trucks. Small areas of fabric will be rolled out and staked to secure them before gravel installation.

The two vehicle and equipment staging areas previously used (for Phases 7 and 8) will be used for Phase 7a. These previously disturbed sites are located near the intersection of Main Line Road and Corridor 1 at the north end of the lake (20 acre site) and at the southern end of the lake adjacent to Dirty Socks Access Road (2.7 acre site). In addition to office trailers and equipment and vehicle storage, these areas will have fueling stations for gas and diesel. Fuel trucks will be used to refuel construction equipment (including the low ground pressure gravel trucks) and the


Owens River
Dolomite
Swansea
F.W. Aggregate
Dolomite Mine
8a
T37-1
8a
Road T-30
136
395
Main Line Rd
Keeler
LADWP
Shale Pit
Sulfate Rd
Phase 7a Gravel Sources and
Haul Routes (T37-1)
Figure 4
Road
Historic Shoreline
Haul Route
LADWP Dust
Control Measures
Boundary
Vehicle Equipment
and Staging Area
LADWP Shale Pit
Gravel Cover
N
0
2,500
5,000 Feet
\\uspas1netapp1\muni\Clients\Los Angeles Water&Power LADWP\Owens Valley Data\Owens Valley GIS\Projects\Phase8\Phase7a_HaulRoutesT37-1.mxd


Swansea
F.W. Aggregate
Dolomite Mine
Road T-30
Keeler
Main Line Rd
LADWP
Shale Pit
Sulfate Rd
8a
T37-1
190
395
T1A-3
Cartago
Vehicle Equipment
and Staging Area
Phase 7a Gravel Sources and
Haul Routes (T1A-3)
Figure 5
Road
Historic Shoreline
Haul Route
LADWP Dust
Control Measures
Boundary
Vehicle Equipment
and Staging Area
LADWP Shale Pit
Gravel Cover
N
0 2,500 5,000 Feet
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long haul gravel trucks; no vehicle fuels or oils will be stored in the gravel stockpile areas. Additionally, refueling may occur at the existing LADWP Sulfate facility. Once the geotextile is staked, dozers and ground crews will spread gravel to the required 4-inch thickness. Depending on site conditions, conveyors may be used internally within the DCA boundaries to move gravel from the stockpile locations to other areas of the DCA site.

The onsite construction workforce will consist of laborers, supervisory personnel, support personnel, and construction management personnel.

### 1.4.4 Tillage

Tillage is commonly used to control wind erosion in agricultural and arid regions around the world. It works by clodding and roughening the soil surface, rendering it more resistant to wind erosion. Surface roughness reduces the wind velocity at the surface, so that windblown soil particles like sand are trapped. The creation of soil clods through appropriate tillage methods forms a stable surface resistant to wind erosion by binding of the available fine-grained loose soil particles.

Tillage was previously applied on the playa of Owens Dry Lake for temporary dust control in some Shallow Flooding construction areas (T21-A, T21-B, T18-O, T17-1_a, T17-2_a, T16, T10-2_b, and T10-3) between October 1, 2009 and April 1, 2010. This Tillage reduced the frequency and intensity of observed emissions within these areas, even when wind erosion occurred within untilled areas immediately adjacent.

Under Phase 7a, a Tillage management plan would be implemented as part of a new BACM test on 0.33 square miles of T12-1, an area with relatively heavy (rich in clay and silt) soils. The BACM test plan (in preparation by Air Sciences, 2011) states that the area will be initially tilled and then once it begins to deteriorate such that it does not meet required control dust efficiency it will be sprinkler irrigated to increase soil moisture. Irrigation will be followed by re-tilling to re-establish needed dust control efficiencies. Irrigation piping (submains and whiplines, flush lines connected to flush mains) would be buried more than 2 feet below the soil surface (such that they are below the reach of the tillage equipment) with sprinkler risers positioned throughout the DCA; the layout will be similar to the Shallow Flooding areas.

Tractors pulling plows or harrows will roughen the surface of T12-1 creating serpentine swaths of tilled ridges (to avoid a gridded, regimented appearance) with spacing between swaths allowing for irrigation installation and maintenance, as well as monitoring access. The goal of the BACM testing will be to establish dust control efficiency relationships over a wide range of climatic conditions upon which to base performance specifications in a new BACM description. Over time, the surface roughness achieved by Tillage will begin to be altered by weathering and dust control efficiency may decline. The amount of fine material (sand and smaller particles) on the surface may change due to 1) disaggregation of soil, 2) crusting and re-aggregation of fine material, 3) deposition of transported fine material, and 4) erosion and export of material. When monitoring indicates that these processes have reduced the dust control efficiency achieved by Tillage to levels that threaten to violate air quality standards, the area will normally be re-tilled. The goal of re-tilling will be to restore erosion-resistant levels of roughness and aggregation. When Tillage control efficiency declines, the area will be irrigated to restore optimum soil

moisture, and then re-tilled. Monitoring will include visual observations of surface conditions and other actions as outlined in the Tillage BACM Test Operations Plan (in preparation by Air Sciences, 2011).

A complete Tillage BACM test project plan must be submitted and approved by the GBUAPCD before any work in the T12-1 area can proceed. Tillage may be implemented in T12-1 before installation of the irrigation network. This Tillage (without the irrigation system) was evaluated in the Addendum to the Supplemental EIR for the Owens Lake Dust Control Measures for the Phase 7 project (LADWP, 2010a).

To minimize dust emissions during construction, areas will be tilled during low wind periods. To the extent feasible, installation will occur in the summer season when winds are relatively lower and the playa tends to be less erodible.

### 1.4.5 Transition Areas from Shallow Flooding to BACM Hybrid

New Shallow Flooding in subareas T1A-4 and T37-2, and new Managed Vegetation in T32-1 and T37-2, are estimated to require approximately 3,700 acre-feet per year (afy) of water. Additional irrigation water will be required in T37-1; the volume will depend on the acreage of Managed Vegetation. To provide water to these areas, approximately 6 square miles of 13 existing DCAs (T1A-2_a, T10-2_a, T2-1, T5-1, T5-3, T5-3 Addition_a, T5-3 Addition_b, T26, T28N, T28S, T30-1_a, T30-1_b, and T36-1_b) will be evaluated for transition from Shallow Flood to a hybrid mix of approved BACMs. Approximately 3 to 4 square miles will be converted under the Phase 7a project. Note that most areas proposed for transition are partially vegetated. For example, T30-1 (_a and _b) is currently designated as Shallow Flooding by the LADWP and evaluated as Shallow Flooding by the GBUAPCD, despite significant vegetative cover. As of the end of 2010, vegetative cover in this area is being evaluated relative to proposed Managed Vegetation criteria. Areas that pass will be proposed to the GBUAPCD for evaluation as Managed Vegetation for compliance purposes.

While 3 to 4 square miles of existing Shallow Flooding DCAs are proposed for transition to BACM Hybrid, approximately 6 square miles will be evaluated. Consideration of this larger area is proposed since soil and drainage data are limited; it is anticipated that some areas may prove too difficult to vegetate. Owens Dry Lake soils present significant challenges (mainly a combination of very high salinity, extremely poor drainage, and low bearing capacity) for the establishment of compliant stands of vegetation. Ultimately, 3 to 4 square miles will be chosen from the 6 square miles studied for transition as part of the Phase 7a project.

The proposed Transition Areas will be developed as BACM Hybrid. Each portion of these areas would be evaluated as an existing (per the SIP definition) dust control measure for compliance purposes. Under the Hybrid concept, it is estimated that approximately two-thirds of the area will be a mix of Shallow Flooding and Managed Vegetation and up to one-third will be Gravel Cover (**Figures 6** and **7**). For a gravel layer 4 inches thick, approximately 700,000 tons of gravel will be applied. Irrigation systems similar to those previously described will be installed in non-gravel areas.

**Figure 6**
**Rendering 1 of BACM Hybrid Area**

**Figure 7**
**Rendering 2 of BACM Hybrid Area**

Construction, reclamation, planting, establishment, and compliance in the Transition Areas will proceed as previously described for the new Managed Vegetation areas. However, due to potentially more challenging soil and drainage conditions in the Transition Areas, multi-year efforts for establishment may be necessary. Minor reconfiguration of the eastern berms for areas T30-1_b, T28N, T28S, T26, T5-1, and T5-3 may be required. Additional berm modifications may be necessary for access.

A reasonable Transition Areas Dust Control Plan will be developed and implemented during construction for all construction areas, including the Transition Areas. The plan will particularly address measures to be taken when removing existing DCAs from service. The following best management practices (BMPs) will be implemented:

- Use of water trucks to spray roadway travel surfaces on existing and temporary roads used for construction
- Installation of temporary sand fences strategically placed within the DCA being constructed
- Placement of a gravel surface on interim staging areas within the DCA used by the contractor
- Termination of work activities during high wind events

### 1.4.6 Other Features for Phase 7a DCAS

#### 1.4.6.1 Drainage System

For new non-gravel DCAs included in Phase 7a (T32-1, T12-1, T37-1, T37-2, T1A-4), drainage systems will be installed beneath Managed Vegetation fields and on the margins of Shallow Flooding areas. New drainage laterals to be installed in Phase 7a will be perforated plastic pipes in covered trenches placed 5 to 9 feet below the ground surface. The drainage system will control soil saturation to:

- maintain drained root zone under irrigated vegetation
- maintain drained pipe zone (prevent pipe floatation)
- capture water along the DCA perimeters to reduce seepage off-site

Drainage return flows can be recirculated into Shallow Flooding areas. The existing drainwater system functions in this manner. A drainwater mainline (brineline) runs parallel to the water supply mainline throughout the dust mitigation area from T2 to T25. The drainwater mainline also delivers water to the Shallow Flooding areas. Management of drainwater will ultimately depend on salt management needs.

#### 1.4.6.2 Power Supply and Controls

Power for pumps for water conveyance to and from DCAs is supplied by an existing underground 3-phase, 4.8 KV grid. The 4.8 KV grid will be connected to the new turnouts with directed buried cables. The turnouts have their own distribution system for power and controls. Transformers at the turnouts convert the power to lower voltages to supply various equipment, lighting, and control instrumentation. The 3-phase 480 volts alternating current (VAC) is typically used for pump stations. Directed buried cables will be used to supply power from the turnouts to the pump stations. T1A-4, T32-1 and T37-2 will have small pump stations. For Phase 7a, a new high voltage cable will be installed to power pumps associated with T37-2.

### 1.4.7 Overall 7a Construction Sequence

After design of the proposed facilities is complete, it is anticipated that the construction sequence would proceed as follows:

- Tillage
- Turnout construction
- Earthwork, berm re-enforcement and water distribution systems for Shallow Flooding Areas
- Sprinkler system installation in Transition Areas
- Gravel installation
- Earthwork, berm re-enforcement and sprinkler system installation for BACM Hybrid Areas
- Planting and seeding in Managed Vegetation Areas

### 1.4.8 Water Requirements

The total water demand for new DCAs (T1A-4, T32-1 and T37-2) for Phase 7a is estimated at approximately 3,700 afy. To enable these additional water commitments, existing areas of Shallow Flooding will be transitioned to BACM Hybrid, and potentially Gravel Cover (T35-1 and T35-2). The approximately 3 to 4 square miles of Transition Areas selected for the Phase 7a project will be designed to provide approximately 3,700 afy to ensure adequate water supply for the new Phase 7a areas.

### 1.4.9 Operations and Maintenance

#### 1.4.9.1 Gravel Cover

Once the Gravel Cover has been applied to the playa, limited maintenance will be required to preserve the gravel blanket. The gravel will be visually monitored for sand and dust accumulation, evidence of washouts, or inundation. If any of these conditions are observed over a substantial area, additional gravel will be transported to the playa. It is assumed that no

maintenance will be needed in the initial years of operation. Subsequently, small areas may require replenishment and later, larger areas may require replacement. It is anticipated that the total volume of gravel on the Phase 7a areas may be replaced at most once every 50 years.

#### 1.4.9.2 Shallow Flooding

To attain the required $PM_{10}$ control efficiency, generally at least 75 percent of each square mile of the control area must be wetted to produce standing water or surface-saturated soil, between October 1 and June 30 of each year. Actual Shallow Flooding BACM requirements are set forth in the 2008 SIP. Surface saturation will continue to be monitored via satellite images (as is currently the practice). Maintenance activities will occur as needed throughout the year. However, when feasible, extended facility maintenance (repair of pumps, berms, laterals, and submains) will be completed during the period when dust storms generally do not occur (mid/late summer to early fall). Inflows, outflows and water quality in Shallow Flooding areas will also be monitored. Drains and valves will be inspected periodically and maintained as necessary.

#### 1.4.9.3 Berms and Roadways

Berms and roadways will be continually maintained to prevent erosion and washout, and to maintain safe driving conditions. Maintenance activity will include minor earthwork and gravel replenishment.

#### 1.4.9.4 Managed Vegetation

Vegetation will be monitored in the field to determine reclamation progress (declines in soil salinity), soil moisture, irrigation system function (including leak identification and repair), germination success, transplant mortality, and plant vigor. Once established, soil fertility and plant tissue will be monitored at least annually, and vegetative cover will be assessed with satellite imagery. At present, imagery is ground-truthed with specialized, near-surface digital images of vegetative cover. Operations activities will include maintenance of irrigation systems and replanting/reseeding as necessary.

#### 1.4.9.5 Tillage

Tillage in DCA T12-1 is proposed as BACM Testing. Periodic wetting, re-tilling, and/or alterations in the configuration of the tilling will occur throughout the testing period. Operations activities will include maintenance of irrigation systems as necessary, as well as monitoring of surface conditions, meteorological parameters, and biological resources as part of the BACM test.

## 1.5 PHASE 7A SCHEDULE MILESTONES

Phase 7a project milestones are summarized in **Table 3**. The schedule is approximate and actual construction and operations start dates will depend on finalization of necessary permits and approvals.

**Table 3**
**Phase 7a Project Milestones**

| Milestone | Anticipated Completion Date |
|---|---|
| Award engineering and design contract | May 2011 |
| Design Completion | October/November 2011 |
| LADWP Board approval of CEQA document | December 2011 |
| California Department of Fish and Game issues Streambed Alteration Agreement | No later than March 2012 |
| Lahontan Regional Water Quality Control Board issues permit | No later than March 2012 |
| California State Lands Commission issues lease | No later than April 2012 |
| Award construction contract | May 2012 |
| Notice to Proceed for Construction | June 2012 |
| Construction Completion | December 2013 |
| Managed Vegetation Compliance | December 2015 |

## 1.6 APPLICABLE PLANS AND POLICIES

The project sites are located on CSLC-administered lands within Inyo County. The Inyo County General Plan designates the land use of the Phase 7a area as SFL (State and Federal Lands). The zoning overlay is OS-40 (Open Space, 40-acre lot minimum) (Inyo County, 2011).

## 1.7 PROJECT APPROVALS

The Phase 7a project to install, operate and maintain approved DCMs in the Phase 7a project areas is consistent with the 2008 SIP certified by GBUAPCD and the California Air Resources Board (CARB). Once implemented, the project will also be consistent with GBUAPCD Board Order 080128-01. Permits and approvals from other agencies are anticipated to include:

- A lease for use of state lands will be required from the CSLC prior to project construction.
- Consistent with the previous DCMs installed on Owens Dry Lake, a Lake or Streambed Alteration Agreement per Section 1602 of the Fish and Game Code will be sought from the California Department of Fish and Game (CDFG).

- LADWP will submit a request for an amendment to existing permit SPL-2008-00582-BAH from the US Army Corps of Engineers for Phase 7 to include construction, operations, and maintenance associated with Phase 7a.
- Construction of the Phase 7a project will be completed in compliance with the National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Order No. 2009-0009-DWQ, NPDES NO. CAS000002). Per the General Permit, a Storm Water Pollution Prevention Plan (SWPPP) incorporating best management practices (BMPs) for erosion control will be developed and implemented during project construction.
- Discharge of water to the lake for dust control is currently permitted by the Lahontan Regional Board through Waste Discharge Requirements (WDR) for the Southern Zones Dust Control Project (Board Order No. R6V-2006-0036). LADWP will submit an application for revision of the existing WDR or for a new WDR, as applicable.
- Use of the right-of-way for SR 136 for gravel transport will require approval from BLM and an encroachment permit from Caltrans.
- Additionally, installation of the fuel tank at the construction office to serve the haul trucks will require compliance with:

  1) Permit to Operate (1316-00-06) – An air quality permit from GBUAPCD related to vapor recovery.
  2) CUPA Facility Permit – A hazardous material/waste permit and associated contingency and business plan from the Inyo County Department of Environmental Health Services.
  3) Spill Prevention Control and Countermeasure (SPCC) Plan – For aboveground oil tanks of 1,320 gallons or more, and for fuel trucks when fuel will be left in the truck overnight. The Plan is filed with the Inyo County Department of Environmental Health Services.

# 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 Affairs

Printed Name: Charles C. Holloway

Date: 5/19/2011

## 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:** The Owens Valley is straddled by the eastern Sierra Nevada to the west and the Inyo Mountains to the east, with the Coso Range rising to the south. The valley floor is interspersed with small, rural communities (e.g., Cartago, Olancha, Keeler, Swansea, and Dolomite) surrounded by dry, desert environment with minimal vegetation. Under existing conditions, views of Owens Dry Lake are characterized by pockets of desert vegetation, limited vegetated areas related to seeps and springs and the Delta, vast areas of desert playa, mining operations, the brine pool (which fluctuates in size) and the existing system of dust control – bermed areas periodically filled with water, areas of managed vegetation and the internal roadway network (**Figures 8** and **9**).

a) and c) **Less than Significant Impact.** Under the Phase 7a project, areas of the lake that are currently primarily barren playa will be altered by installation of new DCAs (new Phase 7a areas) and areas that are currently Shallow Flooding DCAs will be altered by transition to a mix of Gravel Cover, Managed Vegetation, and Shallow Flooding (Transition Areas). The new Phase 7a project areas are located on dry lakebed which is desert grayish to light brown sand with pockets of dry vegetation (dry alkali meadow and shadscale). Views of the Transition Areas are of standing water; although at some times of the year the basins are drained. There are no major landform features or rock outcroppings in the lakebed. Views from adjacent roadways are described below:

- U.S. Highway 395 is the primary north-south motor vehicle route through the Owens Valley and eastern Sierra Nevada. Phase 7a areas T37-1 and T37-2 are adjacent and visible from Highway 395; areas T1A-3, T1A-4, T35-1 and T35-2 are within 2 miles. Motorists traveling northbound and southbound can view desert landscape and dry vegetation in the foreground, the Inyo Mountains in the distant background, and the Owens dry lakebed in middle-ground views.

**Figure 8**
**Owens Dry Lake Aerial View**

Source: LADWP, April 2011

**Figure 9**
**Owens Dry Lake View of T37-1 from Highway 395**

Source: MWH, November 2010

- SR 136 is a northwest-southeast route, used to access Death Valley National Park and U.S. 395. Phase 7a areas T32-1, T30-1, T28N, T28S, and T26 are adjacent and visible from SR 190. Motorists traveling northwest or southeast on SR 136 have mostly unimpeded views of the lakebed. Desert landscape and dry vegetation dominate the foreground, the lakebed can be seen in the middle-ground, and the Sierra Nevada creates a panoramic view in the distant background.

- SR 190 is the primary northeast-southwest route used to access Death Valley National Park from U.S. 395. SR 190 converges with SR 136 and forms the eastern boundary of Owens Dry Lake. Phase 7a areas T2-1, T5-1, and T5-3 are adjacent and visible from SR 190. Motorists traveling to the northeast or southwest have unimpeded views of the open lakebed. Desert landscape and dry vegetation can be seen in the foreground, the lakebed dominates the middle-ground, and the Sierra Nevada creates a panoramic view in the distant background.

**Visual Impacts During Construction**. Construction activities for the project include site preparation (excavation, soil conditioning, and land leveling), preparation of gravel stockpile areas, raised roadway and irrigation pipeline installation, installation of electrical and mechanical equipment related to the irrigation systems, installation of the geotextile and gravel layer, and planting activities. Throughout the construction period, additional vehicles including gravel haul trucks from the mines will be present on the lakebed. Views of the project site during construction will include over 100 vehicles – including dozers, scrapers, flatbed trucks, backhoes, water trucks, fuel trucks, gravel haul trucks, and light duty trucks. The level of construction activity required for Phase 7a will alter views of the project site. However, within the context of the construction and maintenance activity ongoing on the lakebed, the impact of ground disturbance associated with installation of project facilities will be temporary and less than significant on the visual character of the project site.

**Visual Impacts During Operation**. Under the Phase 7a project, 3.1 square miles of the lakebed that are currently primarily barren playa (new Phase 7a areas) will be altered by construction of Shallow Flooding, Managed Vegetation and Gravel DCMs. Additionally 3 to 4 square miles of areas that are currently Shallow Flooding DCAs will be transitioned to a mix of Gravel Cover, Managed Vegetation, and Shallow Flooding (Transition Areas). Once installed, views of the project site will be of approximately 1 square mile of gravel, less than 1.56 square miles of Shallow Flooding, 0.16 square miles of Managed Vegetation (plus portions of T37-1 and T37-2), and 0.33 square miles of Tillage; all areas will include access roadways. Additionally, 3 to 4 square miles of areas that are currently bermed and flooded will be altered to a mixture of gravel, flooding, and vegetation (**Figures 6** and **7**). No tall structures or other obstructions to scenic vistas are proposed as part of the project; the project will not alter or block scenic views of the Sierra Nevada, Coso and Inyo Mountains.

**Gravel Cover**. The project would alter the aesthetics of 3.1 square miles of currently barren playa and 3 to 4 square miles of existing Shallow Flooding. The approximately 1 square mile of new gravel plus the fraction of the 3 to 4 square miles of Transition Areas to be graveled will potentially use gravel from different sources. Gravel from the Shale Pit varies in color but is generally darker and browner than the much lighter dolomite limestone.

Under existing conditions, the barren playa can be described as grey to white with surrounding areas of brighter white (**Figure 9**). From a distance, the partially vegetated areas adjacent to and outside the historic lakebed appear darker in coloration.

Per the terms of the MOA between LADWP and GBUAPCD (1998), gravel used for dust control on Owens Dry Lake shall be comparable in coloration to the lakebed soils. Consistent with this requirement, shale and/or dolomite will be used that is complementary in color with the surrounding landscape to the maximum extent feasible.

**Tillage**. Area T12-1 was previously used as a Moat and Row test area. The area is lightly colored open land with some remaining darker linear areas. Once T12-1 is tilled, the overall color of the parcel may darken. Views of the area will be of serpentine swaths of tilled ridges with spacing between swaths allowing for irrigation installation and maintenance, as well as monitoring access. Use of a curved serpentine pattern will avoid creation of new straight-lined features on the lake. **Figure 10** is a photograph of Tillage on the lakebed from 2009.

**Managed Vegetation**. Under Phase 7a, Area T32-1 (0.16 square miles), portions of T37-1 and T37-2, plus a fraction of the 3 to 4 square miles of Transition Areas will be vegetated. A mix of species, in addition to saltgrass, will be used in the Managed Vegetation areas. Views of T32-1, T37-1 and T37-2 are currently of partially vegetated sites; under Phase 7a, views will be of more densely vegetated parcels.

**Shallow Flooding**. Two new areas of Shallow Flooding (T1A-4 and T37-2) will be constructed under Phase 7a. Additionally, a fraction of the 3 to 4 square miles of Transition Areas will continue to be flooded. T1A-4 is currently barren playa immediately adjacent to existing Managed Vegetation. Views of T37-2 are of partially vegetated playa and barren playa. Once Shallow Flooding is installed, these areas will appear as saturated playa during the dust control period of the year.

**Transition Areas**. The 3 to 4 square miles of existing Shallow Flooding to be transitioned to BACM Hybrid will alter from views of open water to views of a mosaic of vegetation, water and gravel (**Figures 6** and **7**). Instead of a vast expanse of one BACM, these sites will be individually designed, with variable edges and transitions among areas of vegetation, gravel and water.

Implementation of DCMs on the lake has altered the views of the lakebed from dry playa with fluctuating sized brine pool to a managed system of bermed areas of water and vegetation and roadways. Due to the distance from off-lake viewers and the size of the Phase 7a areas in relation to the overall 110 square mile lakebed, views of the Phase 7a areas with additional gravel, vegetation, and shallow flooding installed will not change the dramatic backdrop or natural feel of the overall landscape of Owens Dry Lake. The Phase 7a project will expand the area of DCAs on the lake and would be visually consistent with existing facilities. Additionally, Phase 7a will improve the appearance of 3 to 4 square miles of existing Shallow Flooding areas by increasing the number of dust control methods used

**Figure 10**
**Tillage on Owens Dry Lake**

within one parcel and thereby varying the landscape and increasing the overall acreage of vegetation. Within the context of the existing views of DCMs on the lake, the aesthetic impacts of the Phase 7a project will be less than significant.

b) **Less than Significant Impact.** Scenic roadways are designated by BLM, Inyo National Forest, 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 site is just east of State Highway 395 in the eligible, but not designated, portion of the roadway.

There are no trees, major landform features or rock outcroppings within the Phase 7a areas and none would be disturbed by project implementation. As discussed above, implementation of the project would alter the view of approximately 6 to 7 square miles of the lakebed. Installation of Gravel Cover, Shallow Flooding, and Managed Vegetation in the DCAs that are adjacent to SR 395 (T37-1 and T37-2) will alter the look of these parcels but will not change the dramatic backdrop or natural feel of the overall landscape. The impact on views from a portion of roadway eligible for designation as a scenic roadway, SR 395, is therefore less than significant.

d) **Less Than Significant Impact.** The proposed project does not include permanent installation of new sources of lighting. Construction activities will occur primarily in daylight hours; some limited use of lighting may be necessary in the early morning or evening hours (especially in winter). Use of portable lights during construction, if any, will be localized along a pipeline or other facility; large-scale activities such as grading will not occur at night. Since the proposed lighting will be of limited duration and confined to the specific area of construction, impacts on light and glare that could affect day or nighttime views of the project area will be less than significant. Protection of biological resources related to the potential use of limited lighting will be described in the EIR.

### 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 (California Department of Conservation, 2006).

b) **No Impact.** Existing zoning by Inyo County is OS-40 (Open Space, 40-acre lot minimum) with a land use designation of SFL (State and Federal Lands) (Inyo County, 2010). Since Inyo County does not offer a Williamson Act program (California Department of Conservation, 2008), the proposed project will have no impact on agricultural zoning or Williamson Act contracts.

c) and d) **No Impact.** The project site is not zoned as forested land and the proposed project will not 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. Since no trees exist on the project site, removal of native trees is not proposed. Therefore, the proposed project will have no impact on forest lands.

e) **No Impact.** Active ranches are located near the lakebed – Horseshoe Livestock to the south and Islands and Delta Livestock, Lubkin Adjunct Livestock, and Mount Whitney Ranch north and west of the lake. The presence of livestock on the lake is limited to stray animals from adjacent leases. However, since the project does not include new fences, alter water distribution to the ranches or include haul routes across ranch properties, there will be no impact on agricultural operations from construction and operation of the Phase 7a project.

### 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 within the jurisdiction of the GBUAPCD. The valley has been designated by the State and EPA as a non-attainment area for the state and federal 24-hour average $PM_{10}$ standards. With the exception of $PM_{10}$, air quality is considered excellent and the area has been designated as attainment or unclassified for all other ambient air quality standards. Large industrial sources of air pollutants 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), b), c) **Potentially Significant Impact.** The relevant air quality plan for the project area is the Final 2008 Owens Valley $PM_{10}$ Planning Area Demonstration of Attainment SIP (GBUAPCD, 2008a). The focus of this planning document is implementation of DCMs at Owens Dry Lake.

The Phase 7a project is a modification of the OLDMP described in the 2008 SIP. Therefore project consistency with the applicable air quality plan has not been described in previous environmental documents. The consistency of the Phase 7a project with the applicable air quality plan will be described in the EIR for the Phase 7a project.

Emissions during project construction will result from the operation of the equipment including: dozers, scrapers, dump trucks, flatbed trucks, fuel trucks, backhoes or tractors, water trucks, light duty trucks, and workers personal vehicles. Air pollutant emissions estimates for construction of the Phase 7a project and their potential cumulative effects have not been specifically described in other environmental documents. Air pollutant emission estimates will be quantified and described in the EIR for the Phase 7a project.

d) **Less Than Significant Impact.** Sensitive receptors include schools, day-care facilities, nursing homes, and residences. The closest sensitive receptors to the Phase 7a project areas are residences in Keeler, Swansea, Dolomite, Olancha and Cartago (see **Table 1**). Additionally, there is a residence at the Boulder Creek RV Park (located approximately 1.8 miles northwest at the intersection of U.S. 395 and Main Line Road). To the gravel haul routes, the closest receptors are in Dolomite (approximately 1 mile northeast of the Dolomite mine haul route), Swansea (approximately 0.7 miles north of the Dolomite mine haul route) and Keeler (0.8 miles to the LADWP Shale Pit haul route).

Construction of the proposed project will include operation of mechanical equipment. However, given the distance of residential sensitive receptors to the project sites, the impact from gas and diesel fumes associated with motor vehicles and heavy equipment engines on sensitive receptors will be less than significant. Implementation of the proposed project would greatly decrease the exposure of residents to $PM_{10}$ emissions from the Owens Dry Lake in the long term, a beneficial effect.

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 located on or 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.

## 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:** Prior to implementation of the Dust Control Project, Owens Dry Lake consisted of a large expanse of barren playa, a remnant hypersaline brine pool, and scattered springs and seeps along its shoreline. Implementation of DCMs has resulted in an increase in the use of Owens Dry Lake by many wildlife species as water and vegetation resources are now present on much of the former barren playa. Shallow Flooding has attracted large numbers of birds, primarily gulls, avocets, stilts and plovers (LADWP, 2010b).

a), b), c), d) **Potentially Significant Impact.** Based on California Natural Diversity Data Base (CNDDB), listings for the Vermillion Canyon, Owens Lake, Lone Pine, Dolomite, Bartlett, and Olancha USGS quadrangles, and LADWP knowledge of the areas, sensitive plant and animal species and sensitive natural communities have the potential to occur on or near the project areas. Additionally, a breeding population of Western Snowy Plover occurs on Owens Dry Lake and the lake is an important site along the Pacific Flyway for migratory waterbirds. Per the terms of previous mitigation measures, LADWP is required to maintain a baseline of at least 272 Snowy Plovers as determined during dedicated annual surveys

(GBUAPCD, 2003) and a minimum of 523 acres of Shallow Flooding habitat for Snowy Plovers in consultation with CDFG (GBUAPCD, 2008a). This habitat is described as a mix of exposed sandy or gravelly substrate suitable for nesting in close proximity to standing water equal to or less than 12 inches in depth; the 523-acre area has been designated along the east side of the lake.

The impact on sensitive biological resources from construction and operation of the Phase 7 project was assessed in the 2008 SIP EIR (GBUAPCD, 2008b). However, due to changes in the project description between Phase 7 and Phase 7a, the impacts of the Phase 7a project on sensitive species and natural communities will be described in the EIR for the project.

e) **Less Than Significant Impact.** No tree ordinances apply to the project area and no trees are present on the project site. The Inyo County General Plan Goals and Policies document (2001) includes two goals for biological resources issues: Maintain and enhance biological diversity and healthy ecosystems throughout the County, and provide a balanced approach to resource protection and recreation use of the natural environment (Goals BIO-1 and BIO-2). Since the project site will remain as open space and will continue to provide habitat for Snowy Plovers and other species, the project will not conflict with these goals. The impact on local policies or ordinances protecting biological resources is less than significant. Additional description of biological resources of the Phase 7a parcels including the BACM Hybrid areas will be provided in the EIR for the Phase 7a project.

f) **Less Than Significant Impact.** The project site is not within a Significant Natural Area (SNA) as determined by CDFG. LADWP is currently preparing a Habitat Conservation Plan (HCP) for LADWP-owned lands in Inyo and Mono Counties; this plan is not yet finalized but would not cover the Phase 7a portion of Owens Dry Lake since it is property of the CSLC. However, in compliance with mitigation measure Biology-14 of the 2008 SIP FSEIR (GBUAPCD, 2008b), LADWP prepared the Owens Lake Habitat Management Plan (OLHMP) for the Owens Lake Dust Mitigation Project (LADWP, 2010b). The OLHMP serves as a guide for compatibility between construction, maintenance, and operational needs of the Dust Mitigation Project under the 2008 SIP FSEIR, and the needs of resident and migratory wildlife resources utilizing the Owens Dry Lake Dust Control Area. The overall goal of the OLHMP is to avoid direct and cumulative impacts to native wildlife communities that may result from the Dust Control Program. The Phase 7a project will be implemented by LADWP in a manner consistent with the LADWP OLHMP; the impact on adopted habitat plans is therefore less than significant.

Additionally, LADWP is currently working collaboratively with a wide range of stakeholders to develop a Master Plan for Owens Lakebed. The Master Plan will identify goals and objectives to enhance the Owens Lakebed with a focus on dust mitigation, habitat and wildlife, water efficiency methods, and potential renewable energy development. Although the Master Plan is not an approved habitat conservation plan, the consistency of the proposed project with the Master Plan will be described in the EIR for the Phase 7a project.

### 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**: Prehistoric and historic cultural resources have been previously identified on Owens Dry Lake. Additionally, the lake area is mapped as Quaternary lake and sand deposits, edged by Quaternary alluvium (Mathews and Burnett, 1965, Streitz and Stinson, 1974). The older Pleistocene and late Holocene portion of each geological unit is considered to have moderate sensitivity for paleontological resources.

Field survey for observable cultural resources on the Phase 7 parcels was completed previously. Pedestrian survey of Phase 7a project areas that were not previously surveyed (i.e., pipeline alignments) and consideration of the impacts to known and previously recorded cultural resources is ongoing.

a), b), c), d) **Potentially Significant Impact.** Construction of Phase 7a project facilities will include earthwork in areas that have not been previously disturbed for construction of DCMs. The project may also require reconfiguration of existing berms and installation of new infrastructure such as irrigation pipelines and drainlines. Disturbance to cultural resources potentially present in Phase 7a project areas from project construction is a potentially significant impact. The existing setting for cultural resources, results of record searches and pedestrian surveys, results of ongoing evaluations of known resources, and the significance of potential impacts to cultural resources will be described in the EIR for the Phase 7a project.

## 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 area is on Owens dry lakebed, just south of Lone Pine 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).

a)-i) and a)-ii) **Less Than Significant Impact.** The west side of the Basin is bounded by a north-south trending fault zone along the east side of the Sierra Nevada known as the Sierra Nevada Frontal fault (Stone, et. al., 2000). The east margin of the Basin is delineated by the Inyo Mountains fault, which is a belt of west-side-down normal faults along the Inyo Mountains (Hollett, et. al., 1991; Neponset, 1999). Roughly in the middle between the Inyo Mountains fault and Owens Valley fault is the Owens River fault (Neponset and Aquila, 1997). To the south, a number of unnamed fault segments were mapped in front of the Coso Range (Stinson, 1977; Hollett, et. al., 1991).

The Phase 7a DCAs are located on USGS quadrangles which include designated Alquist-Priolo Special Studies Zones. Surface rupture on local faults is also possible outside of the currently mapped active traces of these range-front faults. However, since permanent habitable structures will not be built as part of the proposed project, people will not be exposed to adverse effects involving seismic ground shaking. Damage to project facilities (irrigation lines, drainlines, turnouts, roadways, geotextile membranes or gravel layers) would be repaired as necessary; impacts will therefore be less than significant.

a)-iii) **Less Than Significant Impact.** The project does not expose people to potential substantial adverse effects involving strong seismic-related ground failure, including liquefaction. Shallow groundwater does occur on the lake and the Phase 7a project includes new areas of Shallow Flooding. However, since permanent 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. Damage to project facilities (irrigation lines, drainlines, turnouts, roadways, geotextile membranes or gravel layers) would be repaired as necessary; impacts will therefore be less than significant.

a)-iv) **Less Than Significant Impact.** The project site is located well away from the mountain front, which has slopes steep enough to initiate a landslide during an earthquake. Additionally, since permanent habitable structures will not be built as part of the proposed project, people will not be exposed to adverse effects involving landslides. Damage to project facilities (irrigation lines, drainlines, turnouts, roadways, geotextile membranes or gravel layers) would be repaired as necessary; impacts will therefore be less than significant.

b) **Less Than Significant Impact.** Construction activities for the Phase 7a project include site preparation (excavation, soil conditioning, and land leveling), preparation of gravel stockpile areas, raised roadway and irrigation pipeline installation, installation of electrical and mechanical equipment related to the irrigation systems, installation of the geotextile and gravel layer, and planting activities. Earthwork required for construction has the potential to temporarily increase soil erosion from the disturbed areas. However, since construction methods will include BMPs identified in a SWPPP completed in compliance with the NPDES General Permit for Storm Water Discharges Associated with Construction Activity (General Permit), wind and water erosion of soils during construction will be minimized. Therefore, the impact is less than significant.

The intent of installing Gravel Cover, Shallow Flooding, and Managed Vegetation on the lakebed is to stabilize soils in an effort to reduce soil erosion via wind. Therefore, the Phase 7a project will have a beneficial effect during project operation by reducing soil erosion.

c) **Less Than Significant Impact.** New structures included in the Phase 7a project (irrigation lines, drainlines, turnouts, roadways, geotextile membranes, etc.) may be located on lakebed soils that are considered unstable. Prior to final design of new facilities, geotechnical investigations will be conducted and fill soils, armoring, and potentially other design features will be used where warranted. Since no permanent habitable structures will be built as part of the proposed project, the impact will be less than significant.

d) **No Impact.** Permanent habitable structures will not be built as part of the proposed project. Therefore, there will be no project-related impacts from expansive soils.

e) **No Impact.** Sanitation facilities are not present or proposed for the project site. Therefore, 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:** LADWP has instituted numerous programs for reducing GHG emissions, such as providing rebates to encourage use of energy efficient equipment, retrofitting City-owned facilities for increased energy efficiency, promoting the installation of solar and renewable power, and reducing GHG from vehicles by pursuing electric fleet vehicles.

a), b) **Potentially 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 include air pollutants generated from construction vehicles during the temporary construction activities. Operations-related air pollutant emissions would result from maintenance activity (creating vehicle emissions). Otherwise, operation of the project has no air pollutant emissions; the project reduces the emissions of dust from the Owens dry lakebed.

Since the air pollutant emissions related to Phase 7a construction and operation have not been quantified, greenhouse gas emissions and the consistency of the project with planning documents focused on the reduction of greenhouse gas emissions will be described in the EIR for the Phase 7a project.

## 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:** Aside from fuels, hazardous materials are not currently used or stored on the project site. Fertilizer is stored on the lakebed in a contained area at existing Managed Vegetation DCA T5. Fertilizer is used as necessary for the existing T5 – T8 Managed Vegetation DCAs.

a) and b) **Less Than Significant Impact.** Construction of the proposed project will require the routine transport, use, and storage of limited quantities of gasoline and diesel fuel, and potentially degreasers and solvents for construction vehicle maintenance. The existing LADWP Sulfate Facility is located off Sulfate Road west of SR 136, on the east side of the lake. This facility includes a vehicle wash station, refueling station, and fuel tanks as well as areas for vehicle maintenance. Additionally, the two vehicle and equipment staging areas previously used (for Phases 7 and 8) will be used for Phase 7a. These previously disturbed sites are located near the intersection of Main Line Road and Corridor 1 at the north end of the lake (20 acre site) and at the southern end of the lake adjacent to Dirty Socks Access

Road (2.7 acre site). In addition to office trailers and equipment and vehicle storage, these areas will have fueling stations for gas and diesel. Fuel trucks will be used to refuel construction equipment (including the low ground pressure gravel trucks) and the long haul gravel trucks; no vehicle fuels or oils will be stored in the gravel stockpile areas. Additional permanent fertilizer storage for the proposed Managed Vegetation areas is not proposed under Phase 7a. Portable fertilizer tanks will be used to deliver fertilizer to concrete pads with containment. Other chemical use is not anticipated.

LADWP will employ standard operating procedures for the routine transport, use, storage, handling, and disposal of hazardous materials related to the operation of the DCMs. LADWP also prepares an annual update on the transport, use, storage, handling, and disposal of hazardous materials. Therefore, with adherence to the standard operations procedures for hazardous materials use, impacts related to release or accidental exposure to humans or the environment will be less than significant.

Water will be used during project construction for dust control but water will not be used in volumes sufficient to cause standing water. During project operation, water will be used to irrigate areas of Managed Vegetation and for Shallow Flooding. Since the Phase 7a project will be water neutral, the overall area of standing water on the lakebed will not significantly increase. Creation of mosquito habitat by the creation of standing water will be managed as under existing conditions. LADWP has an annual contract with the Inyo County Agricultural Department which manages the Owens Valley Mosquito Abatement Program. The Agricultural Commissioner will be notified of the changes in the Shallow Flooding DCAs prior to project operation. Since these mosquito abatement practices will continue and since the Phase 7a project does not substantially increase the area of mosquito habitat, the impact related to vectors is less than significant.

c) **Less Than Significant Impact.** There are no schools within ¼ mile of the Phase 7a project area. The closest school is located in Lone Pine (over 5 miles north of the Phase 7a DCAs). Additionally, hazardous materials use will be limited to fuels for construction vehicles. 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 project site. Therefore, the project will have no impact related to hazardous waste sites.

e) and f) **No Impact.** Seven public access airports and six private airstrips are located throughout Inyo County (Inyo County, 2001). The Lone Pine Airport is closest to the project site; it is located approximately 3.6 miles to the north. However, the project does not propose new tall structures and the project area is not located sufficiently near either a private airstrip or public airport to pose a safety risk. Therefore, there will be no project-related impacts on airport safety.

g) **Less Than Significant Impact.** Internal Owens Dry Lake roadways are not part of an emergency evacuation plan route and therefore construction and operation activities on the lake would have no impact on a designated emergency route. Gravel transport necessary for the Phase 7a project would require gravel trucks to cross SR 136 (from the F.W. Aggregate or the LADWP Shale Pit) (**Figure 4**) which will be coordinated with Caltrans. However, since Owens Dry Lake is not designated as an emergency staging area, the project will have a less than significant impact on emergency access and evacuation plans.

h) **Less Than Significant Impact.** The project area is not typically subject to wildland fires and the project site has only limited areas of vegetation. Permanent habitable structures do not exist and none are proposed for the project site. Since 2006, fire protection services have been provided by the California Department of Forestry (CDF) and Owens Dry Lake is included in their State Responsibility Area (SRA). The new areas of Gravel Cover would not alter the existing low risk of fire and areas of Shallow Flooding would reduce the risk. Managed Vegetation areas would be irrigated. Therefore, the project will have a less than significant impact related to wildland fires.

## 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**: The floor of the Owens Valley ranges in elevation from a low of approximately 3,550 feet above mean sea level (MSL) on the Owens dry lakebed to the south to approximately 4,100 feet above MSL near Bishop to the north. Topographically, the bed of Owens Dry Lake is relatively flat with only 50 feet of topographic relief from the historic shore to the lowest portion of the lakebed. The lakebed can be divided into two main areas: the brine pool (below an elevation of 3,553.53 MSL) and the playa (the area between the brine pool and the historic shoreline at 3,600 MSL). The playa generally consists of lacustrine and alluvial sediments

ranging in size from fine gravels to clays and containing a high salt content. The brine pool is the remnant portion of the historic Owens Lake and contains a high accumulation of mineral salts. The brine pool is generally wet during part of the year, depending on the amount of precipitation and runoff from the surrounding mountains.

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 site, beneficial uses are designated for Owens Lake and Owens Lake wetlands (**Table 4**).

**Table 4**
**Beneficial Uses of Owens Lake**

| Surface water | MUN | AGR | GWR | REC-1 | REC-2 | COMM | WARM | COLD | SAL | WILD | WQE | FLD |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Owens Lake | | | | X | X | X | X | X | X | X | | |
| Owens Lake Wetlands | X | X | X | X | X | | X | X | | X | X | X |

MUN – municipal and domestic supply; AGR – agricultural supply; GWR – groundwater recharge, REC-1 – water contact recreation; REC-2 – noncontact water recreation; COMM – commercial and sportfishing; WARM – warm freshwater habitat; COLD – cold freshwater habitat, SAL – inland saline water habitat; WILD – wildlife habitat, 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 Owens Lake. However, narrative and numeric water quality standards applicable to all surface waters (including wetlands) in the region are applicable for: ammonia, coliform bacteria, biostimulatory substances, chemical constituents, total residual chlorine, 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.

Discharges associated with operation of the proposed project would be of Los Angeles Aqueduct or Lower Owens River water to the DCAs. The quality of these sources would not violate applicable narrative or numeric water quality standards. The existing DCAs are operated under Board Order No. R6V-2006-0036, Revised Waste Discharge Requirements (WDRs) for the Southern Zones dust control project. Monitoring is conducted and reported semi-annually; the Southern Zones dust control project is in compliance with the adopted WDRs.

Extensive groundwater dewatering is not anticipated to be required for project construction or operation. However, if groundwater dewatering is required, water would be discharged to an existing DCA or to the lakebed surface, therefore there will be no project-related impacts related to dewatering discharges.

During project construction, disturbance to surface soils will result from land leveling, raised roadway construction, irrigation system installation, and preparation of gravel stockpile locations. Since site disturbance would exceed 1 acre, during construction, stormwater will be managed in accordance with BMPs identified in a SWPPP completed in compliance with the NPDES General Permit for Storm Water Discharges Associated with Construction Activity (General Permit). With implementation of the required SWPPP, potential increases of sediment load in stormwater will not adversely affect surface water beneficial uses and impacts will therefore be less than significant. The impact on water quality will be less than significant.

b) **Less than Significant Impact.** Construction of the project, and maintenance activities including gravel replenishment, will require the use of water trucks to control fugitive dust. Water trucks will be filled from existing J stands off the Main Line pipeline; the water source is the Los Angeles Aqueduct and therefore originally Owens Valley surface or groundwater. Otherwise, construction and operation of the Phase 7a DCMs will not require the use of groundwater. Since the geotextile to be used for the Gravel Cover areas is permeable, the project will not substantially alter groundwater recharge at the site. Additionally, since the project is essentially water neutral, Phase 7a will not result in an overall increase of water applied to the lake. Therefore, impacts on groundwater will be less than significant.

c), d), and e) **Less than Significant Impact.** Construction of the raised roadways around the new Phase 7a DCAs will alter the existing stormwater drainage pattern in the immediate area of the DCA. However, as under existing conditions, stormwater will continue to flow to the brinepool. Modifications in the drainage pattern resulting from the project will not result in substantial erosion or siltation, flooding, or add a substantial source of polluted runoff. Since the drainage pattern from the project sites flows in the same direction as existing conditions and eventually to the brine pool, the impact on drainage pattern and stormwater drainage will be less than significant.

g) and i) **No Impact.** A 100-year floodplain has been delineated on the Owens River and most of Owens Dry Lake below the historic shoreline (Federal Emergency Management Agency [FEMA], 1986). Therefore, most of the Phase 7a DCAs are located within the mapped 100-year floodplain. However, no permanent habitable structures are proposed as part of the project. The redirection of flood flows will not risk habitable structures since none are present on the lake. 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. Therefore, the project will have no impact on housing or structures in a 100-year flood hazard area.

h) **Less than Significant Impact**. Raised roadways will protect the Phase 7a DCAs from inundation and washout and, as under existing conditions, stormwater will flow towards the brine pool. New raised roadways will be constructed around new 7a DCAs: T1A-3, T1A-4, T32-1, T37-1, and T37-2. Since flows will continue, as under existing conditions, to flow to the brine pool, the impacts on redirection of flood flows will be less than significant.

j) **Less than Significant Impact.** Due to the distance to the ocean, tsunami risk is not relevant for the proposed project. Depending on volume conditions, localized seiche of the brine pool is possible but would not expose people or structures to loss, injury or death. Due to the low relief of the Owens Dry Lake area, mudflows are not likely, and would not impact permanent habitable structures since none are present. Since earthquake-induced damage to irrigation lines, drainlines, turnouts, roadways, geotextile membranes or gravel layers could be readily repaired by re-installing the facilities, the impact is 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 with a General Plan designation of State and Federal Land (SFL) (Inyo County, 2011). The closest communities to the Phase 7a project areas are located outside the historic Owens lakebed (**Table 1**). No permanent habitable structures are located on or immediately adjacent to the project site, and none are planned as part of the proposed project. Therefore, there will be no project-related impacts on established communities.

b) **Less Than Significant Impact.** Use of the Phase 7a project areas for dust control is considered relevant to CSLC, Inyo County, GBUPCD, and BLM planning. As discussed below, the Phase 7a project would be consistent with existing land use plans and policies and project-related impacts on land use would therefore be less than significant.

The Phase 7a project area is located on historic Owens lakebed owned and operated in trust for the people of the State of California by the CSLC. A lease from CSLC would be required in order to install DCMs on the Phase 7a property. No other land use approvals would be required. In granting the lease, CSLC would consider the Public Trust Doctrine. Public Trust Doctrine embraces the right of the public to use the navigable waters of the State for bathing, swimming, boating, and general water-related recreational purposes (CSLC, 2007). Additionally, the Public Trust Doctrine is sufficiently flexible to encompass changing public

needs, such as to include the preservation of the lands in their natural state for scientific study, as open space and as wildlife habitat (CSLC, 2007).

GBUAPCD's 2008 SIP SEIR found that the proposed 15.1 square miles of DCMs would be consistent with public trust values of the Public Trust Doctrine since the dust program would maintain the current open space and assist in the natural resource preservation, while maintaining recreational opportunities. For the Phase 7a areas, installation of Gravel Cover, Managed Vegetation, Shallow Flooding, and BACM Hybrid will not substantially alter site access for public recreation. The Phase 7a project is a part of the larger Owens Lake Dust Mitigation Program with the goal of reducing air pollutant emissions for the protection of public health. Since the lake has only a variably-sized brine pool, it is not currently a navigable waterway; installation of Phase 7a project facilities would not alter that condition. Additionally, the Phase 7a project does not constitute an irrevocable change in land use – at some point in the future if other dust mitigation concepts are identified and implementable, areas of flooding, managed vegetation, and gravel could be removed and the sites could be returned to existing conditions or other conditions as required to control dust emissions.

**Inyo County General Plan.** The Land Use Element of the Inyo County General Plan (2001) includes Policy LU-5.6 State and Federal Lands Designation (SFL). This designation applies to those State- and Federally-owned parks, forests, recreation, and/or management areas that have adopted management plans. The Conservation/Open Space Element of the Inyo County General Plan (2001) includes Policy REC-1.2 Recreational Opportunities on Federal, State, and LADWP Lands: Encourage the continued management of existing recreational areas and open space, and appropriate expansion of new recreational opportunities on federal, state, and LADWP lands. Once project facilities are installed, the sites would remain as open space - no fences, barriers, or other obstructions are proposed. Temporary (during the approximately 18-month construction period) and site specific restrictions in on public access for recreation may be required to maintain public and worker safety.

**GBUAPCD State Implementation Plan**. The 2008 SIP addressed the placement of 15.1 square miles of DCMs on Owens Dry Lake including 9.2 square miles of Shallow Flooding, 3.5 square miles of Moat and Row DCMs, 0.5 square mile of channel area that may require DCMs, and 1.9 square miles of Study Area of which some or all may require controls after 2010. The currently proposed Phase 7a project would reduce dust emissions on these previously identified areas using currently approved BACM and Tillage (which has been previously approved as an interim measure). Therefore, the project is consistent with the SIP developed by GBUAPCD for the purpose of mitigating air pollutant conditions in the Owens Valley Planning Area (GBUAPCD, 2008a).

**U.S. Bureau of Land Management**. The new Phase 7a project areas do not overlap with the 15,790-acre Bishop Resource Management Plan Owens Lake Management Area managed by BLM; the Ridgecrest Resource Area of the California Desert Conservation Area managed by BLM per the California Desert Conservation Area Plan (CDCAP); or the wilderness areas, national parks, and national preserve managed by BLM under the California Desert Protection Act. The T30 potential Transition Areas are partially located on private and BLM land. Existing agreements are in place for dust control; alteration of the

method of dust control on these same parcels is anticipated to be consistent with the existing agreements. Accordingly, impacts on BLM land use plans and policies will be less than significant.

c) **Less than Significant Impact.** Please see Section 2.3.4 Biological Resources, item f.

### 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:** Mineral resources are defined as naturally occurring materials in the earth that can be utilized for commercial purposes (Inyo County, 2001). The Owens Lake Planning Area contains known mineral resources of statewide or regional importance. U.S. Borax (parent company Rio Tinto Mining) mines evaporite minerals from approximately 16,000 acres of leased land on the west side of the lake. Minerals mined include trona (hydrated sodium bicarbonate carbonate), burkeite (silicate) and halite (sodium chloride). Because minerals are mined from the surface, the facility is sensitive to surface water changes on the lake.

Other important mineral resources surrounding the Owens Dry Lake area include gravel deposits associated with alluvial fans and sand deposits associated with the Owens River and local dunes.

Inyo County is the Lead Agency for the processing of surfacing mining reclamation plan applications on private lands, Inyo County's Road Department, City of Los Angeles, and California Department of Transportation borrow pits, and surface mining on federally administered lands. All surface mining operations that disturb greater than 1 acre or move more than 1,000 cubic yards or more are required to have an approved reclamation plan before the start of mining activity. Reclamation plans are required by the Surface Mining and Reclamation Act (SMARA) to assure that:

- Adverse environmental effects are prevented or minimized and mined lands are reclaimed to a useable condition readily adaptable for alternate land uses.
- Production and conservation of minerals are encouraged, while considering recreation, watershed, wildlife, aesthetic, range and forage values.
- Residual hazards to public health and safety are eliminated.

LADWP's Shale Pit has an approved Reclamation Plan on file with the County and reviewed by BLM (2005-03/LADWP).

a) and b) **Less Than Significant Impact.** At its closest point, the northern part of the U.S. Borax lease is approximately 0.4 miles east of T37-2. The southern part of the lease is adjacent to T16 (existing Shallow Flooding DCA) and T1A-4 (proposed for Shallow Flooding under the Phase 7a project). The active mining operations are located northwest of DCA T11. The operations west of proposed DCA T1A-4 are inactive or in the process of being reclaimed.

The closest Phase 7a project areas to active mining operations are T1A-3 (proposed for Gravel Cover) and T1A-4 (proposed for Shallow Flooding). Construction activity required for the implementation of the Phase 7a project would occur adjacent to, but not on, the active mining operations. On-lake mining operations are sensitive to shallow groundwater volume changes. However, T1A-3 is proposed for Gravel Cover and therefore will not alter water conditions adjacent to the mining operations. T1A-4 is proposed for Shallow Flooding, but will be surrounded by a raised roadway which will also serve to contain water on site. Given the low permeability of lake surface clays and the reduction in Shallow Flooding proposed as part of the Transition Areas (including T1A-2_a), the project would not be anticipated to significantly alter shallow groundwater conditions. Project-related impacts to known mineral resources on Owens Dry Lake will be less than significant.

Implementation of the project includes use of local mineral resources. Approximately 1.4 million tons of gravel will be distributed within T1A-3, T37-1, T35-1, T35-2 and several Phase 7a Transition Areas. Gravel will likely be obtained from local gravel production operations such as the LADWP Shale Pit and the F.W. Aggregate Dolomite mine (**Figure 4**). Ample aggregate is available from these sources for the project. Three subareas of the Dolomite mine (Durability, North Pole, and Translucent) total approximately 480 acres and are able to produce up to 50 million tons (T. Lopez, pers. comm., June 25, 2010). The LADWP Shale Pit (State Mine ID Number 91-14-0130) is currently permitted for 40 acres of development (approximately 200,000 – 400,000 tons of shale), with potential for expansion. The proposed project will include the use of locally-important mineral resources, but will not result in a substantial loss of availability of the resource. Since mineral resources will still be available, impacts on mining operations adjacent to Owens Dry Lake will be less than significant.

### 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:** Owens Dry Lake is located in a remote area of the upper Mojave Desert where the main sources of noise are the mining operations on the lakebed, construction and maintenance activities related to the DCMs, and roadway noise along U.S. 395, SR 190, and SR 136. Sensitive noise receptors in the Owens Dry Lake area include residents in the communities of Lone Pine, Dolomite, Swansea, Keeler, Olancha, Cartago, and Bartlett.

Per the Public Safety Element of the Inyo County General Plan (2001), the normally acceptable noise level for residential properties ranges up to 60 Ldn and conditionally acceptable noise level ranges up to 70 Ldn. The term "Ldn" refers to the average sound exposure over a 24-hour period. Ldn values are calculated from hourly Leq values, with the Leq values for the nighttime period (10:00 p.m. to 7:00 a.m.) increased by 10 dB to reflect their greater disturbance potential.

a) and d) **Less Than Significant Impact.** The closest noise receptors to the Phase 7a project areas are residences in Keeler adjacent to T26; from the boundary of T26, the closest structure in Keeler is approximately 1,150 ft away. There are also residences in Cartago approximately 1 mile from T1A-2_a. Along the gravel haul route from the mines, aside from LADWP's Sulfate Facility, the closest noise receptors would be the residents in Keeler (located approximately 0.8 miles northwest from where the haul trucks will cross SR 136 going to and from the LADWP Shale Pit) and Swansea (approximately 0.7 miles from the

Dolomite mine haul route). The closest school is in Lone Pine, over 5 miles north of the Phase 7a DCAs.

During construction of the Phase 7a project, noise will be generated from dozers, flatbed trucks, water trucks, and dump trucks at the Phase 7a DCAs and along the gravel truck haul routes. Noise will be noticeable to on-lake workers and potentially persons visiting the lake for recreation. The minimum distance of 1,000 feet between residents and the Phase 7a areas is generally considered sufficient distance to reduce noise generated from construction activities. For example, construction equipment emitting 90 dBA at 50 feet would attenuate to 64 dBA at 1,000 feet (Canter, 1977). Additionally, construction activity will generally not occur during 10:00 p.m. to 7:00 a.m. when there is greater potential for noise disturbance to residences. Therefore, given the distance from the project site and the haul routes to sensitive residential receptors, the project will not cause noise levels to exceed established thresholds and noise impacts will be less than significant.

[Potential noise impacts on biological resources related to project construction and operation will be described in the EIR.]

b) **Less Than Significant Impact.** Equipment used for project construction may create minor groundborne vibration or groundborne noise. Since the closest buildings are over 1,000 feet away, impacts related to temporary groundborne vibration or noise will be less than significant.

c) **Less Than Significant Impact**. Noise generated during project operation will include equipment noise related to periodic maintenance activities necessary for proper operation of pumps, pipelines, roadways, and other infrastructure as well as for replenishment of gravel. As maintenance operations are on-going at the lake, operations-related noise will be similar to existing conditions. Since fewer trucks will be required, the noise impact will be less than that for project construction. Due to the distance to the nearest receptors, noise impacts from project operation will be less than significant.

e) and f) **No Impact.** Seven public access airports and six private airstrips are located throughout Inyo County (Inyo County, 2001). The Lone Pine Airport is the closest public access airport to the project site; it is located approximately 3.6 miles north of the lakebed. Therefore, the project is 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. 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) **Less Than Significant Impact.** Since the project does not include construction of homes or businesses, it will not directly impact population growth in the Owens Dry Lake area. However, construction of the project will require approximately 200 workers working in the area for approximately 18 months. These workers may be LADWP staff or a mix of LADWP staff and contractors. Additional workers would be required after initial construction to develop and maintain areas of Managed Vegetation. This number of workers over the construction period would have a less than significant impact on population growth.

b) and c) **No Impact.** No permanent habitable structures are located on or immediately adjacent to the Phase 7a project site, and none are planned as part of the proposed project. Therefore, there will be no impacts on housing from implementation of the Phase 7a project.

## 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 project area has only limited areas of vegetation and therefore limited fuel for fires; permanent habitable structures do not exist and none are proposed for the project site. Since 2006, fire protection services have been provided by CDF and Owens Dry Lake is included in their SRA. The new areas of Gravel Cover would not alter the existing low risk of fire and areas of Shallow Flooding would reduce the risk. Managed Vegetation areas would be irrigated. Therefore, the project will have a less than significant impact related to provision of fire suppression services.

a)ii – a)v **No Impact.** Permanent habitable structures are not present on the project site and none are proposed as part of the project. The limited number of construction workers required to implement the project would not generate substantial population growth or create the need for new or expanded public services. 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) **No Impact.** Permanent habitable structures are not present on the project site and none are proposed as part of the project. The number of construction workers required to implement the project would not generate substantial population growth or create the need for new or expanded parks. Therefore, the project will have no impact on neighborhood or regional parks or other recreation facilities.

b) **No Impact.** The project does not include the construction of recreational facilities or generate population growth that would require the construction or expansion of recreational facilities. Therefore, there will be no impact on recreational facilities. However, the Owens dry lakebed is openly accessible to the public for recreation. During construction of the Phase 7a project, access may be temporarily limited if determined by LADWP to be necessary for public and/or worker safety. If approved by CSLC, signs may be posted indicating restricted construction areas.

LADWP is currently working collaboratively with a wide range of stakeholders to develop a Master Plan for Owens Lakebed. The Master Plan will identify goals and objectives to enhance the Owens Lakebed with a focus on dust mitigation, habitat and wildlife, water efficiency methods, and potential renewable energy development. Although the Master Plan is still in preparation, the consistency of the proposed project with the public access elements of the Master Plan will be described in the EIR for the Phase 7a project.

## 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:** Major roadways around Owens Dry Lake include U.S. 395, SR 136, and SR 190. Roads located on the lakebed relevant to the project include Sulfate Road, T-30 Road, and Main Line Road.

**U.S. 395** – U.S. 395 is the main north-south transportation route through Inyo County and the Owens Valley. The majority of U.S. 395 adjacent to the lake is a four-lane divided highway.

**SR 136** – SR 136 is a two-lane northwest/southeast highway connecting U.S. 395 to the north and SR 190 to the south. SR 136 has 12-foot-wide lanes with unimproved gravel shoulders in each direction in the vicinity of Owens Dry Lake. Travel to and from the gravel sources for the Phase 7a project will cross SR 136.

**SR 190** – SR 190 is a two-lane southwest/northeast highway connecting U.S. 395 to the west and SR 136 to the east. SR 190 has 12-foot-wide lanes with unimproved gravel shoulders in each direction in the vicinity of Owens Dry Lake.

Additionally, as part of implementation of the DCMs, an internal network of roadways has been constructed on Owens Dry Lake. The Main Line Road roughly bisects existing dust control areas in the south and along the east side of the lake; the roadway crosses the Owens River in the north and is located north of T35-1, T35-2, and T37-1 Gravel Cover DCAs. From the LADWP Shale Pit, gravel trucks will cross SR 136 and connect to Sulfate Road. From the Dolomite mine, gravel trucks will cross SR 136 and connect to Road T-30.

a) and b) **Less Than Significant Impact.** Level of Service (LOS) is a qualitative measure describing operational conditions within traffic stream, or their perception by motorists and/or passengers which is calculated based on a number of design and operating criteria, such as lane width, roadside obstacles, trucks and busses, curvature, grades, etc. (Transportation Research Board, 2000). LOS A reflects free-flow conditions; at LOS E a road is operating at capacity and is congested. Typically, LOS C or LOS D represents acceptable flow conditions. The highway capacity as determined by the Highway Capacity Manual 2000 for a two-lane highway is 1,600 passenger cars per hour (pc/h) for each direction of travel; the capacity of a two lane-highway is 3,200 pc/h for both directions of travel combined. Based on 2008 traffic counts reported by Caltrans, U.S. 395, SR 136, and SR 190 all operate well below capacity at LOS A (Caltrans, 2009).

Construction of Phase 7a will increase traffic on these roadways for the transport of gravel, delivery of seed and plant material, delivery of pipelines and other infrastructure, and related to the movement of construction equipment and personnel during the approximately 18-month construction period. Construction equipment will be mobilized to the staging areas and then will remain on the lake; plant material and infrastructure deliveries will be limited. Therefore, the primary impact on local roadways will be for gravel transport to T37-1, T1A-3, T35-1, T35-2 and the 3 to 4 square miles of Transition Areas selected for BACM Hybrid (including portions of Gravel Cover): T1A-2_a, T10-2_a, T2-1, T5-1, T5-3, T5-3 Addition_a, T5-3 Addition_b, T26, T28N, T28S, T30-1_a, T30-1_b, and T36-1_b.

Gravel haul routes for construction of Phase 7a will be contained within the on-lake roadway network to the maximum extent possible. During mobilization for the project, vehicles required for construction (dozers, flatbed trucks, water trucks) may be transported to the site via U.S. 395, SR 136, and/or SR 190. It is anticipated that vehicles will be transported to the site once, remain on-site for the construction period, and then be demobilized. Based on the limited number of vehicles to be mobilized and the existing excellent LOS on these roadways, project-related impacts on U.S. 395 and SR 190 will be temporary and less than significant.

However, project-related traffic will cross SR 136 throughout the construction period. In 2008, average annual daily traffic (AADT - total traffic volume for the year divided by 365 days) for SR 136 ranged between 600 vehicles at the junction of U.S. 395 and approximately 420 vehicles at the junction with SR 190 (Caltrans, 2009), well below the 1,600 pc/hr capacity for each direction of travel. The truck AADTs were 14 (at the junction with U.S. 395) and 11 (at the junction with SR 190) (Caltrans, 2009).

Gravel haul trips will be on-going for the 18-month construction period. Approximately 120 round trips will be required to haul gravel from the mines on the east side of the lake to the stockpile locations. At approximately 240 one-way trips per day and a 10 hour work day,

approximately one truck would cross SR 136 every 2.5 minutes. Gravel trucks would not travel on SR 136 and add to the average daily traffic volumes, but would cross SR 136 approximately 240 times per day (either connecting to Sulfate Road or T-30 roadway). The peak hour traffic volume on SR 136 was 80 vehicles in 2008 (Caltrans, 2009). Since it operates well below capacity and at LOS A, the addition of approximately 24 trucks crossing SR 136 per hour would not substantially degrade the level of service on this roadway and project-related impacts on traffic would be 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 Lone Pine Airport is located approximately 3.6 miles north of the lake. No impacts on air safety will occur.

d) **Less Than Significant Impact with Mitigation Incorporated.** The Phase 7a project does not include construction or modification of off-lake roadways. New internal roadways will be created surrounding new DCAs. The expansion of the on-lake roadway system will not create new roadway hazards for the public.

However, construction of the project is estimated to require approximately 240 truck crossings of SR 136 per day. Since these crossings are not signalized and would be on-going for approximately 18 months, impacts related to traffic hazards are potentially significant. Additionally, degradation of the road surface on SR 136 at these crossing could result from traffic related to Phase 7a construction. With implementation of mitigation measures Trans-1 and Trans-2 (Traffic Work Safety Plan and repair of roadway damage at the SR 136 crossings), impacts will be reduced to a less than significant level.

e) **Less Than Significant Impact.** Owens Dry Lake is currently accessible to emergency vehicles via SR 136/Sulfate Road, SR 190/Dirty Socks access road, and U.S. 395/North and South Main Line access roads. Construction of the proposed project will increase the volume of trucks travelling on these roadways but will not alter the access points. The impact of the addition of approximately 24 truck trips per hour will be less than significant on emergency access.

f) **No Impact.** The project does not include housing, employment, or roadway improvements relevant to alternative transportation measures. Therefore, there will be no project-related impacts on alternative transportation.

**Mitigation Measures to Reduce Impacts on Transportation and Traffic**

**Trans-1.** LADWP shall develop and implement a Traffic Work Safety Plan to be approved by Caltrans for the construction phase of the Phase 7a project. The Plan will address the use of warning lights, signs, traffic cones, signals, flag persons and/or comparable measures as needed to maintain safe travel of haul trucks across SR 136 during construction.

**Trans-2.** LADWP shall repair damage to SR 136 in the areas near the mines where project-related truck traffic crosses SR 136. Prior to the start of construction activity, existing conditions at the crossings will be documented. After construction of Phase 7a is complete, physical damage documented at the SR 136 crossings will be repaired.

With implementation of the above mitigation measures, project-related impacts on transportation and traffic will be less than significant.

### 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), b) and e) **Less Than Significant Impact.** Permanent habitable structures are not present on the project site and none are proposed as part of the project. The limited number of construction workers required to implement the project would not generate substantial population growth or create the need for new or expanded water or wastewater service. Approximately 200 construction workers are estimated to be necessary for Phase 7a construction. Wastewater generated at portable toilets or pumped from the septic system at the Sulfate Facility is treated by the Lone Pine Community Services District in compliance with the requirements of the Lahontan Regional Water Quality Control Board. In addition to the negligible potable water demand from construction workers, construction of the project will require water for dust control. The impact on water and wastewater is less than significant.

c) **Less Than Significant Impact.** The existing Phase 7a area does not have storm drain infrastructure or connect to any off-site storm drain facilities. The DCAs will be surrounded by raised roadways. Since stormflows will continue to drain in the direction of brine pool, as under existing conditions, impacts on storm water facilities will be less than significant.

d) **Less Than Significant Impact.** As of April 2011, LADWP has installed and is operating 39.5 square miles of DCMs on Owens Dry Lake playa which use approximately 95,000 afy of water from (or that would have been input to) the Los Angeles Aqueduct. In 2010, LADWP prepared a water supply assessment for the Phase 8 project (a separate project to install Gravel Cover in the northwest part of the lake). Through the water supply assessment for Phase 8, LADWP determined that there is insufficient surplus water supply available for LADWP to continue to implement Shallow Flooding as a DCM on Owens Dry Lake (LADWP, 2010c). Since this determination is relevant to any additional water commitment in excess of 95,000 afy, it is also applicable to Phase 7a. Therefore, Phase 7a was designed to be essentially water neutral – new areas of Shallow Flooding and Managed Vegetation would be offset by transition of existing areas of Shallow Flooding to the less water intensive Managed Vegetation/Shallow Flooding/Gravel BACM Hybrid. Therefore the anticipated water demands for Phase 7a of approximately 3,700 afy will be offset by water conservation in up to 4 square miles of Transition Areas. Therefore, the impact on water supply is less than significant.

f) and g) **Less Than Significant Impact.** Installation of Shallow Flooding, Managed Vegetation, and Gravel Cover in the Phase 7a project areas will not generate substantial volumes of solid waste. The limited volumes of solid waste generated by construction workers will be disposed at a permitted landfill in compliance with applicable regulations. As reported in the 2008 SIP SEIR, the Lone Pine Landfill serves the Owens Lake Planning Area and has a remaining site life of over 60 years (GBUAPCD, 2008b). Therefore, impacts related to solid waste disposal will be less than significant.

### 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) **Potentially Significant Impact.** The impact on sensitive biological resources from construction and operation of the Phase 7 project was assessed in the 2008 SIP EIR (GBUAPCD, 2008b). However, due to changes in the project description between Phase 7 and Phase 7a, and since baseline conditions have changed on the lake since that assessment was conducted, the impacts of the Phase 7a project on sensitive species and natural communities is potentially significant and will be described in the EIR for the Phase 7a project.

Cultural resources are known for the project areas included in Phase 7a. Construction of Phase 7a project facilities will include earthwork in areas that have not been previously disturbed for construction of DCMs. The project may also require reconfiguration of existing berms and installation of new infrastructure such as irrigation pipelines and drainlines. Disturbance to cultural resources potentially present in Phase 7a project areas from project construction is a potentially significant impact. The existing setting for cultural resources, results of record searches and pedestrian surveys, results of ongoing evaluations of known resources, and the significance of potential impacts to cultural resources will be described in the EIR for the Phase 7a project.

b) **No Impact**. This goal of the project is to be part of the long-term solution for dust control on Owens Dry Lake and to contribute to the attainment of the National Ambient Air Quality Standards (NAAQS) for $PM_{10}$. There are no short-term goals related to the project that will be disadvantageous to this long-term goal.

c) **Less Than Significant Impact.** Cumulatively with other DCMs on the lake, the project will be beneficial for air quality. However, cumulative impacts of the proposed project with other related projects will be described in the EIR for the Phase 7a project.

d) **Potentially Significant Impact.** This goal of the project is to be part of the long-term solution for dust control on Owens Dry Lake and to contribute to the attainment of the NAAQS for $PM_{10}$ – a beneficial effect on human beings. Temporary impacts on air quality including emissions of GHGs will occur during project construction. Therefore, environmental effects of the proposed project related to air quality emissions will be described in the EIR for the Phase 7a project.

# Section 3
# References, Abbreviations and Report Preparation

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## 3.2 ACRONYMS AND ABBREVIATIONS

| | |
|---|---|
| **AADT** | average annual daily traffic |
| **Afy** | acre-feet per year |
| **APE** | Area of Potential Effect |
| **AQMP** | Air Quality Management Plan |
| **BACM** | Best Available Control Measure |
| **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 |
| **CARB** | California Air Resources Board |
| **CARV** | combination air-vacuum release valve |
| **CCR** | California Code of Regulations |
| **CDF** | California Department of Forestry |
| **CDFG** | California Department of Fish and Game |
| **CEQA** | California Environmental Quality Act |
| **CNDDB** | California Natural Diversity Database |
| **CSLC** | California State Lands Commission |
| **CV** | control valve |
| **DCA** | dust control area |
| **DCM** | dust control measure |
| **DTSC** | Department of Toxic Substances Control |
| **DWR** | (California) Department of Water Resources |

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|---|---|
| **EIR** | Environmental Impact Report |
| **EPA** | (United States) Environmental Protection Agency |
| **Farmland** | Prime Farmland, Unique Farmland, or Farmland of Statewide Importance |
| **FEMA** | Federal Emergency Management Agency |
| **FMMP** | Farmland Mapping and Monitoring Program |
| **FSEIR** | Final Subsequent Environmental Impact Report |
| **GBUAPCD** | Great Basin Unified Air Pollution Control District |
| **GHG** | greenhouse gas |
| **GLO** | (United States) General Land Office |
| **HCP** | Habitat Conservation Plan |
| **HDEP** | high density polyethylene |
| **Hp** | Horsepower |
| **IS** | Initial Study |
| **LADWP** | (City of) Los Angeles Department of Water and Power |
| **LGP** | low ground pressure |
| **LOS** | Level of Service |
| **LUST** | leaking underground storage tank |
| **mm** | millimeters |
| **MOA** | Memorandum of Agreement |
| **MSHA** | Mine Safety and Health Administration |
| **MSL** | mean sea level |
| **NAAQS** | National Ambient Air Quality Standards |
| **NPDES** | National Pollutant Discharge Elimination System |
| **OLDMP** | Owens Lake Dust Mitigation Program |
| **OLHMP** | Owens Lake Habitat Management Plan |
| **OSHA** | Occupational Safety and Health Administration |
| **pc/h** | passenger cars per hour |
| **PIT** | pressure indicating transmitters |
| **PM** | particulate matter |
| **$PM_{10}$** | particulate matter 10 microns or less in diameter |
| **PRV** | pressure reducing valves |
| **SCR** | supplemental control requirement |

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|---|---|
| **SFL** | State and Federal Lands |
| **SIP** | State Implementation Plan |
| **SLC** | State Lands Commission |
| **SMARA** | Surface Mining and Reclamation Act |
| **SNA** | Significant Natural Areas |
| **SPCC** | Spill Prevention Control and Countermeasure |
| **SR** | State Route |
| **SWPPP** | Storm Water Pollution Prevention Plan |
| **SWRCB** | State Water Resources Control Board |
| **USEPA** | United States Environmental Protection Agency |
| **USGS** | United States Geological Survey |
| **VAC** | volts alternating current |
| **WDR** | Waste Discharge Requirements |

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