

Coarse textured areas that are underlain by fine textured soil within a depth of 8 inches will be considered for clay-type tillage configuration. In these cases the fine material that would be turned up by tillage will help to sustain larger, more resistant ridges. A field survey of sandy tillage areas will be conducted to confirm estimated soil textures and to identify areas with fine subsurface textures and potential for the clay-type tillage configuration.

Tilling will be conducted in daylight hours without use of artificial lighting. Estimated construction personnel and equipment are noted in **Table 1**.

Construction Activity	Activity Duration (approximate workdays)	Equipment	Crew Members
Tillage	40	D6 bulldozer (6)	9
Survey	30 (10 days precede start of tillage, 20 days concurrent)	Pickup/ATV	2
Equipment Movement	5 (preceding tillage)	Tractor/Low Boy Trailer	1
Construction Support	40 (concurrent with tillage)	Fuel Truck	1
Total	Approximately 50	Approximately 10	Approximately 13

To minimize dust emissions during construction, areas will be tilled during low wind periods (approximately 7.5 meters per second (hourly wind speed) or less). To the extent feasible, installation will occur in the summer season when winds are relatively lower and high temperatures and low relative humidity reduce surface soil erodability.

The estimated construction personnel and equipment for the previously proposed moat and row facilities, as identified in the 2009 Moat and Row FSEIR, are noted in **Table 2**. As is evident from the two tables, tillage has a shorter construction duration and requires fewer pieces of equipment in comparison with the construction of moat and row facilities.

Table 2**Anticipated Construction Activities, Equipment, and Crews for Construction of the Moat and Row DCAs**

Construction Activity	Activity Length (Estimate)	Equipment	Total Crew Members
Site Preparation: clearing site of vegetation and debris, leveling of site	30 days	1 bulldozer 1 front-end loader 1 grader 2 dump trucks 1 scraper	One crew consisting of 11 crew members
Earthmoving: excavation, grading for drainage, and ripping	60 days	2 bulldozers with disc plow 1 scraper	Two crews consisting of 4 crew members (8 total personnel)
Stormwater control berms: construction of earthen berms along perimeter of site; includes excavation, backfill, grading, and compaction	30 days	Up to 2-3 excavators 1 front-end loader 1 compactor 1 water truck 1 job pick-up truck 1 scraper 2 haul trucks	One crew consisting of 12 members
Dewatering: dewatering and discharge of on-site groundwater within construction areas	150 days	2 job pick-up trucks Pumps	One crew consisting of 2 members
Turnout mainline pipelines: excavation, pipeline delivery, pipeline excavation, installation, backfilling	60 days	Up to 2-3 tracked excavators/ trencher w/ conveyor 1 tracked chain machine trencher 1 bulldozer 1 front-end loader 1 crane/pipe layer 1 compactor 3 pipe delivery trucks 3 job pick-up trucks	One crew consisting of 12 members
Road Construction: construction of elevated roads on berms by using native materials, placement of soils, compaction, grading, and gravel placement	75 days	Up to 2-3 excavators 2 compactors 2 graders 3 haul trucks 1 job pick-up truck 1 scraper	One crew consisting of 13 members
Management activities: construction management and field inspection	312 days	10 job vehicles	One crew consisting of 15 members
Environmental mitigation crews: conduct surveys and mitigation monitoring activities	Ongoing	All-terrain vehicles 4-wheel drive vehicles	Seven crews consisting of 2-6 members each (total of 14 to 42 members)

Source: GBUAPCD 2008 SIP FSEIR

2.5 Operation

Tillage is a temporary measure and therefore periodic maintenance of tilled surfaces may be necessary. The frequency of re-tilling depends on soil conditions, primarily soil cohesion. All tillage areas will be monitored throughout the dust season to determine where maintenance is required. Re-tilling will be conducted on both coarse and fine textures areas as needed to maintain ridging.

Approximately 35 percent of the tillage areas will be fine textured and are not expected to require maintenance within the first dust season (October 2010 through June 2011). However, some maintenance within small fine-textured zones may occur if necessary. Approximately 65 percent of the tillage areas will be sandy textured and will likely require maintenance within the dust season. It is expected that maintenance will occur in portions of these areas from one to three times during the first dust season. The time required for maintenance per unit area is expected to be similar to the rate of initial installation. Maintenance timing and frequency will depend on observations of tillage area ridge structures and dust emissions. Wind and weather conditions will also be considered in order to reduce dust emissions to the extent feasible.

3.0 ENVIRONMENTAL ASSESSMENT

Based on the analysis presented in the 2008 SIP FSEIR, an Initial Study using the checklist presented in Appendix G of the State CEQA Guidelines was prepared for the Phase 7 moat and row project (available at <http://www.ladwp.com/envnotices>). For all environmental topics except three, the moat and row DCMs were found to have no impact, a less than significant impact, or a significant impact already addressed in the 2008 SIP FSEIR. Biological resources, air quality, and visual resources were found to have potentially significant impacts not already addressed and additional information was presented in the 2009 Moat and Row FSEIR. The FSEIR concluded that impacts to visual resources were less than significant, impacts to biological resources were less than significant with mitigation incorporated, and impacts to air quality were significant and unavoidable.

Tillage is proposed for 3.1 square miles of the 3.5-square mile Phase 7 moat and row parcels; no new project locations are proposed for modification. Tillage is constructed and operated without the use of water or the necessity to install water transmission pipelines (although, as is existing practice, water for dust control on access roads would continue to be used as necessary). Fences, fence posts, lighting features, or moats are not proposed as part of tillage. Construction activity would be limited to approximately 13 workers and 10 trucks and D6 bulldozers over approximately 50 work days.

The following summarizes the impact assessment presented in the 2009 Moat and Row FSEIR and then presents the evaluation of tillage for the 17 environmental topics contained in the checklist from Appendix G of the State CEQA Guidelines.

3.1 AESTHETICS

FSEIR Impact Summary. Construction activities at the project site would result in a change in the existing visual character of Owens Lake. However, changes to views of individual moat and row cells from construction would be temporary. Since no new lighting features are proposed, construction of moat and row DCMs on the proposed parcels would not introduce new sources of light or glare or adversely affect nighttime views in the area. Views of the Sierra Nevada and Inyo Mountains would not be blocked or otherwise altered by the project. The FSEIR found that views of moat and row elements at the project site would be indistinguishable, barely perceptible, or would not change the dramatic backdrop or natural feel of the overall landscape of Owens Lake because of their distance from the viewer, the size of the features in relation to the elevation of the viewpoints and surrounding mountains, and the predominant natural features of the surrounding landscape would be retained. Therefore, construction of moat and row elements at the project site would not result in substantial degradation of the viewshed as viewed by motorists traveling along U.S. 395, SR 190, or SR 136 or by visitors to the lakebed. Therefore, the FSEIR found that impacts on visual resources would be less than significant.

Impact Assessment with Modification to Implement Tillage. Construction of the tilled areas would result in a change in the existing visual character of Owens Lake. However, tillage will require a small number of workers and equipment (approximately 13 people and 10 trucks and D6 bulldozers) and be completed over approximately 50 work days. Visual impacts during construction would therefore be less than those for moat and row installation. Tillage as an interim dust control measure on the moat and row parcels would not include new sources of lighting; there would be no impacts on light, glare, or nighttime views.

Once constructed, views of the tilled areas would be of curved rows from 1 to 14 feet apart. Since it has a lower profile and a curved design, tillage would not obstruct views from around the playa and would be less obtrusive than the previously proposed moat and row facilities. In addition, tilled soil surface color is generally cohesive with the surrounding playa environment. Therefore, impacts on visual resources would be less than significant with alteration of the moat and row project description to implement tillage as an interim dust control measure.

3.2 AGRICULTURAL AND FOREST RESOURCES

FSEIR Impact Summary. There are no agricultural or forest resources, or designated agricultural land uses, located in the Owens Lake Planning area. Therefore, the FSEIR found that there would be no impact on agricultural resources from implementation of the moat and row project.

Impact Assessment with Modification to Implement Tillage. Tillage as an interim measure on the proposed parcels would have no impact on agricultural or forest resources, as none are present on the project sites.

3.3 AIR QUALITY

FSEIR Impact Summary. The closest sensitive receptors to the project site are located in Cartago, 0.5 mile west of T1A-1 (the southernmost Moat and Row dust control area). Due to this distance, the moat and row project would have a less than significant air quality, including objectionable odors, impact on sensitive receptors.

Implementing the previously proposed project would not result in the generation of short-term construction emissions beyond the level analyzed in the 2008 SIP FSEIR, because the proposed modifications would not require additional daily land disturbance, heavy-duty equipment use, or construction personnel beyond the levels previously evaluated. However, construction of the moat and row elements would cause a delay beyond the time frame specified for DCMs in the 2008 SIP. Thus, implementation of the moat and row project would technically conflict with the applicable air quality plan, resulting in a slight potential for an increase in the number of days when violations of the NAAQS and exposure of sensitive receptors would occur. Therefore, the FSEIR found that the impact would be significant and unavoidable.

Impact Assessment with Modification to Implement Tillage. Tillage as an interim measure on the proposed parcels would result in fewer construction-related emissions than moat and row, since fewer pieces of construction equipment are used and the construction period is shorter. Therefore, peak-day air pollutant emissions from tillage would be less than peak-day construction emissions for moat and row. Emissions of air pollutants during operation of tillage would result when periodic re-tilling is required. To minimize dust emissions during re-tilling, areas will be tilled during low wind periods (approximately 7.5 meters per second (hourly wind speed) or less). To the extent feasible, re-tilling will occur in the summer season when winds are relatively lower and high temperatures and low relative humidity reduce surface soil erodability.

Tillage is relatively easily implemented; it represents an efficient method to quickly reduce dust emissions from 3.1 square miles of Owens Lake. The impact over existing conditions would be beneficial for air quality. However, tillage would not eliminate the delay in implementation of the DCMs per the time frame specified in the SIP. Therefore, consistent with the impact assessment presented in the 2009 Moat and Row FSEIR, impacts on the applicable air quality plan would be significant and unavoidable with alteration of the moat and row project description to implement tillage as an interim measure.

3.4 BIOLOGICAL RESOURCES

FSEIR Impact Summary. The FSEIR found no riparian habitat present on the moat and row project sites; therefore, there would be no impact on riparian habitat or other sensitive natural community from implementation of the moat and row project.

The project site is dominated by barren alkali playa and does not provide suitable habitat for most wildlife species. None of the cells are located within, or required for travel between, important foraging or breeding habitats for any wildlife species; they do not impose movements barriers between high-suitability habitats for any species. Therefore, any potential effects on wildlife movements would be less than significant.

Implementation of the moat and row DCMs would result in the loss of up to 1,503.8 acres of suitable habitat for western snowy plover. Under mitigation measure Biology-14 (Long-term Habitat Management Plan) of the 2008 SIP FSEIR, LADWP committed to managing 1,000 acres of shorebird and snowy plover habitat, and maintaining an additional 523 or more acres of habitat specifically for snowy plover, in perpetuity. These long-term habitat benefits for snowy plover would compensate for habitat impacts within moat and row cells. The loss of suitable snowy plover habitat within moat and row cells would be less than significant. Additionally, implementation of previously-approved Phase 7 shallow flood DCAs would result in the creation of 3,177 acres of additional snowy plover habitat.

Other potential direct and indirect impacts of the project include potential loss of snowy plover individuals as a result of construction and operations and maintenance activities; isolation and loss of plover broods within fence grids; entrapment within moats; and increased predation by corvid species as a result of fence construction and additional corvid perch opportunities near plover nesting habitat. These potential impacts to individuals and brood movements would result in potentially significant adverse effects on western snowy plover. In addition to the mitigation to protect biological resources identified in the 2008 FSEIR, the 2009 Moat and Row FSEIR included replacement, revised, and new mitigation measures to reduce impacts on biology to less than significant levels.

Impact Assessment with Modification to Implement Tillage. Tillage as an interim measure on the proposed parcels would not alter the area location, nor increase impacts to biological resources. Since no riparian habitat is present on the project sites, tillage as an interim measure would have no impact on riparian habitat or other sensitive natural community. Since no fences, moats or fence posts would be constructed, tillage would not result in biological resources impacts related to sand fences impeding wildlife movement, moat entrapment, or increased shorebird predation by corvids. Note that gaps in tilled areas, both transverse and longitudinal to the direction of D6 bulldozer travel, are included approximately every 1,000 feet.

With implementation of the previously identified mitigation measures to protect snowy plovers, impacts would be consistent with the assessment presented in the 2009 Moat and Row FSEIR. Impacts on biological resources would be less than significant with alteration of the moat and row project description to implement tillage as an interim dust control measure.

3.5 CULTURAL RESOURCES

FSEIR Impact Summary. The 2008 SIP SEIR documented that there are previously recorded historic and prehistoric archaeological sites located in and adjacent to moat and row DCM areas. Impacts from implementation of the moat and row DCMs were reduced to a less than significant level with adoption of mitigation to perform subsequent investigations and a detailed recovery program.

The moat and row DCMs are located within a 1-mile monitoring area for paleontological resources. Impacts from implementation of the moat and row DCMs were reduced to a less than significant level by adoption of mitigation to monitor ground disturbing activities within the 1-mile monitoring area and in early Pleistocene to late Holocene soil units.

Implementation of the moat and row DCMs would have the potential to directly or indirectly disturb human remains, including those interred outside formal cemeteries. The FSEIR found that requirements for subsequent investigations, a detailed recovery program, and Native American consultation mitigated impacts to a less than significant level.

Impact Assessment with Modification to Implement Tillage. Cultural resources assessment for the parcels identified for tillage (6 areas totaling 3.1 square miles) was conducted for the 2009 Moat and Row FSEIR. Implementation of tillage as an interim measure would not involve construction disturbance on any additional areas of Owens Lake. Additionally, the earthwork required for tillage will be limited to approximately the top 2 feet of soils. Therefore, with implementation of the adopted mitigation measures, impacts on cultural resources would be less than significant with alteration of the moat and row project description to implement tillage as an interim measure.

3.6 GEOLOGY AND SOILS

FSEIR Impact Summary. There would be no impacts from implementation of the moat and row DCMs related to seismic hazards, including liquefaction and landslides. Since no habitable structures are proposed, no impacts were identified related to soils with the exception of soil erosion. The FSEIR found that impacts related to soil erosion were beneficial during project operation and less than significant with implementation of construction Best Management Practices (BMPs) defined in the required Stormwater Pollution Prevention Plan (SWPPP).

Impact Assessment with Modification to Implement Tillage. As with the originally proposed project, tillage as an interim measure would not include construction of habitable structures at the project site; no additional impacts related to seismic hazards would occur. Soil erosion impacts related to tillage would be reduced over the grading, trenching, and other earthwork required for construction of the moat and row facilities.

With implementation of BMPs outlined in the construction SWPPP for the project, implementation of tillage would have a less than significant impact on soil erosion.

3.7 GREENHOUSE GAS EMISSIONS

FSEIR Impact Summary. Construction activity would result in emissions of greenhouse gases (GHG) and mitigation measures were defined to reduce emissions. However, since the amount of reduction is unknown, the 2008 FSEIR concluded that the project's contribution to GHG levels would be a significant unavoidable contribution to the cumulative condition. In the 2009 Moat and Row FSEIR, impacts related to GHG emissions were found to be cumulatively significant and unavoidable.

Impact Assessment with Modification to Implement Tillage. Construction activity necessary to till the moat and row parcels will result in emissions of GHGs. However, due to the limited number of trucks and other equipment necessary (approximately 10 vehicles over 50 workdays), emissions would be less than those related to moat and row construction. However, these emissions would be a significant unavoidable contribution to the cumulative condition. Consistent with the impact assessment presented in the 2009 Moat and Row FSEIR, impacts on GHGs would be cumulatively significant and unavoidable with alteration of the moat and row project description to implement tillage as an interim measure.

3.8 HAZARDS AND HAZARDOUS MATERIALS

FSEIR Impact Summary. Implementation of the moat and row DCMs would not involve the use, generation, or disposal of hazardous materials, or the emission of acutely hazardous materials or substances within ¼ mile of an existing or proposed school. The moat and row DCMs would not be located on a hazardous materials (Cortese list) site. Since the Owens Lake Planning area is not designated as an emergency staging area, the moat and row project would not be anticipated to interfere with local emergency response or evacuation routes. These impacts related to hazardous materials would be less than significant.

Implementation of the moat and row DCMs would involve the transport, use, and storage of hazardous materials such as diesel and gasoline during project construction. The FSEIR found that with compliance with relevant regulations and guidelines, preparation and submission of an operations plan, and preparation and approval of a Spill Prevention Control and Countermeasures Program, impacts related to hazardous materials and creation of public hazard would be less than significant.

Impact Assessment with Modification to Implement Tillage. Tillage as an interim dust control measure on the proposed parcels would not alter the area location, nor increase impacts related to hazardous materials. Since the fuel use for tilling would be less than that required for moat and row implementation, tillage would have less of a potential to result in impacts related to hazardous materials transport, use and storage than the previously proposed moat and row facilities. As mitigated, impacts related to

hazardous materials would be less than significant with alteration of the moat and row project description to implement tillage as an interim measure.

3.9 HYDROLOGY AND WATER QUALITY

FSEIR Impact Summary. Groundwater could be encountered during construction of the moat and row DCMs. Mitigation was identified (Construction SWPPP and Water Quality Monitoring and Reporting Program) to reduce impacts on water quality to less than significant levels. Groundwater levels would not substantially change as a result of implementing moat and row DCMs. However, moat and row DCMs would substantially affect drainage patterns on the project site by channeling stormwater flows that result in an increase in flash flood potential by directing water and sediment loads toward the mineral lease areas of the lake bed. The FSEIR found that with implementation of sediment traps, road/berms with clay core, or parallel alignment of moat and row DCMs, impacts would be mitigated to a less than significant level.

The project site is within a designated flood hazard area. However, the project does not include habitable structures, and workers would be able to promptly vacate the area should a flood hazard occur. The FSEIR found that impacts on mining operations related to berm failure would be mitigated to less than significant levels by development of an emergency management plan.

Due to the distance from the ocean and other bodies of water and the low relief of the Owens Lake Planning Area, the FSEIR found that the project would have no impacts related to inundation by seiche, tsunami, or mudflow.

Impact Assessment with Modification to Implement Tillage. Soils will be tilled to a depth of up to approximately 2 feet, limiting the chance for encountering groundwater. The low profile of the tilled areas would have less potential to channel stormwater than moat and row DCMs. Tillage as an interim dust control measure does not include habitable structures or berms that could be subject to failure. Therefore, impacts on hydrology and water quality would be less than significant with alteration of the moat and row project description to implement tillage as an interim measure.

3.10 LAND USE AND PLANNING

FSEIR Impact Summary. The FSEIR found that implementation of the moat and row DCMs would not physically divide an established community since the closest towns (Keeler, Cartago, and Lone Pine) are located outside of the historic shoreline of Owens Lake.

Implementation of the moat and row DCMs would have the potential to increase the numbers of biting insects and mosquitoes in the region, due to the increased areas of standing water in moats. The FSEIR found that this potential nuisance and land use conflict would be mitigated to a less than significant level by development and implementation of a vector-control program.

Impact Assessment with Modification to Implement Tillage. Tillage as an interim measure on the proposed parcels would not alter the project location, nor increase land use impacts. Vector control related to water-based DCMs would not apply to tillage, which is constructed and operated without water addition. Impacts on land use would be less than significant with alteration of the moat and row project description to implement tillage as an interim dust control measure.

3.11 MINERAL RESOURCES

FSEIR Impact Summary. There are known mineral resources of statewide or regional importance located within the historic Owens lake bed. Existing mining operations are extracting crystalline trona ore within areas adjacent to the brine pool. However, there are no known mineral resource recovery sites of local importance located within moat and row DCAs. The FSEIR found that the potential conflict with mining operations related to increases in flash flood hazard would be mitigated to a less than significant level by requiring LADWP to obtain approval from the CSLC prior to working in areas that overlap with the areas leased to U.S. Borax and to implement measures identified for potential drainage impacts.

Impact Assessment with Modification to Implement Tillage. Tillage as an interim measure on the proposed parcels would not alter the project location. Potential conflicts with mining related to flash flood hazard are not relevant to tillage since berms would not be constructed. Impacts on mineral resources would be less than significant with alteration of the moat and row project description to implement tillage as an interim dust control measure.

3.12 NOISE

FSEIR Impact Summary. The project site is in a remote area of the upper Mojave Desert with the closest sensitive noise receptors located over 1 mile away. The project site is not within 2 miles of an existing airport; therefore, there would be no impacts to airports or private airstrips. Construction equipment necessary to implement the moat and row DCMs (back hoes, dump trucks, and excavators) would elevate ambient noise levels temporarily. However, due to the distance to the nearest receptors, the FSEIR found that noise generated during construction and infrequent maintenance activity would be less than significant.

Impact Assessment with Modification to Implement Tillage. Tilling on the moat and row parcels would require the use of heavy equipment (trucks and D6 bulldozers). This equipment generates similar noise levels as the back hoes, dump trucks and excavators considered for moat and row construction. Additionally, the location of the parcels to be tilled is more than 1 mile from sensitive receptors. Therefore, impacts on noise would be less than significant with alteration of the moat and row project description to implement tillage as an interim dust control measure.

3.13 POPULATION AND HOUSING

FSEIR Impact Summary. Since construction and operation of the moat and row DCMs would not require a substantial number of new workers, the project would have a less than significant impact on population growth. No homes would be displaced by the project and therefore no people would require replacement housing. Therefore, the FSEIR found that impacts on population and housing would be less than significant.

Impact Assessment with Modification to Implement Tillage. Tilling on the moat and row parcels would require approximately 13 workers over approximately 50 workdays using LADWP's existing workforce; fewer than required for moat and row construction. Therefore, impacts on population and housing would be less than significant with alteration of the moat and row project description to implement tillage as an interim measure.

3.14 PUBLIC SERVICES

FSEIR Impact Summary. Since no new homes, structures, or population growth are related to the previously proposed project, construction and operation of the moat and row DCMs would not increase demand for fire, police, schools, parks, or other public facilities. Therefore, the FSEIR found that the project would have no impact on public services.

Impact Assessment with Modification to Implement Tillage. Tillage as an interim measure on the moat and row parcels would not involve new homes, structures or population growth. Therefore, there would be no impact on public services with alteration of the moat and row project description to implement tillage as an interim dust control measure.

3.15 RECREATION

FSEIR Impact Summary. Since no new homes, structures, or population growth are related to the previously proposed project, construction and operation of the moat and row DCMs would not increase demand for recreational facilities. The project would have no impact on neighborhood and regional parks or other recreational facilities. However, the Owens Lake bed is openly accessible to the public for recreational activities. Public access to the moat and row DCAs would generally be allowed unless those activities would interfere or conflict with LADWP's construction or maintenance activities. Therefore, the FSEIR found that with installation of signs to caution the public, the impact would be less than significant.

Impact Assessment with Modification to Implement Tillage. Tillage as an interim measure on the proposed parcels would not alter the project area, nor increase recreation impacts. Signs will be installed to protect public safety. Impacts on recreation would be less than significant with alteration of the moat and row project description to implement tillage as an interim measure.

3.16 TRANSPORTATION AND TRAFFIC

FSEIR Impact Summary. Due to the limited number of construction workers and equipment needed, traffic generated by construction of the moat and row DCMs would not substantially degrade existing levels of service on area roadways; the impact would be less than significant. Since high structures or other air space obstructions are not proposed, the project would have less than significant impacts on air traffic patterns. Implementation of the moat and row DCMs would not require any changes to existing emergency access points; the impact is less than significant. The FSEIR found that due to the limited number of construction and operations personnel required to implement the project, the impact on parking would be less than significant.

Since no existing or planned transportation facilities would be removed or prevented from being constructed, the FSEIR found that the project would have no impact on alternative transportation plans.

Heavy equipment used for moat and row DCMs construction could result in a one-time, temporary, short-term significant traffic safety impact for oncoming or turning vehicles on Highway 395, SR 136, and SR 190. The FSEIR found that with development of a Traffic Work Safety Plan, impacts related to traffic hazards would be less than significant.

Impact Assessment with Modification to Implement Tillage. Tilling on the moat and row parcels would require approximately 13 workers and approximately 10 pieces of heavy equipment (bulldozers, pickup truck, ATV, fuel truck). The equipment required is less than that necessary for construction of the moat and row DCMs. Therefore, with development of a Traffic Work Safety Plan, impacts on transportation and traffic would be less than significant with alteration of the moat and row project description to implement tillage as an interim measure.

3.17 UTILITIES AND SERVICE SYSTEMS

FSEIR Impact Summary. Due to the limited number of construction personnel required, implementation of the moat and row DCMs would not substantially increase the demand (or alter existing facilities) for wastewater, potable water or solid waste disposal services. Construction or expansion of water, wastewater, or solid waste facilities would not be required.

Moat and row DCMs could channel storm water flows that result in an increase in flash flood potential by directing water and sediment loads toward the mineral lease areas of the lake bed. The FSEIR found that with implementation of sediment traps, road/berms with clay core, or parallel alignment of moat and row DCMs, impacts would be mitigated to a less than significant level.

Implementation of the moat and row DCMs would not change how water is delivered to the DCAs or increase demand for water supplies as compared to the assessment in the 2008 SIP FSEIR. Therefore, the FSEIR found that the project would have a less than significant impact on water supplies and entitlements.

Impact Assessment with Modification to Implement Tillage. Tilling on the moat and row parcels would require approximately 13 workers, fewer than required for moat and row construction. Tilling will not require water (aside from water used for dust control on access roads) or change how water is delivered to the DCAs. Tilling will be lower profile than the moat and row DCMs, and therefore have less potential to channel stormwater. Therefore, impacts on utilities and service systems would be less than significant with alteration of the moat and row project description to implement tillage as an interim measure.

4.0 MITIGATION MONITORING AND REPORTING PROGRAM

Except where not applicable, the mitigation measures and the Mitigation Monitoring and Reporting Program adopted for the Owens Lake Revised Moat and Row Dust Control Measures would be implemented during construction and operation of tillage as an interim measure (**Attachment B**).

Mitigation measures identified as not applicable to tillage are:

Mitigation Number (see Attachment B)	Reason not Applicable to Tillage
3.1-10	Tillage does not include fences.
3.1-11	Tillage does not include fences or fence posts.
3.1-12	Tillage does not include moats.
Land Use and Planning – 1 in 2008 SIP FSEIR	Tillage does not create standing water conditions that could result in creation of mosquito habitat.

5.0 DETERMINATION THAT AN ADDENDUM IS APPROPRIATE FOR THIS PROJECT

CEQA Guidelines §15164(a) allows a lead agency to prepare an Addendum to a Final EIR if all of the following conditions outlined in CEQA Guidelines §15162 (in *italics* below) are met.

- *Substantial changes with respect to the circumstances under which the project is undertaken do not require major revisions to the previous Final EIR due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects.*

Since adoption of the 2009 Moat and Row FSEIR, tillage has been identified as an interim dust control measure. Based on the environmental assessment presented in this Addendum, new significant environmental effects will not result

from this modification of the project description. As noted above, for many impact areas, construction and operation of tillage will have lesser impacts on the environment than the previously proposed moat and row facilities. There will be no substantial increase in the severity of previously identified significant effects with modification of the project description.

- *No new information becomes available which shows new significant effects, significant effects substantially more severe than previously discussed, or additional or modified mitigation measures.*

There will be no new significant effects or substantial increase in the severity of previously identified significant effects with modification of the project description to include tillage. No new or revised mitigation measures would be required to reduce the environmental impacts of the project. Except where not applicable, the mitigation measures and the Mitigation Monitoring and Reporting Program adopted for the Owens Lake Revised Moat and Row Dust Control Measures would be implemented during construction and operation of tillage as an interim measure.

- *Only minor technical changes or additions are necessary to make the Final EIR under consideration adequate under CEQA.*

Description of tillage as an interim dust control measure is the only addition necessary to make the 2009 Moat and Row FSEIR adequate under CEQA.

- *The changes to the Final EIR made by the Addendum do not raise important new issues about the significant effects on the environment.*

Tillage would be implemented on 3.1 square miles of the 3.5-square mile moat and row project area. No new areas would be disturbed and in general, tillage would have lesser impacts to the environment than moat and row elements. Therefore, this Addendum to the 2009 Moat and Row FSEIR does not raise important new issues about the significance effects on the environment.

Based on review of the 2009 Moat and Row FSEIR and the environmental assessment presented in this Addendum, LADWP has determined not to prepare a subsequent EIR or negative declaration for this project. LADWP has determined that no new significant environmental effects would result from modification of the project description to implement tillage. There will be no substantial increase in the severity of previously identified significant effects with modification of the project description to include tillage. Therefore, LADWP has determined that an addendum is the appropriate CEQA document for the modification of the Owens Lake Revised Moat and Row Dust Control Measures project description to include tillage.

Attachment A

SELECTION OF LITERATURE ON WIND EROSION CONTROL BY TILLAGE

Durland, B. 2002. *Wind and emergency erosion control*. College of Agriculture & Biological Sciences. South Dakota State University/USDA.

This publication notes that in agricultural systems, if no soil cover is present, emergency tillage that leaves a cloddy, roughened surfaces reduces the surface wind velocity and traps windblown particles.

Salem, B.B. *Prevention and control of wind erosion in arid regions*. FAO Paper - Unasylva- No. 164- Watershed management.

This paper notes that rough soil structure, especially at the surface, effectively reduces the movement of soil particles. The main purpose of erosion control tillage practices is to create soil roughness and reduce the length of fetch to decrease the momentum of the wind. Clods and ridges perpendicular to the prevailing wind direction limit erosion at the soil surface.

Hofman, V. and Franzen, D. 1997. *Emergency tillage to control wind erosion*. North Dakota State University Extension Service.

This agriculture-focused publication indicates that emergency tillage in agricultural practices provides a roughened, cloddy surface that is resistant to wind erosion. The ridges that are created at right angles to the wind direction reduce surface wind velocity and provide traps to catch the windblown particles. Loose, sandy soils require more drastic or more frequent measures and the resulting surface roughness can be shorter lived. Tractor speed and tillage depth can be varied to bring clods to the surface and adjust ridges height for more protection.

Liu, M., Wang, J., Yan, P., Liu, L., Ge, Y., Li, X., Hu, X., Song, Y., and Wang, L. 2006. *Wind tunnel simulation of ridge-tillage effects on soil erosion from cropland*. Soil and Tillage Research. Vol 90, Issues 1-2. Pp 242-249.

This paper notes that in the arid and semi-arid regions, ridge tillage was often used as an alternative practice for wind erosion control. The author summarizes a wind tunnel experiment in which wind erosion rate and vertical mass flux profile of blown sand under the simulated conditions of ridge tillage and flat tillage were studied. Ridge tillage decreased the wind erosion and sand transport near the soil surface in semi-arid regions and resulted in 20-60 percent less wind erosion than soil under flat tillage. Average wind erosion rate decreased with increasing height of ridges and increasing ratio between the height of ridge and the width of furrow.

Phipps, Bobby J. and Michael Milam. Prevention and Control of Damage from Wind Erosion in Cotton. Missouri State University Extension Service.

This publication highlights a tillage implement termed a sandfighter that makes divots several inches apart in the soil surface but leaves the area between the divots intact. It provided lighter tillage for temporary purposes. A sandfighter can take 12 to 25 rows in a pass and, with a tractor running at 15 miles per hour or faster, can cover as much as an acre per minute. It has been successful in avoiding agricultural replanting due to wind erosion in Texas and Oklahoma for nearly 50 years.

Smith, J.A. and Lyon, D.J. 2006. *Emergency wind erosion control*. University of Nebraska- Lincoln Extension, Institute of Agriculture and Natural Resources.

This paper notes that the purpose of tillage against wind erosion is to create a rough, ridged, cloddy surface, more resistant to wind erosion. Where possible, emergency tillage should be completed before the wind erosion begins because soil erodes more quickly with wind that contains abrasive soil particles. Tillage should begin with areas that are most prone to erosion.

Attachment B

Mitigation Monitoring and Reporting Program

(Next page)

Owens Lake Revised Moat and Row Dust Control Measures Addendum No. 1 to the 2009 FSEIR

Owens Lake Revised Moat and Row Dust Control Measures Mitigation Monitoring and Reporting Program Summary Table						
Mitigation Number	Mitigation Measure	Responsible Implementation Party	Monitoring Period	Enforcement Agency	Monitoring Agency	Documentation of Compliance
						Signature/Date
3.1 Biological Resources						
3.1-1	<p>Measure Biology-1 in 2008 FSEIR: Lake Bed Worker Education Program (2008 SIP MMP, Table III-1)</p> <p>To minimize potential direct impacts to western snowy plover from construction activities to below the level of significance, the LADWP shall continue the lake bed worker education program consistent with the previous approach and per DFG recommendations. The program shall mirror the program instituted for workers for the 1997 EIR and shall focus on western snowy plover identification, basic biology and natural history, alarm behavior of the snowy plover, and applicable mitigation procedures required of the LADWP and construction personnel. The program shall be conducted by a biologist familiar with the biology of the western snowy plover at Owens Lake and familiar with special status plant and wildlife species of the Owens Lake basin. The biologist shall be approved by the GBUAPCD prior to implementation of the education program. The qualifications of the biologist shall be submitted to the DFG for review. The education program shall be based on the 1997 program EIR and shall include relevant updates by the biologist. The education program shall explain the need for the speed limit in the snowy plover buffer areas and the identification and meaning of buffer markers. All construction, operation, and maintenance personnel working within the project area shall complete the program prior to their working on the lake bed. A list of existing personnel who have completed the program shall be submitted to the GBUAPCD prior to the start of any work on the lake bed. A list of new personnel who have participated and completed the education program shall be submitted monthly to the GBUAPCD. A copy of the worker education program shall be provided to the DFG and CSLC.</p>	LADWP	Construction	GBUAPCD	GBUAPCD DFG	Worker Education Program Summary Report and Monthly Worker Education Program Reports for newly trained personnel (Signature/Date of Monitoring Agency)
3.1-2	<p>Measure Biology-2 in 2008 FSEIR: Preconstruction Surveys for Western Snowy Plover (2008 SIP MMP, Table III-1)</p> <p>To minimize potential direct impacts to western snowy plover within the project area due to construction activities, the LADWP shall conduct a preconstruction survey for western snowy plover in all potential snowy plover habitat prior to any construction activity that is performed during the snowy plover breeding season (March 15 to August 15). Preconstruction surveys shall be performed no more than seven days prior to the start of ground-disturbing activities. The LADWP shall place a 200-foot buffer around all active snowy plover nests that are discovered within the construction area. This buffer shall protect the plover nest from both destruction and construction noise. Green-colored stakes of less than 60 inches in height with yellow flagging shall be used to mark buffer edges, with stakes spaced at eight approximately equidistant locations. The location of the nest (global positioning system coordinates) and current status of the nest shall be reported within 24 hours of discovery to the GBUAPCD. Maps of snowy plover nest locations shall be posted at the construction office and made available to all site personnel and GBUAPCD staff. The activity of the nest shall be monitored by a biological monitor approved by the GBUAPCD, as per existing guidelines for the North Sand Street and Southern Zones dust control projects and any revisions to the monitoring protocol that have been approved by the DFG. Active snowy plover nests shall be monitored at least weekly. The qualifications of the biological monitor shall be submitted to the DFG for review. The nest buffer shall remain in place until such time as the biological monitor determines that the nest is no longer active and that fledglings are no longer in danger from proposed construction activities in the area. Buffers shall be more densely marked where they intersect project-maintained roads. Vehicles shall be allowed to pass through nest buffers on maintained roads at speeds less than 15 miles per hour, but shall not be allowed to stop or park within active nest buffers. Permitted activity within the nest buffer shall be limited to foot crews working with hand tools and shall be limited to 15-minute intervals, at least one hour apart, within a nest buffer at any one time. Compliance with this mitigation measure shall be confirmed by the GBUAPCD through issuance of a weekly written report by the LADWP to the GBUAPCD.</p>	LADWP	Construction	GBUAPCD	GBUAPCD DFG	Weekly Monitoring Reports (provided until construction is complete) (Signature/Date of Monitoring Agency)
3.1-3	<p>Measure Biology-3 in 2008 FSEIR: Snowy Plover Nest Speed Limit (2008 SIP MMP, Table III-1)</p> <p>To minimize potential direct and cumulative impacts to western snowy plover and other sensitive biological resources from vehicle construction activities, the LADWP shall implement a speed limit of 30 miles per hour within all active construction areas on Owens Lake during construction of DCMs. Speed limits shall be 15 miles per hour within active snowy plover nest buffers. Designated speed limits for other construction areas outside of active nest buffers shall be maintained at 30 miles per hour where it is determined to be safe according to vehicle capabilities, weather conditions,</p>	LADWP	Construction	GBUAPCD	GBUAPCD DFG	Compliance Summary Report (provided within 30 days of completion of education seminar and (Signature/Date of Monitoring Agency)

Owens Lake Revised Moat and Row Dust Control Measures Addendum No. 1 to the 2008 FSEIR

Owens Lake Revised Moat and Row Dust Control Measures
Mitigation Monitoring and Reporting Program
Summary Table

Mitigation Number	Mitigation Measure	Responsible Implementation Party	Monitoring Period	Enforcement Agency	Monitoring Agency	Documentation of Compliance
						Source Signature/Date
3.1-4	<p>and road conditions. Site personnel and GBUAPCD staff shall be informed daily of locations where active nest buffers overlap with roads in the construction area. Signs shall be posted that clearly state required speed limits. Speed limit signs shall be posted at all entry points to the lake. The number of speed limit signs shall be kept at a minimum near active snowy plover nest areas to reduce potential perches for raptors and other snowy plover predators and shall be unfurled with Nivalite or the functional equivalent if greater than 72 inches (increased from the original 60 inches) in height at entry points to the lake and 60 inches in height by active snowy plover nest areas. Compliance with this mitigation measure shall be confirmed by the GBUAPCD through issuance of a summary written report by the LADWP to the GBUAPCD after posting of speed limits. A copy of the summary report shall be provided to the DFG.</p> <p>Measure: Biology-4 in 2008 FSEIR: Lighting Best Management Practices (2008 SIP MAMP, Table III-1)</p> <p>To minimize indirect impacts to nesting bird species associated with project lighting during construction activities, the LADWP shall institute all best management practices to minimize lighting impacts on nocturnal wildlife consistent with previous requirements and DFG recommendations. Best management practices include those listed below, and are included in the Project Description of the 2008 State Implementation Plan (SIP) Environmental Impact Report. Previous construction has occurred during nighttime hours to complete construction schedules and to prevent personnel from working during times of high temperatures. If night work is deemed necessary, then construction crews shall make every effort to shield lighting on equipment downward and away from natural vegetation communities or playa areas, and especially away from known nesting areas for snowy plovers during the nesting season (March to August). All lighting, in particular any permanent lighting, on newly built facilities shall be minimized to the greatest extent possible, while still being in compliance with all applicable safety requirements. Required lighting shall be shielded so that light is directed downward and away from vegetation or playa areas. Proof of compliance with this mitigation measure shall be confirmed by the GBUAPCD, and a copy of the compliance record shall be provided to the DFG.</p>	LADWP	Construction	GBUAPCD	GBUAPCD DFG	Compliance Summary Report (provided until construction is complete) (Signature/Date of Monitoring Agency)
3.1-5	<p>Measure: Biology-7 in 2008 FSEIR: Toxicity Monitoring Program (2008 SIP MAMP, Table III-1)</p> <p>To avoid direct and cumulative impacts to native wildlife communities that may potentially result from bioaccumulation of toxic substances resulting from naturally occurring heavy metals and other potential toxins in Lake bed deposits to below the level of significance, the LADWP shall implement a toxicity monitoring program to investigate the potential of bioaccumulation of heavy metals and other potential toxins in wildlife from feeding in dust control areas throughout the Owens Lake bed. A copy of the long-term monitoring program shall be submitted to the CSLC and GBUAPCD for review and comment at least 60 days prior to the start of operation of new water-based DCMs. Monitoring shall take place in all dust control areas within the Owens Lake as well as at all spring and outflow areas within 500 feet of the construction boundaries. The purpose of the monitoring program shall be to determine if bioaccumulation of toxins is occurring within native wildlife populations attributable to the Dust Control Mitigation Program. Procedures for bioaccumulation monitoring shall follow existing permits issued by the Labontan Water Quality Control Board (Labontan Water Quality Control Board) and any subsequent water quality monitoring requirements deemed necessary by the Labontan Water Quality Control Board. All monitoring shall be conducted by individuals familiar with the native wildlife species of the Owens Lake bed. Monitoring personnel shall be approved by the GBUAPCD prior to implementation of the long-term monitoring. The monitoring plan shall include adaptive management procedures and mitigation procedures to follow in the instance that signs of toxicity do develop in native wildlife populations that are attributable to the Dust Control Mitigation Program. Management procedures would be implemented depending on the type and extent of impact that was observed and could potentially, but not necessarily, include covering of dust control areas to prevent wildlife utilization, hazing of wildlife to prevent utilization of dust control areas, or any other appropriate measures. Any adaptive management measures that would potentially be implemented shall be approved by the GBUAPCD and the DFG prior to implementation.</p> <p>The monitoring shall be conducted as described in Table 3.2.5-1, Biology-7, Postconstruction Bioaccumulation Monitoring Schedule. In order to have the 2003 SIP and 2008 SIP monitoring schedules coincide, the final year for monitoring in 2003 SIP areas has been moved from 2010 to 2013. Monitoring shall be conducted on a semi-annual basis (summer and winter) during each year that monitoring is conducted. II, after the completion of the 14-year</p>	LADWP	Operation	GBUAPCD DFG	GBUAPCD DFG CSL-C RWQCB	Long Term Toxicity Monitoring Program (provided to the Great Basin Unified Air Pollution Control District prior to the start of construction) and Annual Bioaccumulation Monitoring Reports

Owens Lake Revised Moat and Row Dust Control Measures Addendum No. 1 to the 2009 FSEIR

Owens Lake Revised Moat and Row Dust Control Measures Mitigation Monitoring and Reporting Program Summary Table																																																																																																	
Mitigation Number	Mitigation Measure	Responsible Implementation Party	Monitoring Period	Enforcement Agency	Monitoring Agency	Documentation of Compliance																																																																																											
						Source	Signature/Date																																																																																										
3.1-6	<p>monitoring schedule as described in mitigation measure Biology-7, it is determined that there is no evidence of toxicity issues in native wildlife populations, then the monitoring program may be discontinued. If monitoring determines that impacts to native wildlife species are occurring, then the monitoring shall continue on a semiannual basis (summer and winter) in every year until significant impacts are not detected, and the monitoring sequence shall resume at the Year 3 monitoring event and shall continue at the intervals shown in Table 3.2.5-1. Written monitoring reports shall be provided to the GBUAPCD, the DFG, Lahontan Water Quality Control Board, and the CSLC by the approved biological monitor within four months following the end of the monitoring year. Any changes in the existing monitoring requirements by the Regional Water Quality Control Board shall be included into this mitigation measure.</p> <p>Table 3.2.5-1 Biology-7, Postconstruction Bioaccumulation Monitoring Schedule</p> <table border="1"> <thead> <tr> <th>2003 SIP Areas Only</th> <th>2009</th> <th>2010</th> <th>2011</th> <th>2012</th> <th>2013</th> <th>2014</th> <th>2015</th> <th>2018</th> <th>2023</th> </tr> </thead> <tbody> <tr> <td>Year 1 Monitoring Event*</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Year 2 Monitoring Event**</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Year 3 Monitoring Event**</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Year 4 Monitoring Event*</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Year 5 Monitoring Event**</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Year 6 Monitoring Event*</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Year 9 Monitoring Event**</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Year 14 Monitoring Event*</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table> <p>NOTE: * 2003 and 2008 SIP areas monitored ** 2008 SIP areas only</p>	2003 SIP Areas Only	2009	2010	2011	2012	2013	2014	2015	2018	2023	Year 1 Monitoring Event*										Year 2 Monitoring Event**										Year 3 Monitoring Event**										Year 4 Monitoring Event*										Year 5 Monitoring Event**										Year 6 Monitoring Event*										Year 9 Monitoring Event**										Year 14 Monitoring Event*										LADWP	Operation	GBUAPCD DFG CSLC	GBLAPCD DFG CSLC	Subsequent Incident Reports and Emergency Repair Activities Report	(Signature/Date of Monitoring Agency)
	2003 SIP Areas Only	2009	2010	2011	2012	2013	2014	2015	2018	2023																																																																																							
	Year 1 Monitoring Event*																																																																																																
	Year 2 Monitoring Event**																																																																																																
	Year 3 Monitoring Event**																																																																																																
	Year 4 Monitoring Event*																																																																																																
	Year 5 Monitoring Event**																																																																																																
	Year 6 Monitoring Event*																																																																																																
	Year 9 Monitoring Event**																																																																																																
	Year 14 Monitoring Event*																																																																																																
<p>Measure Biology-9 in 2008 FSEIR: Plover Identification Training (2008 SIP MMP, Table III-1)</p> <p>To minimize potential direct, indirect, and cumulative impacts to western snowy plover resulting from required maintenance within Shallow Flooding dust control areas during the western snowy plover breeding season (March to August), four crews and all-terrain vehicles (ATV) operators that must enter Shallow Flooding ponds within the entire Owens Lake bed during the snowy plover breeding season shall be briefed in plover identification, nest identification, and adult alarm behavior, and the identification and meaning of buffer markers. Crews shall receive this training from a biologist knowledgeable in western snowy plover biology at Owens Lake as part of the contractor education program as described in mitigation measure Biology-7. The qualifications of the biological monitor shall be submitted to the DFG for review. Maintenance crews shall utilize hand tools and ATVs only to conduct maintenance activities during this time period in Shallow Flooding ponds where snowy plovers may be present. Crews shall minimize time within the Shallow Flooding and Playa areas to the greatest extent possible. In the event that a crew discovers an active nest, a biologist shall be contacted to mark the nest buffer. If crews are working within an active nest buffer, they shall be limited to 15 minutes out of every hour within the buffer. If an unanticipated take to western snowy plovers or an active snowy plover nest occurs during any maintenance activities, a project biologist shall document the impact and report the incident to the GBUAPCD and the DFG within 48 hours of the event. A take in this case would be defined as mortality to adults, chicks, or fledglings, or a modification in adults' behavior due to human presence that results in a loss of a nest and its contents. Proof of compliance with this mitigation measure shall be verified by submitting copies of any incident reports to the GBUAPCD, the CSLC, and the DFG.</p> <p>Emergency repair activities are exempt from the requirements of this provision. An emergency is defined in the State of California Environmental Quality Act Guidelines, Section 15269 as "a sudden, unexpected occurrence that presents a clear and imminent danger, demanding action to prevent or mitigate loss of or damage to life, health, property, or essential public services." Emergency repairs as defined under the 2003 SIP revision and the 1994 SIP are further defined as those repairs that must be completed immediately to protect human health and safety, ensure the project is in compliance with required air quality standards, or protect project infrastructure from significant and immediate damage that could result in the failure of a DCM to maintain compliance with required air quality standards. In the</p>																																																																																																	