CEQA Initial Study
And Mitigated Negative Declaration

Mono Basin Water Rights Licenses Project

October 2020

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Project and Agency Information

1.1 PROJECT TITLE AND LEAD AGENCY

Project Title:	Mono Basin Water Rights Licenses Project
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Project Sponsor:	Same as Lead Agency

1.2 PROJECT BACKGROUND AND OBJECTIVE

The City of Los Angeles Department of Water and Power (LADWP) is the lead agency under the California Environmental Quality Act (CEQA) and has prepared this Initial Study (IS) to address the impacts of renewing certain terms and implementing proposed changes to the terms and conditions of LADWP's Water Rights Licenses 10191 and 10192 (proposed Licenses). The proposed terms of the Licenses presented in this IS were developed under the guidance of the State Water Resources Control Board (SWRCB) to enhance stream restoration in the Mono Basin and manage Mono Lake's water level elevation. The objective of the project is to implement the Licenses as standalone "living licenses" including flow management and modification of the Grant Lake Reservoir (GLR) Spillway to allow for controlled release of larger volumes of water from the reservoir during specific time periods. The proposed Licenses would not alter the existing Mono Lake elevation criteria or the existing routine annual water export terms, consistent with the *Settlement Agreement Regarding Continuing Implementation of Water Rights Orders 98-05 and 98-07* (Settlement Agreement). It is a finding of the Settlement Agreement that Mono Lake will continue, on average, to rise towards the transition level of 6,391 feet above mean sea level (amsl) as previously forecast by the SWRCB. LADWP is the public agency with principal responsibility for compliance with the terms of the Licenses. The SWRCB is a Responsible Agency that will consider approval of the Licenses.

The City of Los Angeles is a municipal corporation and charter city organized under the provisions of the California Constitution. LADWP is a proprietary department of the City that supplies water and power to Los Angeles' inhabitants pursuant to the Los Angeles City Charter. LADWP owns power generation, transmission and distribution facilities to provide safe and reliable electrical energy to over 4 million residents. Additionally, LADWP owns water gathering, transmission, storage, treatment, and distribution facilities to provide safe and dependable water to residents and businesses in LADWP's service area. A five-member Board of Water and Power Commissioners

establishes policy for the LADWP. The Board members are appointed by the Mayor and confirmed by the City Council for 5-year terms. The Board is the decision-making body for consideration and implementation of the proposed Licenses and adoption of the CEQA document for the project.

The City operates the existing Los Angeles Aqueduct (LAA) which transports water from Mono and Inyo Counties to Los Angeles. After the SWRCB issues the Licenses, implementation by LADWP would require modifications to operations and facilities such as the GLR spillway to allow for controlled release of higher volumes of water from the reservoir during specific time periods to simulate historical high flow conditions in Rush Creek. The IS has been prepared in accordance with 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. LADWP has determined, based on the information reviewed and contained herein, that the proposed project could potentially have a significant environmental impact, but that mitigation measures can be implemented to reduce the impacts to a level of less than significant. Based on this IS, a Mitigated Negative Declaration (MND) is the appropriate CEQA document. Staff recommends that the City of Los Angeles Board of Water and Power Commissioners adopt this IS/MND for the proposed project.

1.2.1 Project Background

LADWP imports water from the Mono Lake and Owens River Basins and conveys these flows through the LAA; Mono Basin waters are exported on a second priority due to the high quality and lower costs of Owens River Basin flows (SWRCB, 1993). In 1940, the Department of Public Works, Division of Water Resources (a predecessor to the present SWRCB) permitted the City to divert water from four Mono Lake tributary streams (SWRCB, 1993). The permits authorized the City to divert water from Lee Vining, Walker, Parker, and Rush Creeks at a combined rate of 189 cubic-feet per second (cfs) and to collect 89,200 acre-feet (af) per annum by storage in GLR, Long Valley, Tinemaha, and Haiwee Reservoirs. GLR was put in service in December 1940 and is the most northerly large storage facility in the LAA Water System. The reservoir serves as seasonal storage for Mono Basin water, and for control and regulation of exports of these waters through Mono Craters Tunnel. There are two primary water sources that feed GLR:

1. Rush Creek - inflow is controlled by Southern California Edison's (SCE) upstream hydropower generation operations.
2. Lee Vining Conduit - flows are determined by the provisions of SWRCB Orders and SCE operations above LADWP's diversion facility.

In 1979, the National Audubon Society, the Mono Lake Committee, and others filed the first in a series of lawsuits which challenged the City's Mono Basin water diversions.

In 1994, the SWRCB certified the *Environmental Impact Report for the Review of the Mono Basin Water Rights of the City of Los Angeles* (1994 Mono Basin EIR; State Clearinghouse (SCH) no. 1994108536). Impacts related to revised flow regimes in the Mono Lake tributary streams were described in the 1994 document for a range of alternative lake levels (6,372 to 6,410 ft), the No Restriction Alternative (minimum streamflow and lake levels not required), and the No Diversion

Alternative (diversions of the four streams entirely curtailed). However, none of the alternatives defined in the 1994 Mono Basin EIR reflect the flow regimes that were later recommended.

In September 1994, the SWRCB adopted Decision 1631 (D1631) Amending Water Right Licenses 10191 and 10192 to Establish Fishery Protection Flows in Streams Tributary to Mono Lake and to Protect Public Trust Resources at Mono Lake and in the Mono Lake Basin. This decision:

- Amended LADWP's licenses to set quantified instream flow requirements below LADWP's points of diversion for the protection of fish in each of the four streams from which Los Angeles diverts water.

- Established water diversion criteria to protect wildlife and other environmental resources of Mono Lake, as described in D1631, Section 6.

- Established Mono Lake elevation criteria aimed at protecting public trust resources in Mono Basin and balancing the primary beneficial use of water exported from the Mono Basin (municipal needs of the City).

- Directed the City of Los Angeles to evaluate potential restoration measures and to submit proposed plans for restoration of Rush Creek, Lee Vining Creek, Parker Creek, and Walker Creek and restoration of waterfowl habitat in the Mono Basin.

- Required that the stream restoration plan include an element addressing the operation and management of GLR.

In 1998, the SWRCB issued Order 98-05. The stream restoration program instituted by Order 98-05 established the goal of developing functional and self-sustaining stream systems with a healthy riparian ecosystem. This Order imposed the following additional conditions on LADWP's Water Rights Licenses:

- Required implementation of stream restoration measures including periodic high streamflows designed to restore and maintain channels. These flows are called Stream Restoration Flows (SRFs). Order 98-05 set forth two SRF flow management tables, one for use during the transition period until Mono Lake reaches the management level, and a second flow management table for use after that point. The goal was to develop functional, dynamic, and self-sustaining stream systems and to have self-sustaining trout populations with fish in "good condition" that could support a moderate level of angler harvest.

- Required an independent team of designated stream scientists (the Stream Monitoring Team), waterfowl experts, and a limnologist to monitor the basin's streams, fish, waterfowl, and lake limnology and report back to the SWRCB on "the magnitude, duration and frequency of [stream flows] necessary for the restoration of Rush Creek; and the need for a GLR bypass to reliably achieve the flows needed for restoration of Rush Creek below its confluence with the Rush Creek Return Ditch" (Order 98-05, paragraph 1). The Stream Monitoring Team was further required to make recommendations for maximizing

restoration of Rush Creek, Lee Vining Creek, Walker Creek, and Parker Creek, subject to review by the Division of Water Rights in the event of a dispute.

- LADWP was required to implement the Stream Monitoring Team's recommendations unless it is determined that the recommendation is not feasible.

- Required preparation and implementation of an operations management plan (Grant Lake Operations Management Plan, GLOMP).

Order 98-07 subsequently amended the stream monitoring provisions of SWRCB Order 98-05 to include termination criteria for restoration of Rush Creek, Lee Vining Creek, Walker Creek, and Parker Creek (described below).

1.2.1.1 Synthesis Report

Pursuant to SWRCB Order 98-05, in 2010 the Stream Monitoring Team issued the *Mono Basin Stream Restoration and Monitoring Program: Synthesis of Instream Flow Recommendations* (McBain & Trush and Ross Taylor and Associates, 2010) (Synthesis Report), summarizing the 12-year monitoring program which evaluated whether the SRFs and baseflow provisions in D1631 and Order 98-05 were achieving the Restoration Program goals of "functional and self-sustaining stream systems with healthy riparian ecosystem components" and "trout in good condition" for Rush Creek and Lee Vining Creek. As documented in the Synthesis Report, the Stream Monitoring Team recommended the following changes to the existing Stream Restoration and Monitoring Program approved by the SWRCB in prior Orders:

- Revised instream flow schedules, called stream Ecosystem Flow (SEFs), to replace existing baseflows and SRFs. In general, the SEFs are designed to utilize the water allocated by the SWRCB to the streams to provide annual hydrographs as similar to the unregulated annual hydrograph as possible given SCE modifications.

- Change how GLR is managed and, if necessary, modify the GLR spillway so that LADWP can reliably provide SEFs to downstream Rush Creek reaches. Actively manage for a more reliably fuller GLR, by diverting Lee Vining Creek streamflow throughout most of the runoff year, to increase the magnitude, duration, and frequency of GLR spills and to provide cooler dam releases into Rush Creek from a deeper reservoir.

- Modifications to the existing monitoring program to ensure that the SWRCB continues to be informed about progress of stream restoration and to inform adaptive management of the SEFs.

In response to the recommendations in the Synthesis Report, LADWP submitted a Feasibility Report analyzing the feasibility of the recommendations. To resolve disputes regarding the feasibility of implementing these recommendations, LADWP, California Trout (CalTrout), Mono Lake Committee, and California Department of Fish and Wildlife (CDFW) (the Parties) entered into a facilitated process with the SWRCB's approval. From early 2011, the Parties attempted to reach consensus on disagreements regarding the feasibility of the Synthesis Report.

In 2013, the facilitated process concluded and the Parties entered into the Settlement Agreement. Under the Settlement Agreement, LADWP was to propose certain revisions to its Water Rights Licenses 10191 and 10192, as specified below for Rush Creek, Lee Vining Creek, Walker Creek and Parker Creek, and as ordered by the SWRCB in Order 98-05. Revisions included design and construction of a modified spillway facility at GLR that allows the discharge of flows up to 750 cfs to Lower Rush Creek to meet peak SEFs in Wet-Normal, Wet, and Extreme-Wet runoff years (**Table 1**) consistent with the Synthesis Report. The Settlement Agreement further required the other Parties to support this request. On November 14, 2013, LADWP submitted a Change Petition to the SWRCB to seek approval of the proposed revisions to Licenses 10191 and 10192.

In 2015, the SWRCB requested that LADWP evaluate the potential for environmental impacts associated with the SEF flows. Therefore, special studies were conducted by Geosyntec Consultants and Watercourse Engineering on behalf of LADWP to assess the potential for geomorphic changes in Rush Creek and Lee Vining Creek with implementation of the SEFs as compared with the SRFs (Mono Basin Channel Bed Degradation Estimates Technical Memorandum, Appendix D). Streambed connectivity to floodplains, bank erosivity, bedload transport, bed scour, and streambed degradation were evaluated along with water temperature, hydrologic analysis of flow regimes (volume, frequency and duration), hydraulic analysis (inundation, velocity, depth, and shear stress), potential effects of climate change on flows and stream response. Watercourse Engineering updated the eSTREAM model (extended to hydrology through RY2019 and updated regressions) to simulate License conditions and to assess the implications of export volumes and Mono Lake elevation in a post-transition environment.

The proposed project described and analyzed in this IS would implement the recommendations of the Synthesis Report to deliver SEFs and be consistent with the findings and conclusions described in the Settlement Agreement.

1.2.1.2 Termination Criteria

The "termination criteria" as specified in Order 98-07 paragraph 1.b.(5)(a) were developed as targets to guide restoration of the tributaries. Order 98-07 acknowledged that not all termination criteria will be met (Order 98-07 page 3, paragraph 2, first sentence), specifying that certain conditions are not likely to be achieved. As such, the termination criteria were developed to establish a framework for monitoring the progress of the stream restoration program and for refocusing on "outstanding restoration issues" as data and new information informed the eventual determination that restoration was achieved and/or monitoring was complete. Over the course of the monitoring program, the termination criteria have been modified and/or recommendations have been made to revise certain monitoring criteria and/or metrics by the SWRCB-appointed stream scientists (Hunter, 2007a and 2007b; Trush, 2006). A review of the termination criteria (including the revisions) and monitoring results since issuance of Order 98-07 was conducted in 2018 (Geosyntec, 2018) as part of a broader special study. This assessment (Appendix D) utilized the SWRCB-appointed stream scientists' data, revised monitoring criteria (Hunter, 2007a and 2007b; Trush, 2006), LADWP data (LADWP, 2018a and 2018b), special study data (Geosyntec, 2018), and Order 98-07 as a basis for assessing progress toward achieving the applicable termination criteria. This review determined that overall, the metrics of the termination criteria have reached restoration success standards. However, based on direction from the SWRCB and consistent with

the recommendations documented in the Synthesis Report, LADWP has elected to move forward with the spillway modification to reliably implement SEFs.

1.2.1.3 Existing Operations

Current operations are based on the requirements of D1631 and Order Nos. 98-05 and 98-07. Runoff years begin April 1, end the following March 31, are based on average runoff, and are defined as:

Dry:	80-100 percent exceedance (68.5 percent of average runoff)
Dry-Normal I:	70-80 percent exceedance (68.5 – 75.5 percent)
Dry-Normal II:	60-70 percent exceedance (75.5 – 82.5 percent)
Normal:	40-60 percent exceedance (82.5 – 107 percent)
Wet-Normal:	20-40 percent exceedance (107 – 136.5 percent)
Wet:	8-20 percent exceedance (136.5 - 160 percent)
Extreme-Wet:	0-8 (over 160 percent)

- **Rush Creek Instream Flow Requirements**. The minimum instream flow for the protection of fish in Rush Creek ranges from 31 cfs in Dry Years to 80 cfs in Wet Years.

- **Rush Creek SRF Requirements.** Until the water elevation in Mono Lake reaches 6,391 ft amsl, the required SRFs in Rush Creek range from 200 cfs in Dry-Normal Years to 500 cfs in Extreme-Wet Years. After the water elevation in Mono Lake reaches 6,391 ft amsl, the SRF requirements in Rush Creek would range from 100 cfs in Dry-Normal Years to 500 cfs in Extreme-Wet Years. SRFs are not required for Dry Years and may be reduced in Dry-Normal and Normal Years to maintain water exports as established in D1631. Existing facilities can currently accommodate up to 530 cfs via 380 cfs from GLR Outlet to the Mono Gate One Return Ditch (MGORD), and about 150 cfs through the 5-Siphon Bypass. The GLR spillway can further increase flows beyond the flow limits of the MGORD and 5-Siphon Bypass if the reservoir is in a spill condition.

- **Grant Lake Reservoir Operations**. If storage falls below 11,500 af, the instream flow requirements will change to the dry hydrologic year flow requirement or the inflow to GLR, whichever is less.

1.2.2 Project Objective

The objective of the project is to implement the proposed Licenses as standalone "living licenses" including flow management and modification of the GLR Spillway to allow for controlled release of larger volumes of water from the reservoir during specific time periods. The Licenses accommodate SWRCB's management of public trust resources given documented findings in the Settlement Agreement. Flow management under the proposed project would include SEF releases in Rush Creek and Lee Vining Creek; Walker Creek and Parker Creek would not be diverted. Outlet facilities at GLR are limited to the MGORD and a spillway to Rush Creek below the dam. The MGORD is an approximately 8,000-ft unlined channel, with a design capacity of 380 cfs.

Augmenting the MGORD's flows with the current reservoir spillway configuration to achieve SEFs peak flows in Wet-Normal, Wet, and Extreme-Wet hydrologic year types has proven operationally challenging in the past, as flows into GLR are controlled by SCE and meeting flow targets via uncontrolled spills is inherently unreliable. In certain water-year types, implementation of the SEFs would require LADWP to release a flow higher than 380 cfs into Rush Creek below Grant Dam. The proposed project would include modification of GLR Spillway to allow LADWP to more reliably deliver the flows proposed in the Licenses in Wet-Normal, Wet, and Extreme-Wet hydrologic year-types. The proposed Licenses would not alter the existing Mono Lake elevation criteria or the existing routine annual water export terms, consistent with the Settlement Agreement finding that Mono Lake will continue, on average, to rise towards the transition level of 6,391 feet amsl as previously forecast by the SWRCB.

1.3 PROJECT LOCATION AND ENVIRONMENTAL SETTING

1.3.1 Project Location

GLR is located in Mono County, California; approximately 7 miles south of the community of Lee Vining in Sections 3, 4, 9, 10, 15, and 16 of Township 1 South, Range 26 East, as shown on the Lee Vining and June Lake U.S. Geological Survey (USGS) 15-minute quadrangle maps (**Figure 1**). The latitude/longitude of the dam is 37.86219°N/-119.10379°W (World Geodetic System (WGS) 84). The project area is located on the eastern slope of the Sierra Nevada Mountains, and the site is accessed from U.S. Highway 395. The project area is bisected by the Rush Creek drainage, which is bordered by steep-walled moraines that reflect repeated glaciations during the Pleistocene. The area typically receives about 15 inches of precipitation annually, mainly in the form of winter snows. There are no residences or businesses located within 1 mile of the spillway.

Portions of the project area have been previously disturbed for installation of the existing dam and spillway, Mono Gate One Facility, MGORD, access roads, vehicle access bridge as well as various maintenance activities. Big sagebrush is the predominant plant community in the project area, dominated by big sagebrush (*Artemesia tridentata*), with a sparse or grassy herbaceous layer. Other shrub species prominent within this community included bitterbrush (*Purshia tridentata*) and rubber rabbitbrush (*Ericameria nauseosa*). The riparian vegetation associated with Rush Creek is dominated by sandbar willow (*Salix exigua*) and arroyo willow (*S. lasiolepis*), with a variable herbaceous layer. A few localized areas just east of the MGORD access road are vegetated with pale spikerush (*Eleocharis macrostachya*) (Stantec, 2019).

1.3.2 Areas Influenced by Operational Changes

The areas influenced by the operational changes defined by the proposed Licenses include GLR, Grant Dam, and areas downstream from LADWP's operating facilities. Specifically, these areas encompass GLR to the high-water mark, Grant Dam, the four tributaries and their active channels and floodplains, beginning at their points of release and ending at Mono Lake (**Figure 2**). For Rush Creek, the points of release include Mono Gate One, MGORD, Grant Dam toe drain, Grant Dam Spillway, the proposed Grant Dam spillway gate and spillway, and the 5-Siphons Bypass. Downstream of Grant Dam, Rush Creek also receives inflows from Parker and Walker Creeks, which are tributary to Rush Creek between GLR and Mono Lake. For Parker Creek and Walker Creek the points of release are the overflow weirs at the Lee Vining Conduit used during normal

operating procedures as well as the sediment bypass systems. On Lee Vining Creek the points of release are all located at the Lee Vining Creek diversion facility and include the overflow weir, the Langemann® Gate used for sediment bypass, and the small slide gate next to the Langemann® gate.

1.3.2.1 Rush Creek Facilities

Grant Lake Reservoir - GLR is a 47,171 af reservoir (at elevation 7,130 ft) that receives water from Rush Creek and from the Lee Vining Conduit. This is the primary storage facility operated by LADWP in the Mono Basin.

Grant Dam - The impoundment structure for GLR with a crest elevation of 7,145 ft.

Grant Dam Spillway - The spillway is the secondary release point for GLR storage. The spillway regulates GLR elevation beginning 7,130 ft elevation. Flow in the spillway commences once GLR elevation exceeds 7,130 ft.

Grant Dam Toe Drain - Seepage through the dam is monitored at the toe drain.

Mono Gate One - Mono Gate One is the primary diversion gate on GLR that regulates flow out of GLR up to a maximum of 380 cfs. Mono Gate One also regulates flow into the Mono Craters Tunnel for water export purposes.

Mono Gate One Return Ditch - The MGORD is the channel that conveys discharge from Mono Gate One to Rush Creek below Grant Dam. The maximum conveyance capacity of the MGORD is 380 cfs.

5-Siphons Bypass - The 5-Siphons Bypass is a point of diversion from the Lee Vining Conduit that allows for direct release of Lee Vining streamflow diversions to Rush Creek without routing the water through GLR. It is estimated that the maximum discharge through the 5-Siphons is 150 cfs.

Monitoring Stations - LADWP operates discharge monitoring gages upstream of GLR, Parker Creek, Walker Creek and Lee Vining Creek. LADWP also monitors flow out of each of its facilities which is reported to the public via a real-time webpage (http://wsoweb.ladwp.com/Aqueduct/realtime/monorealtime.htm).

1.3.2.2 Parker Creek Facilities

Overflow Weir - LADWP operates the Parker Creek overflow weir where water can either be diverted from Parker Creek into the Lee Vining Conduit or allowed to flow over the weir and into Lower Parker Creek. In most years, Parker Creek flows are not diverted by LADWP. Parker Creek water diversions did occur in 2012, 2013, and 2014.

Sediment Bypass System – LADWP performs sediment bypass operations on Parker Creek by opening up a sluice valve that takes water and sediment under the Lee Vining Conduit into Lower Parker Creek.

Town
Highway
Owens River
County Boundary
Lake

N

0 4 8 Miles

Date: 10/9/2019

TITLE:

Figure 1. Project Vicinity

PROJECT:

Mono Basin Water Rights Licenses Project

LA DWP Los Angeles Department of Water & Power

Stantec

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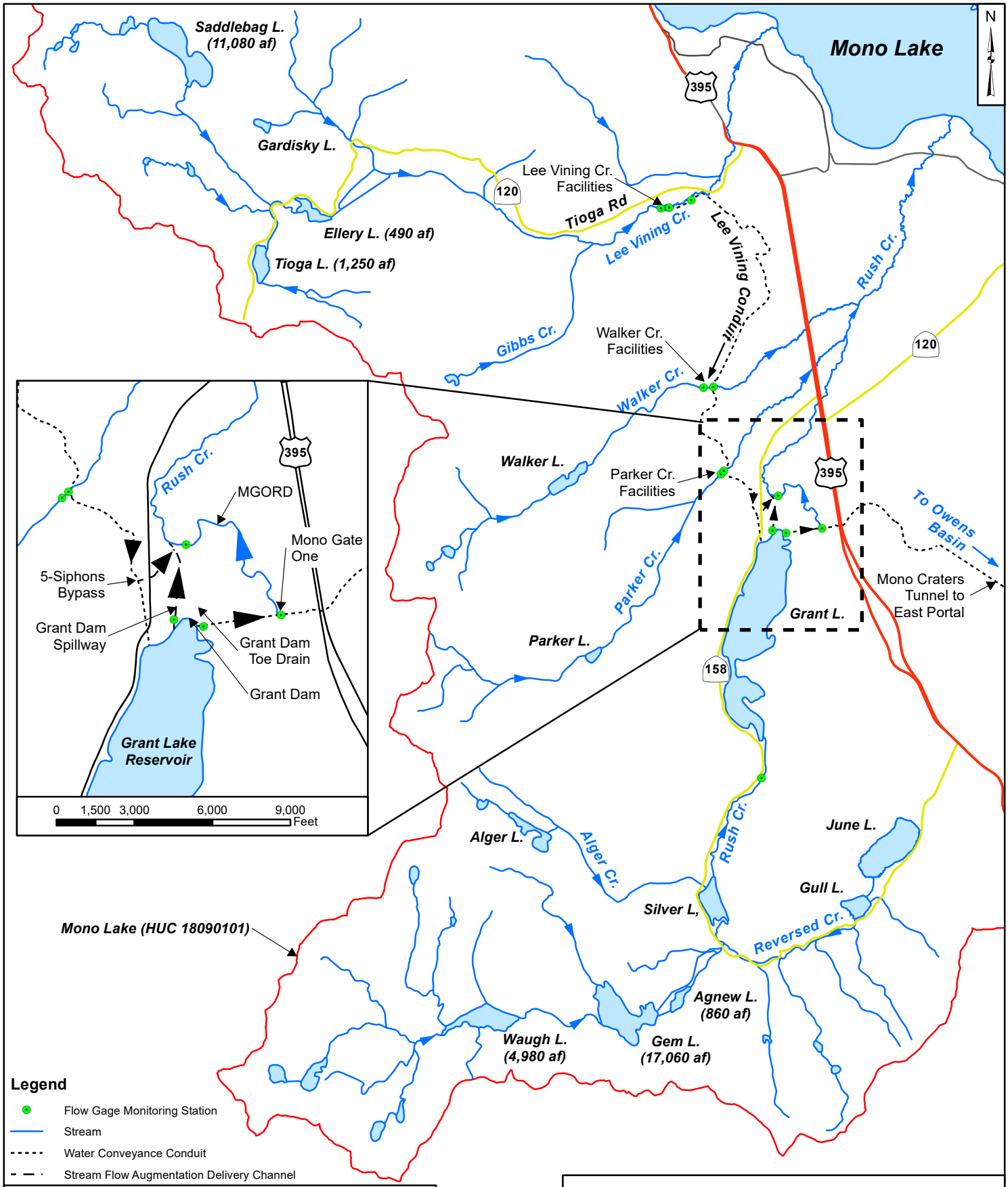


Notes:
1. Lee Vining Creek Facilities include an overflow weir, sediment bypass, and small slide gate.
2. Walker Creek Facilities include an overflow weir and sediment bypasss system.
3. Parker Creek Facilities include an overflow weir and sediment bypasss system.
4. Figure modified from McBain & Trush, Inc. and Ross Taylor and Associates, 2010.

Mono Basin Water Rights Licenses Project Location Map

Los Angeles Department of Water and Power
Mono County, CA

0 0.75 1.5 3 4.5 Miles

Figure 2

1.3.2.3 Walker Creek Facilities

Overflow Weir - LADWP operates the Walker Creek overflow weir where water can either be diverted from Walker Creek into the Lee Vining Conduit or allowed to flow over the weir and into Lower Walker Creek. In most years, Walker Creek flows are not diverted by LADWP. Walker Creek water diversions did occur in 2012, 2013, and 2014.

Sediment Bypass System – LADWP performs sediment bypass operations on Walker Creek by opening up a sluice valve that takes water and sediment under the Lee Vining Conduit into Lower Walker Creek.

1.3.2.4 Lee Vining Creek Facilities

Overflow Weir - LADWP operates a Langemann® gate to pass prescribed flows on Lee Vining Creek.

Sediment Bypass - LADWP operates the Langemann® Gate as the sediment bypass facility on Lee Vining Creek. When peak flows are occurring the Langemann® Gate is dropped to allow for sediment mobilized by the high flows to pass through the facility. The small slide gate is also opened to allow sediment caught behind the wall next to the Langemann® Gate to bypass.

Small Slide Gate - The small slide gate is used for operations and maintenance.

Lee Vining Conduit - The Lee Vining Conduit carries diversions of Lee Vining Creek streamflow from the Lee Vining Creek diversion facility to the 5-Siphons Bypass and GLR.

1.3.3 Environmental Setting

Downstream of the facilities described above are four streams with channels, floodplain, riparian corridor, and fisheries resources. With implementation of the SEFs, the following systems would be impacted.

1.3.3.1 Grant Lake Reservoir

GLR is a large reservoir downstream from the upper Rush Creek watershed which is further influenced by 22,900 af of SCE high-elevation reservoir storage capacity. GLR fluctuates annually between 11,500 af and 47,171 af based on water year type and export timing. This annual fluctuation results in a transitional shoreline (rocky gravel and sediment) where the surface area of GLR expands as storage increases and the water surface elevation rises. As the reservoir stage water surface increases, evaporation increases. GLR supports a locally-important lake fishery. The area surrounding the reservoir is vegetated with sagebrush.

1.3.3.2 Rush Creek from Points of Release to Mono Lake

Rush Creek is the largest of the four Mono Lake tributaries. Rush Creek below GLR to Mono Lake is approximately 8.7 miles of stream channel and is divided into five morphological reaches for monitoring purposes. These five reaches are further grouped into three sections: the historical

outflow channel segment below the dam (Reach 1), Upper Rush Creek (Reaches 2 and 3), and Lower Rush Creek (Reaches 4 and 5) which terminates into Mono Lake (**Figure 3**).

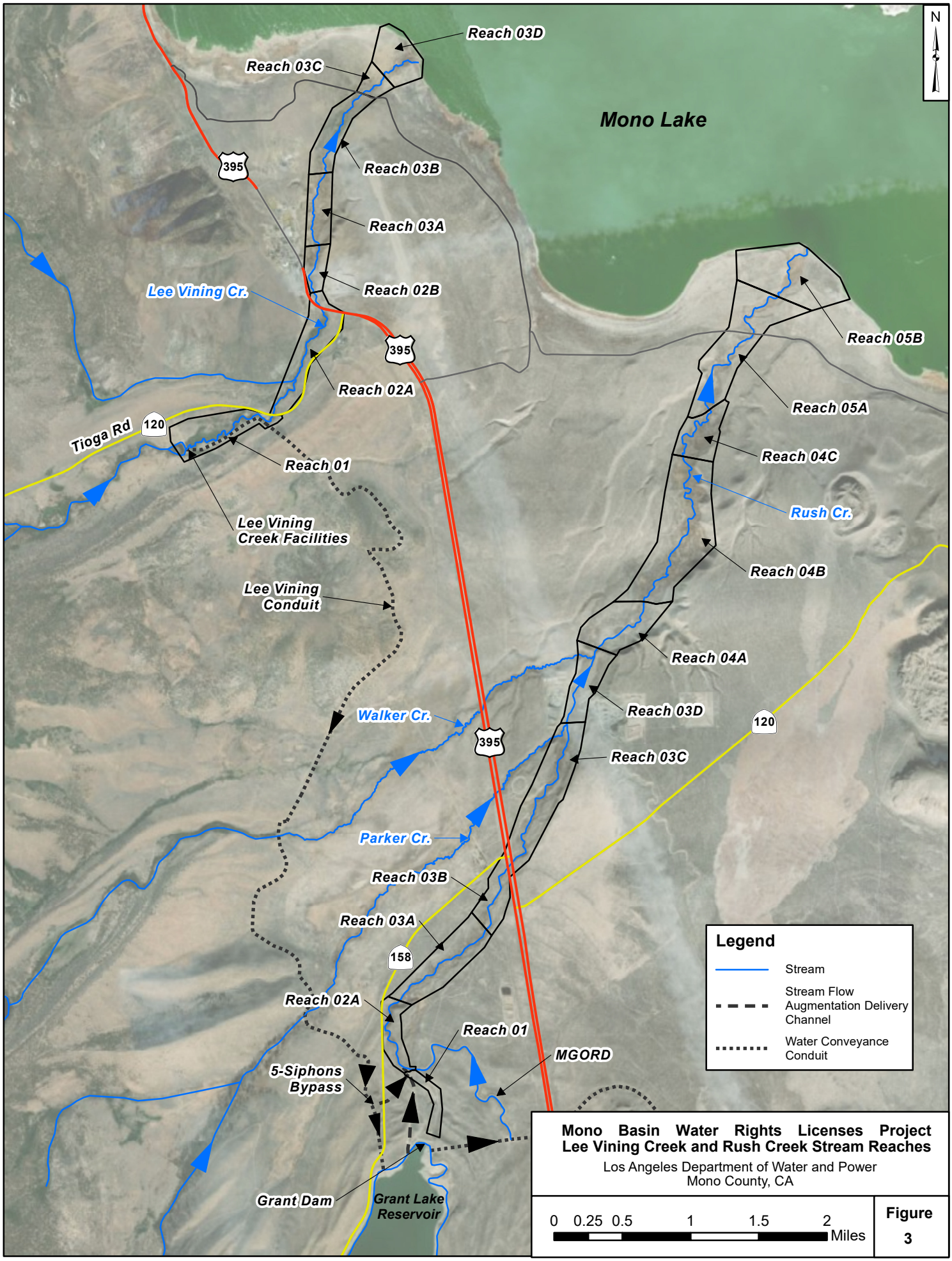
Reach 1 extends from the base of GLR Dam approximately 4,100 linear feet (lf) roughly parallel to the spillway channel until it intersects the terminal end of the MGORD. Reach 1 typically remains dry. Reach 1 is not subject to restoration requirements under D1631 or Orders 98-05 or 98-07.

Streamflow in Reach 2 (4,820 lf) is supplied from water stored in GLR and is delivered primarily by the MGORD and secondarily in spring and summer months by ancillary flow via the spillway (typically wetter year types such as Normal, Wet-Normal, Wet, and Extreme-Wet year types). The spillway channel, Reach 1 and the MGORD join at the start of Reach 2 of Rush Creek. Additionally, the 5-Siphons Bypass channel intersects with the spillway channel just upstream of the spillway Parshall flume flow gage near the start of Reach 2.

Upper Rush Creek starts at Reach 2 and is generally characterized as boulder, cobble step-pool channel in an incised valley with a partially forested riparian system. Reach 3 (17,276 lf), which is defined by geologic igneous intrusive feature called the "Narrows" since it creates narrow bedrock gorge for Rush Creek to pass through. Below Highway 395 and upstream of the Narrows, Parker Creek and Walker Creek join with Rush Creek providing additional inflows and flow variation.

Lower Rush Creek Reach 4 (14,368 lf) starts at the Narrows which begins as a moderate gradient confined and gently meandering boulder and cobble bed channel to a low gradient cobble and gravel bed meandering channel in a broad floodplain system with alluvial terraces. This broad floodplain system is generally referred to as the Bottomlands or Rush Creek Bottomlands. Reach 5 (9,455 lf) extends from the Arizona road crossing on Rush Creek to Mono Lake and is confined to a more limited floodplain, entrenched within alluvial terraces and former historic lake shoreline terraces.

SWRCB Order 98-05 established target flows SRFs for Rush Creek for all year types except Dry. Pursuant to this Order, during the transition period, minimum peak target flows range from 200 cfs in a Dry-Normal I year type, to 500 cfs in an Extreme-Wet year type, with 380 cfs (the capacity of the MGORD) the minimum required peak target flow in a Normal year type. In the Wet-Normal, Wet, and Extreme-Wet years, a spill is required to achieve the peak target SRF and augmentation using the 5-Siphons Bypass with water diverted from Lee Vining Creek is permitted within certain limits. In all years Order 98-05 states that peak flows are *minimum* target flows and that in Wet and Extreme-Wet years the City "shall attempt to maximize SRFs in Rush Creek through operation of Grant Lake to maximize the probability and magnitude of spills…" (Order 98-05, 1(a)(3)).


N
Mono Lake
Reach 03D
Reach 03C
Reach 03B
Reach 03A
Reach 02B
Reach 02A
Reach 01
Reach 05B
Reach 05A
Reach 04C
Reach 04B
Reach 04A
Reach 03D
Reach 03C
Reach 03B
Reach 03A
Reach 02A
Reach 01
Lee Vining Cr.
Rush Cr.
Walker Cr.
Parker Cr.
Tioga Rd
Lee Vining Creek Facilities
Lee Vining Conduit
MGORD
5-Siphons Bypass
Grant Dam
Grant Lake Reservoir
395
120
158
Legend
Stream
Stream Flow Augmentation Delivery Channel
Water Conveyance Conduit
Mono Basin Water Rights Licenses Project
Lee Vining Creek and Rush Creek Stream Reaches
Los Angeles Department of Water and Power
Mono County, CA
0 0.25 0.5 1 1.5 2 Miles
Figure 3

Since 1998, peak flows have periodically exceeded the minimum target SRFs established by Order 98-05. In 2005, for example, a 403 cfs peak occurred, with 6 days exceeding 400 cfs (McBain & Trush, Inc., 2006; Section 4 of LADWP, 2006). These peak flows facilitated sediment transport experiments conducted by the Stream Scientists. In 2006, the Wet year requirement for 450 cfs for 5 days was exceeded, with a peak of 477 cfs and a duration over 450 cfs of 18 days (McBain & Trush, Inc., 2007; Section 4 of LADWP, 2007). In 2011, the next Wet year, LADWP released peak flows equivalent to those recommended under the proposed SEF regime (LADWP, 2012).

Prior to Order 98-05, GLR spilled in 1995 and 1998. The resulting flows exceeded the SRF peak target flows for these year types subsequently set forth in Order 98-05. Flows in excess of those established in D1631 and Order 98-05, in both magnitude and duration, were an intentional consideration in design of pre-transition operations, including export. The fixed pre-transition maximum annual export of 16,000 af, applies to all years. In Wet-Normal, Wet, and Extreme-Wet years water in excess of the fixed export, and often in excess of the SRFs, was specifically intended to reach Mono Lake to raise the lake through a transition period. Post-transition flows in excess of the minimum target SEFs are envisioned to be less than pre-transition flows in excess of minimum flow targets when Mono Lake is higher than 6,391 ft amsl because export will no longer be constrained by the 16,000 af annual maximum.

1.3.3.3 Parker Creek from Point of Release to Rush Creek

Parker Creek flows out of the overflow weir at the Lee Vining Conduit at an elevation of approximately 7,136 ft then meanders freely through broad wet meadow riparian fringe of willows and cottonwoods. Parker Creek becomes further confined to a narrow valley downstream of Highway 395 where it descends steeply to its confluence with Rush Creek. Given Parker Creek's unregulated watershed upstream of LADWP's facility and a continued curtailment of diversions by LADWP unless operationally allowed, Parker Creek provides daily flow variability and additional streamflow to Rush Creek.

1.3.3.4 Walker Creek from Point of Release to Rush Creek

Below Walker Lake, Walker Creek flows through a narrow moraine-bound canyon then out of the overflow weir at the Lee Vining Conduit at an elevation of approximately 7,143 ft then meanders freely through wet and dry meadows and a narrow riparian fringe of willows and cottonwoods. Walker Creek becomes further confined to a narrow valley downstream of Highway 395 but continues to maintain a meandering path as it descends to its confluence with Rush Creek. With similar watershed conditions as Parker Creek, Walker Creek also provides daily flow variability and additional streamflow to Rush Creek.

1.3.3.5 Lee Vining Creek from Point of Release to Mono Lake

Lee Vining Creek is the second largest of the four Mono Lake tributaries and is regulated by SCE above LADWP's diversion facility. SCE operates three reservoirs at higher elevation in the watershed with a total storage capacity of 11,212 af. SCE operations dictate the flow released from these storage facilities, but operations tends to elevate winter base flows and diminishes the peak snow-melt streamflow in spring and summer.

Below LADWP's diversion facility, Lee Vining Creek flows approximately 4.5 miles to Mono Lake. This stretch of creek is defined by three reaches with Reaches 1 and 2 considered Upper Lee Vining Creek and Reach 3 considered Lower Lee Vining Creek (**Figure 3**). Reach 1 (5,193 lf) extends from the diversion facility to Tioga Road and is surrounded by a wide riparian zone bounded by glacial moraines. Reach 2 (8,164 lf) extends from Tioga Road to approximately 1,500 ft north of Highway 395 in a steeper, step-pool morphology with a narrow but mature riparian zone for the exception of development encroachment adjacent to Highway 395. Reach 3 (10,131 lf) is the longest of the reaches and extends to Mono Lake. This reach is typified by a broad, antecedent braided floodplain and terraces. Lee Vining Creek streamflow is split into several channels throughout much of Reach 3. The creek in this reach is surrounded by floodplain and alluvial terraces incised into a larger alluvial fan landform that terminates into Mono Lake. Riparian resources along this reach include wet meadow, scrub sage brush and other shrubs, and maturing willows, cottonwoods and Jeffrey pines.

Lee Vining Creek is typically diverted to the greatest extent possible when flows exceed the minimum required flow, except when GLR is likely to spill. Under the existing Licenses, peak flows must be passed undiverted in non-Dry years, and this operation typically begins reducing diversions around May 15th, shutting them off until there have been 7 continuous days of declining flow following the highest peak flow, when they resume for the remainder of the season. During the fall, winter, and spring, diversions often cycle on and off, moderating the daily hydropeaking fluctuations from SCE's upstream Poole Powerplant.

1.4 PROJECT DESCRIPTION

Pursuant to the Settlement Agreement, LADWP proposes relicensing of Water Rights Licenses 10191 and 10192 based on the recommendations provided in the Synthesis Report. These amendments include changes to the flow regimes recommended by the Stream Monitoring Team after 12 years of study and are anticipated to accelerate restoration of Rush, Lee Vining, Walker and Parker Creeks. Implementation of the Licenses would result in:

- New flow regimes (SEFs) on Mono Basin streams recommended by the Synthesis Report
- Construction of the GLR Spillway Modification
- Continued export of water to Los Angeles of 16,000 af per year pre-transition (the period until Mono Lake reaches the 6,391-ft amsl management level)
- Continuation of SWRCB's protection of public trust resources prior to and following the attainment of the management level of Mono Lake, including municipal needs
- Additional water export of up to 12,000 af
- Fulfillment of LADWP's obligations for stream restoration in the Mono Basin
- Continued monitoring and reporting of stream fisheries, waterfowl, limnology, and hydrology
- Recommendations for adaptive management of flow regime
- Maintenance of existing and new facilities

As part of its obligations as a Responsible Agency, the SWRCB will review the proposed terms of the Licenses and approve them if they are determined to be consistent with protection of public trust resources and beneficial uses of water, both within the Mono Basin and for municipal uses

by the City of Los Angeles. As described in D1631, the public trust resources and beneficial uses of water affected by water management decisions in the Mono Basin and these Licenses include: fishery resources, birds and other wildlife in the Mono Basin, the organisms in Mono Lake which provide food for birds, riparian vegetation, air quality, visual and recreational resources, and water quality.

1.4.1 Stream Ecosystem Flows

The proposed Licenses, which are consistent with the flows recommended in the Synthesis Report, call for LADWP to release SEFs in Rush Creek and Lee Vining Creek; Walker Creek and Parker Creek would not be diverted. For Rush and Lee Vining Creeks, these flows vary depending on the time of year and specific water-year types (defined above). SEFs are based on estimates of "unimpaired" flows for the streams, and are within the range of flows historically experienced by the Mono Basin streams. In general, the SEFs differ from the current flow regime (i.e., minimum instream flows and SRFs) in the following ways:

- In Rush Creek and Lee Vining Creek, winter base flows will be lower; in Rush Creek peak flows will be higher in approximately 40 percent of the years (Wet-Normal, Wet, and Extreme-Wet years).
- In Lee Vining Creek, the pattern and reliability of peak flows will be modified.
- Parker Creek and Walker Creek will not be diverted.
- The pattern of flow throughout the year will include more components in order to more closely mimic the pattern of an unimpaired snowmelt stream.

Tables 1 and **2** provide a comparison of SRF and SEF flow requirements for Rush Creek and Lee Vining Creek. SEFs are minimum flow requirements. **Appendix A** includes the SEF flow tables by water year type for Rush Creek and Lee Vining Creek. It should be noted that flow rates listed in **Table 1** for peak flows are targets that may be exceeded if hydrologic conditions allow.

Table 1
Comparison of SRF and SEF Flow Regimes – Rush Creek

			Hydrograph Component																									
			Spring Baseflow		Spring Ascension		Spring Bench		Snowmelt Ascension		Snowmelt Bench		Snowmelt Flood		Snowmelt Peak (release)		Snowmelt Peak (release + spill)		Medium Recession		Slow Recession		Summer Base Flow		Fall Baseflow		Winter Baseflow	
	Year Type	Exceedence Prob. (%)	Magnitude (cfs)	Duration (days)	Magnitude (cfs)	Duration (days)	Magnitude (cfs)	Duration (days)	Magnitude (cfs)	Duration (days)	Magnitude (cfs)	Duration (days)	Magnitude (cfs)	Duration (days)	Magnitude (cfs)	Duration (days)	Magnitude (cfs)	Duration (days)	Magnitude (cfs)	Duration (days)	Magnitude (cfs)	Duration (days)	Magnitude (cfs)	Duration (days)	Magnitude (cfs)	Duration (days)	Magnitude (cfs)	Duration (days)
Stream Ecosystem Flow (SEF)	Dry	80-100	30	30	30-70	18					70	49							70-48	6	48-30	16	30	64	27	61	27	121
	Dry/Normal I	70-80	40	30	40-80	15					80	49							80-55	6	55-30	21	30	62	27	61	27	121
	Dry/Normal II	60-70	40	48	40-80	15					80	13	80-200-80	12	200	3			80-48	8	48-30	16	30	68	27	61	27	121
	Normal	40-60	40	30	40-80	15	80	27	80-120	5	120	9	120-380-120	16	380	3			120-58	12	58-30	22	30	44	27	61	27	121
	Wet/Normal	20-40	40	30	40-80	15	80	27	80-145	7	145	13	145-380-145	19	380	3	550 [1]	3	145-69	12	69-30	28	30	29	27	61	27	121
	Wet	8-20	40	30	40-80	15	80	27	80-170	8	170	19	170-380-170	19	380	5	650 [1]	5	170-71	14	71-30	29	30	17	27	61	27	121
	Extremely Wet	0-8	40	30	40-80	15	80	27	80-220	11	220	27	220-380-220	17	380	5	750 [1]	5	220-87	15	87-30	36			27	61	27	121

			Spring and Summer SRF Baseflow		Snowmelt Ascension			Snowmelt Flood (Applied Post-Peak)		Snowmelt Peak (release)		Snowmelt Peak (release + spill)		Medium Recession			Fall and Winter SRF Baseflow	
	Year Type	Exceedence Prob. (%)	Magnitude (cfs)	Flow Period	Magnitude (cfs)	Duration (days)		Magnitude (cfs)	Duration (days)	Magnitude (cfs)	Duration (days)	Magnitude (cfs)	Duration (days)	Magnitude (cfs)	Duration (days)		Magnitude (cfs)	Flow Period
Stream Restoration Flow (SRF)	Dry	80-100	31														36	
	Dry/Normal I	70-80	47		47-200	Varies				200	7			200-47	Varies		44	
	Dry/Normal II	60-70	47		47-250	Varies				250	5			250-47	Varies		44	October 1 through March 31
	Normal	40-60	47	April 1 through Sept 30	47-380	Varies		300	7	380	5			380-47	Varies		44	
	Wet/Normal	20-40	47		47-400	Varies		350	10	380	5	400	5	400-47	Varies		44	
	Wet	8-20	68		68-450	Varies		400	10	380	5	450	5	450-68	Varies		52	
	Extremely Wet	0-8	68		68-500	Varies		400	10	380	5	500	5	500-68	Varies		52	

[1] Peak flows for SEF in Wet/Normal to Extreme-Wet Year-Types have a +/- 50 cfs due to estimation error of the peak from reservoir storage volumes.

Table 2
Comparison of SRF and SEF Flow Regimes – Lee Vining Creek

			Hydrograph Component							
			Spring Snowmelt Period (April 1 - September 30)			Fall Baseflow Period Magnitude (cfs)				Winter Baseflow Period Magnitude (cfs)
	Year Type	(%)	Baseflow	Peak Flows		Oct 1-15	Oct 16-31	Nov 1-15	Nov 16-30	Dec 1-Mar 31
Stream Ecosystem Flow (SEF)	Dry	80-100	30 cfs or less	31-250 cfs	251 cfs and greater					
	Dry/Normal I	70-80	Licensee shall bypass inflow	Licensee shall apply daily diversion rate corresponding to inflow	Licensee shall bypass inflow		16			16
	Dry/Normal II	60-70	30 cfs or less	31-250 cfs	251 cfs and greater		16			16
	Normal	40-60		Licensee shall apply daily diversion rate corresponding to inflow		20	18	18	18	18
	Wet/Normal	20-40				28	24	22	20	20
	Wet	8-20	Licensee shall bypass inflow		Licensee shall bypass inflow	30	28	24	20	20
	Extremely Wet	0-8				30	28	24	20	20
			Spring Snowmelt Period			Fall and Winter SRF Baseflow				
	Year Type	Exceedence Prob. (%)	Baseflow (cfs)	Peak Flows	Flow Period	Magnitude (cfs)				Flow Period
Stream Restoration Flow (SRF)	Dry	80-100	37	None		25				
	Dry/Normal I	70-80	37	None		25				
	Dry/Normal II	60-70	37	None		25				
	Normal	40-60	54	Allow peak to pass	April 1 through September 30	40				October 1 through March 31
	Wet/Normal	20-40	54	Allow peak to pass		40				
	Wet	8-20	54	Allow peak to pass		40				
	Extremely Wet	0-8	Flow through conditions	Allow peak to pass		Flow through conditions				

1.4.2 Changes to Facilities with the SEFs

To implement the provisions of the Licenses, LADWP will change facility operations as described below to meet the SEFs as recommended in the Synthesis Report.

1.4.2.1 Rush Creek Facilities

Grant Lake Reservoir - GLR will be operated at a higher stage during snow-melt runoff through near year-round diversion of Lee Vining Creek streamflow via the Lee Vining Conduit.

Proposed Licenses would require LADWP to change and comply with the following minimum storage rules:

i. Licensee will store at least 20,000 af of water in GLR from July 1 through September 30 when hydrologic conditions allow.

ii. If GLR is below 25,000 af of storage on July 1 in a Dry or Dry/Normal I year, Licensee will convey available water diverted from Lee Vining Creek through the 5-Siphons Bypass to augment cold water flow in Rush Creek. There shall be no augmentation to Rush Creek in other year types or for other purposes.

iii. From October 1 to March 31, Licensee will avoid, to the extent feasible, reservoir spills and flows as specified in the Mono Basin Operations Plan (MBOP) that would mobilize the streambed of Rush Creek.

Grant Dam - Grant Dam would change operationally to manage a higher pool elevation and to deliver peak flows recommended by the Synthesis Report. GLR would be subjected to more storage early in the season. Frequent (approximately daily) monitoring at the Grant Dam Toe Drain for changes in seepage characteristics from a higher pool elevation would be on-going.

To provide more reliable peak flow operations in Wet-Normal, Wet, and Extreme-Wet years, the dam will be modified at the spillway to allow peak flow delivery at varying pool elevations via the spillway.

- A new spillway gate structure would be constructed.
- The new spillway and gate would require maintenance.
- The new lake elevation management strategy would require on-going monitoring of Grant Dam and the toe drain to document the effects on seepage from maintaining a higher pool elevation.

Grant Dam Spillway - Since GLR would be operated at a higher pool elevation to achieve water temperature and peak flow recommendations, the spillway will be utilized in most years during

spring and summer months. This use would require increased maintenance of the spillway low water crossing, and the natural channel section of the spillway.

Grant Dam Spillway Gate (New) - The Grant Dam Spillway Gate would be added to allow for enhanced control of Grant Dam outflows especially during peak flow operations in the spring and summer months. The spillway gate structure would be modified to accommodate two Langemann® gates.

Grant Dam Toe Drain - The Grant Dam Toe Drain would continue to operate without any changes in operation. Monitoring frequency may increase to ensure that seepage characteristics of Grant Dam do not impact dam stability.

Mono Gate One - Mono Gate One would continue to operate per the water year-type flow regime requirements and export operations.

Mono Gate One Return Ditch - The MGORD would operate per the water year-type flow regime requirements. The longer duration higher peak flows in the MGORD may increase maintenance requirements along the side slopes and bed due to extended duration of peak flows from the SEFs.

5-Siphons Bypass - The 5-Siphons Bypass Facility may be utilized to deliver auxiliary flows to Rush Creek via the Lee Vining Conduit to achieve SEF peak flow targets in certain wetter year types as well as provide water temperature abatement in Rush Creek for summer flows in Dry and Dry Normal I water years if GLR falls below 25,000 af of storage on July 1. Modifications (i.e., addition of a gate system) to the 5-Siphons bypass to increase capacity and efficiency may be required to deliver auxiliary flows to Rush Creek via the Lee Vining Conduit.

1.4.2.2 Parker Creek Facilities

The Parker Creek Overflow Weir and Sediment Bypass Facilities will continue to operate with no further diversions.

1.4.2.3 Walker Creek Facilities

The Walker Creek Overflow Weir and Sediment Bypass Facilities will continue to operate with no further diversions.

1.4.2.4 Lee Vining Creek Facilities

Overflow Weir - The Lee Vining Creek Overflow Weir will operate on a more continuous basis following the new rating table. With increased operation, additional maintenance of the gate may be required.

Sediment Bypass - The sediment bypass facility on Lee Vining Creek will continue to operate without any changes in operation.

Small Slide Gate - The small slide gate used for operations and maintenance and will continue to operate without any changes in operation.

Lee Vining Conduit - The Lee Vining Conduit will be utilized nearly year-round to supply diversions of Lee Vining Creek streamflow to maintain GLR at a higher stage during snow-melt runoff and may be utilized to deliver auxiliary flows to Rush Creek via the 5-Siphons Bypass or to GLR to achieve SEF peak flow targets in Normal, Wet-Normal, Wet, and Extreme-Wet year types.

1.4.3 Grant Lake Reservoir Spillway Modification

1.4.3.1 Planning Process for Grant Lake Reservoir Spillway Modification

In order to define the scope of the spillway modification, the new operational requirements of GLR were established by simulating the flow requirements outlined in the Synthesis Report using the eSTREAM model. The eSTREAM model simulates LADWP's water system within the Mono Basin which includes Lee Vining, Walker, Parker, and Rush Creeks, GLR, the Lee Vining Conduit (including the 5-Siphon Spillway), the MGORD and the Mono Craters Tunnel. The eSTREAM model uses historic runoff year hydrology (April 1st to March 31st) to estimate responses to changes in operating conditions. The model has the ability to assess the SEF requirements for the four creeks downstream of the diversion points, as well as the response of GLR to changes in operations.

Four alternatives were considered:

- 72-inch buried steel pipe
- Langemann® gates with 10-ft range of movement with MGORD improvements to deliver 380 cfs
- Langemann® gates with 12-ft range of movement with MGORD improvements to deliver 380 cfs
- Langemann® gates with 14-ft range of movement with MGORD improvements to deliver 350 cfs

The alternatives were considered using the following criteria:

- Fulfillment of SEF requirements
- Flexibility in operations

Other factors considered included site-specific conditions, schedule, cost versus benefit, and constructability.

Modeling Scenarios. The higher SEF requirements in Rush Creek (i.e., hydrologic year types where the peak SEF requirement exceeds the capacity of the MGORD) would be met by utilizing the maximum capacity of the MGORD and additional flows at the modified GLR spillway. To augment MGORD releases, the current spillway crest elevation of 7,130 ft amsl would be modified with a set of adjustable weirs constructed directly into the spillway. The eSTREAM model was run for the four different MGORD capacities and three different weir depths. Stage-discharge calculations for releases through the modified spillway were based on manufacturer specifications. The selected alternative was based on the scenario where all Rush Creek SEF requirements were met for the higher SEF requirements (e.g., wetter year types) while maintaining ample operational flexibility. The selected modeling scenario set the MGORD capacity to 380 cfs, and the weir depth to 12 ft. The 12-ft weir corresponds to spillway crest elevation of 7,118 ft – 12 ft lower than the current spillway invert configuration. For the modelled years (1980-2010), and the assumptions used in the analysis, the simulated SEF requirements for the Wet-Normal, Wet, and Extreme-Wet hydrologic year types were met without imposing any constraints on operations.

1.4.3.2 Construction of the Grant Lake Reservoir Spillway Modification

Modification of the GLR Spillway would include construction of the following project elements:

Spillway and Concrete-Lined Channel

- **Spillway Approach Channel.** The spillway approach channel would be constructed at the existing rip-rap pad location requiring excavation down to the new spillway lip elevation.
- **Concrete Headwall**. The headwall would be located at the current lip of the spillway. The headwall would maintain the existing maximum reservoir elevation of 7,130 ft and would incorporate two Langemann® gates.
- **Langemann® Gates**. To accommodate the assumed 12 ft weir depth identified above, two 10 ft wide by 14 ft high Langemann® gates would be placed side-by-side inside the headwall to provide controlled spills from GLR (**Figures 4** and **5**). The gates would have an operational range of 12 ft (from elevation 7,130 ft to elevation 7,118 ft).
- **Slide Gates**. The Langemann® gates would be preceded by slide gates that would remain closed at all times except when operating the Langemann® gates. The slide gates would be mounted and removed manually using temporary or permanent cranes. The slide gates would isolate the Langemann® gates alleviating hydrostatic pressure when not in operation, and would provide a dry environment to perform required maintenance.
- **Spillway Channel**. The existing spillway channel would be realigned to the east by excavating a new trapezoidal channel with 1.5:1 slopes. The adjacent hillside would be graded with 2:1 side slopes. The depth of the channel would be increased by excavating approximately 12 ft below the bottom of the existing channel. The amount of excavated material is estimated at 77,000 cubic yards; this material would be compacted and graded onsite into a re-vegetated hillside. The old spillway channel would be demolished and removed. The new concrete channel bottom width would vary from 10 ft in the concrete lined section to 30 ft at the spillway entrance. A reinforced concrete structure at the end of the proposed concrete spillway channel would function as an energy dissipating structure.

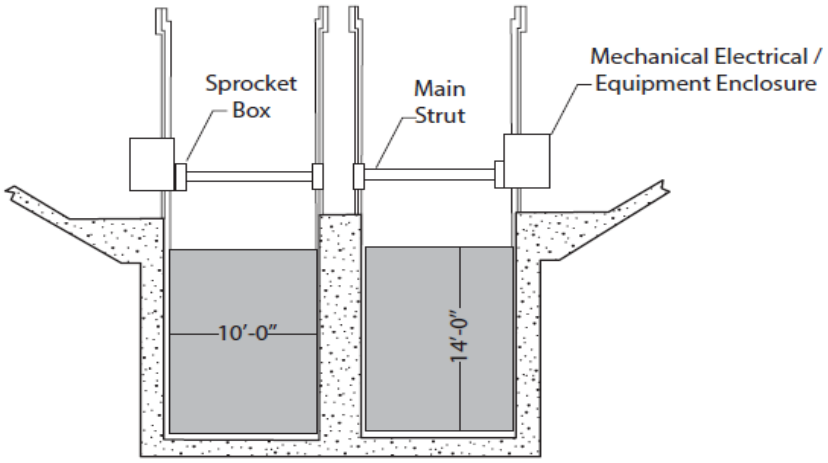


Figure 4
Conceptual Plan for Langemann® Gate Inside Concrete Headwall

Source: Aqua Systems

Figure 5
Langemann® Gate

Vehicle Bridge

- To provide vehicular and pedestrian access across the GLR Spillway Channel, either a cast-in-place box concrete culvert would be placed at the Arizona Crossing, or a new bridge would be installed. The existing bridge (made of an old rail car) would be removed. Approximately 4,200 cubic yards of fill will be required to construct the roadways for the box culvert.

Road Improvements

- The 10-ft road located to the east of the concrete spillway would be removed and replaced with a new 20-ft road.
- To facilitate construction of the spillway channel, a 15-ft wide by 1,600-ft long access road would be installed on the west side of the new spillway channel. The proposed West Side Road would also provide access for patrols and maintenance workers during operations. Approximately 31,500 cubic yards of soils would be excavated during road installation. Soils not re-used for the roadway would be stockpiled in the designated areas.

Other Infrastructure

- **Power Poles**. To supply power to the Langemann® Gates and for maintenance lighting, five new utility power poles (40 to 50 ft in height) are proposed near the spillway. Approximately 1,500 ft of overhead power lines would be added to connect the control building to the existing overhead power line system. The depth of excavation for each pole would be approximately 10 ft.
- **Control Building**. A 12 ft by 12 ft by 13 ft control building is proposed near the spillway. The proposed building will include exterior lighting, a vehicle access road, power, supervisory control and data acquisition (SCADA) equipment storage, and possibly telephone service.
- **Concrete Maintenance Pad**. A 40 ft by 50 ft concrete pad is proposed to be constructed adjacent to the spillway in order to provide the space needed to accommodate a mobile crane to perform routine maintenance and repairs on the gates.

Project facilities are shown on **Figure 6** and include the spillway, potential vehicle and equipment staging locations (six), potential soil stock pile locations (two), utility infrastructure, and West Side Road construction area.

1.4.4 Construction Duration and Equipment

Construction of the proposed project is estimated to occur over approximately 3 years. Construction would be completed during the 4-year period following the date the SWRCB Final Order approving the Change Petition is issued, weather permitting. Work would be scheduled from Monday to Saturday, approximately 8 hours per day.

Initial Construction Elements:

- Excavation of east slope of existing spillway channel
- Excavation of 12 ft to 15 ft wide roadway on the west side of the spillway

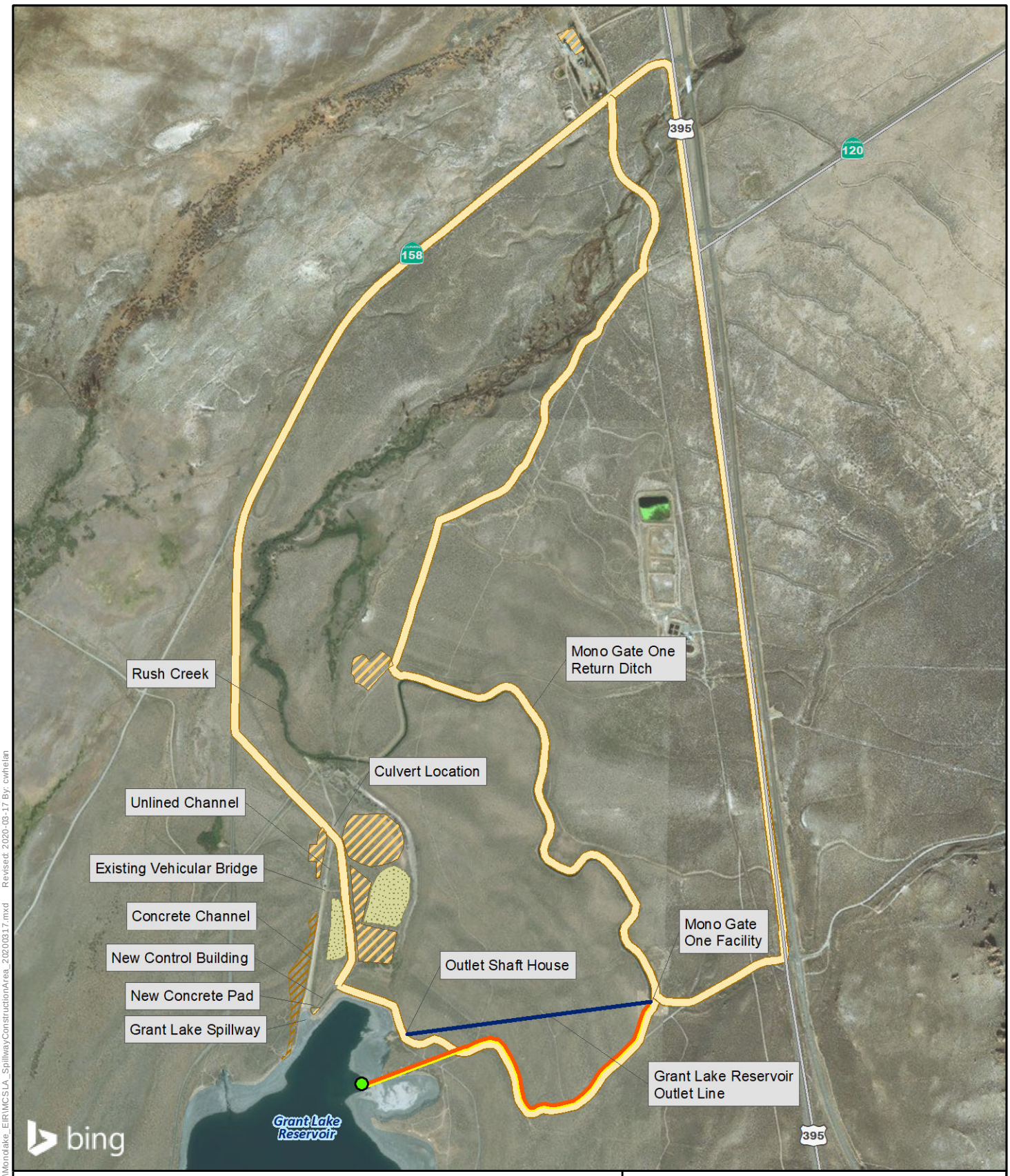
Subsequent Construction Elements:

- New channel excavation and concrete work
- Spillway entrance modifications
- Vehicular bridge replacement

Approximately 116,000 cubic yards of excess soil would result from project construction. Soil not compacted on existing roads and embankments would be relocated to the potential soil stockpile areas identified on **Figure 6**, where it will be spread and recontoured. At the end of the earthwork phase of construction, the soil piles would also be re-vegetated by hand. Approximately 30 construction workers (laborers, equipment operators and supervisors) would be onsite at any one time. Project construction would require the equipment listed in **Table 3**.

Table 3
Spillway Modification Construction Equipment Assumptions

Equipment	Approximate Number of Equipment		
	Year 1	Year 2	Year 3
Dump Truck	5	3	3
CAT D8 Dozer	2	2	0
CAT 416 Back Hoe (rubber tire)	1	1	1
Concrete Transit Mixer Truck (12 cubic yards)	0	6	6
Compactor	1	1	0
CAT Roller (sheepsfoot)	2	2	2
Hydro Crane	0	1	0
All Terrain Folklift	1	2	2
CAT 365 Excavator	2	3	0
Hydraulic Breaker	0	2	0
Concrete Pump	0	4	4
Front End Loader	2	2	2
Generator	2	2	2
Water Pump	1	1	0
Pickup Utility Truck (1 ton)	6	6	6
Water Truck	2	2	2



- Proposed Power Pole
- Potential Travel Route
- Potential Staging Area
- Potential Spoil Site
- Proposed West Side Road Improvement Construction Area
- Proposed Water Bypass Pipeline
- Proposed Barge-Mounted Pump

0 750 1,500 Feet

Date: 3/17/2020

TITLE:

Figure 6.
Spillway Construction Areas

PROJECT:

Mono Basin Water Rights Licenses Project

Los Angeles Department of Water & Power

Stantec

V:\1858\active\195865176\gis_MXDs\Mondlake_EIR\MCSLA_SpillwayConstructionArea_20200317.mxd Revised: 2020-03-17 By: cwhelan

1.4.5 Grant Lake Reservoir Outlet Valve Replacement

Flows from GLR are controlled by an existing 74-year-old outlet control valve. Based on its age, and the recommendation of the California Department of Water Resources Division of Safety of Dams (DSOD), valve replacement is proposed. After construction of the spillway modification, the existing 48-inch roto valve, 48-inch gate valve access platform, venturi meter piping, and support piping for electrical, air and communications would be removed. New facilities would include: rotary cone valve (RCV), 48-inch knife gate valve, 48-inch dismantling joint (coupling), 48-inch butterfly valve, and a new flow meter upstream and downstream of Shaft No. 1 to measure combined flows to the MGORD and the Mono Craters Conduit. Flows to the MGORD would be maintained during the valve replacement construction period using barge-mounted pumps to discharge water from GLR to the water bypass pipeline. A temporary bypass pipeline (high-density polyethylene, 16- to 20-inch diameter, approximately 1 mile in length) would be installed from GLR to the MGORD, along the shoulder of an existing on-site roadway and within an existing 250-ft U.S. Forest Service (USFS) right-of-way (**Figure 6**). The bypass pipeline would be removed as soon as flows can be restored to Grant Lake Export Tunnel via the new RCV. At the end of construction, the USFS roadways would be inspected, and regraded and reseeded, as necessary.

Prior to installation of the new RCV and related facilities, existing Shaft No. 1 would be pressure-grouted to eliminate existing groundwater seepage/intrusion into the shaft and access ladders and platforms within the outlet shaft would be rebuilt. A secondary ventilation shaft would be constructed, the existing concrete roof on the shaft house building would be demolished, a new roof assembly would be installed, and two crane pads would be constructed on the north and east sides of the existing shaft house building. The new roof would be a steel-framed, truss-supported, light weight composite metal/foam-filled panel roof deck colored to match the natural grey color of the existing concrete roof.

The construction period for valve replacement is estimated at approximately 6 months; the specific year of installation has not been determined. Necessary construction equipment would include:

- In GLR - cofferdams, two barge-mounted pumping stations, and floating aluminum docks
- Earthmoving and related equipment - bull dozers, tracked excavators, motor graders, backhoes, motor scrapers, man-lifts, material handlers, fork-lifts, fuel trucks, and cranes
- Tunnel ventilation equipment - electrical generators, air-compressors, and electric blowers
- Drilling and dewatering equipment - trash pumps, track-mounted auger drill rigs
- Concrete equipment - cutting saws, pressure-grouting pumps (trailer-mounted), ready-mix concrete delivery trucks, concrete boom pumps, vibratory smooth drum rollers, dump trucks, rock crushers, classifiers, and vibratory rock screens
- Transportation equipment - flat-bed trailers, low-boy trailers, tractor trailers, dump trucks and pony-trailers
- Other equipment - water trucks for dust control, steel roll-off containers, trash dumpsters, light plants, and security fencing

1.4.6 Reservoir Operation during Construction

During construction of the proposed project, temporary modification of Rush Creek peak SEFs may be necessary, depending on year-type. If such temporary modification is required, outflows will be operated on a State-approved flow variance.

1.4.7 Additional Export

To offset the capital cost of constructing the spillway modification, the proposed Licenses include a provision allowing LADWP to export an additional 12,000 af (in addition to the exports outlined in D1631) of water from the Mono Basin. This additional export would be allowed when Mono Lake is at or above 6,380 and below 6,391 ft amsl, when exporting the additional water would not affect compliance with minimum stream flows and GLR storage requirements, and in increments specified in the proposed Licenses associated with achieving spillway modification milestones. Note that the GBUAPCD air quality model predicted that a 6,391 ft amsl lake level would bring the Mono Basin into attainment for PM_{10} but that D1631 set a management level 1 foot higher (6,392 ft amsl).

The eSTREAM model was used to assess the implications of this additional export beyond the annual 16,000 af maximum permitted export when Mono Lake is between 6,380 and 6,391 ft amsl, on the period of time necessary to attain post-transition lake levels based on historic hydrology (Appendix E). These additional exports were examined with the eSTREAM model and have been shown to not significantly increase the transition time to a Mono Lake elevation of 6,391 feet amsl. Using the eSTREAM model with a starting elevation of 6,382.6 feet amsl (April 1, 2020 elevation), average simulated transition times without the 12,000 af export volume ranged from a minimum of 5 years to greater than 40 years (3 of the 40 runs failed to achieve transition) with an average of 22 years (**Table 4**). Including the 12,000 af export volume, simulated time to transition ranged from a minimum of 6 years to greater than 40 years (4 of the 40 runs failed to achieve transition) with an average of 22 years (**Table 4**). The average time to transition was simulated to increase by a few months.

While the full 12,000 af of additional export is achieved in 28 out of the 40 sequences (approximately 70 percent of the time), available water constraints result in less than the full volume in 12 of the 40 sequences with a minimum export of approximately 8,300 af in one simulation sequence. In these cases, full export volume would not be achieved due to system and operational constraints, such as insufficient storage in GLR to meet storage targets and exports simultaneously. If the full export volume cannot be reached during a certain year due to operational constraints, LADWP would account for the remaining export quantity during future feasible year(s).

Table 4
Average and Minimum Number of Years to Achieve Transition (6,391 ft) and Number of Sequences where Transition did not Occur with and without Additional 12,000 af of Export

	Without Additional Export	With Additional Export
Average Number of Years:	22	22
Minimum Number of Years:	5	6
# of Runs When Transition Did Not Occur	3	4

Source: Watercourse, 2020 (Appendix E)
Notes: Statistics based on a 40-year (1980-2019) simulation run, that was repeated 40 times with a starting year from 1980, 1981, 1982, etc. up to 2019. When starting in years after 1980, the hydrology was "wrapped," e.g., a 1983 starting year model run used hydrology from 1983 to 2019 and then 1981 and 1982 were added on to the end.
* 3 of the 40 years simulated did not achieve transition in the Without Additional Export Case, and 4 of the 40 years simulated did not achieve transition for the With Additional Export Case.

1.4.8 Monitoring and Adaptive Management

The Licenses would require LADWP to establish and fund the Mono Basin Monitoring Administration Team (MAT), with members from CDFW, Mono Lake Committee, California Trout (with respect to the stream monitoring and restoration program only), and LADWP. The proposed Licenses require the MAT to adopt and implement budget and governance procedures, and include provisions granting SWRCB oversight over MAT activities.

Monitoring activities would include: fisheries sampling, pool and habitat type surveys, water temperature monitoring, geomorphic monitoring, waterfowl population monitoring, Mono Lake limnology, and vegetation monitoring. Additional adaptive monitoring recommendations may include the establishment of a continuous stream gaging station on lower Rush Creek and reopening and maintaining side-channels of Rush Creek and Lee Vining Creek, as feasible. An annual report documenting operations and the findings from monitoring and surveying would be submitted to SWRCB.

Based on the results of the monitoring program, recommendations for adaptive management of the flow deliveries may be made. Monitoring data would be used to improve the understanding of how best to manage flows to continue the restoration process and maintain beneficial conditions on the creeks. Adaptive management may modify the flow requirements in regard to start or end dates, duration, magnitude, or ramping rate of a hydrograph component, or specify the timing or magnitude of a flow release. Adaptive management would not materially increase the volume of water needed to meet the flow deliveries, reduce allowable export, or increase LADWP's operational costs.

Mono Basin Operations Plan (MBOP). The MBOP, which describes the operations of all of LADWP's Mono Basin facilities, would replace the GLOMP required by Order 98-05. The MBOP would be based on the GLOMP, provide guidelines for the development of Annual Operation Plans, and develop new GLR storage criteria as needed to be consistent with the Licenses. An Annual Operations Plan would be developed to specify the operation of Mono Basin facilities to reliably release flow requirements based on water year type. An Annual Monitoring Report would be prepared.

Mono Lake Elevation Modeling and Calibration. In D1631, the SWRCB noted that the record indicates that an average Mono Lake water elevation of 6,391 ft amsl is consistent with protection of public trust resources including: air quality in the Mono Basin; water quality in Mono Lake; the Mono Lake brine shrimp and brine fly which provide food for migratory birds; secure, long-term nesting habitat for California gulls and other migratory birds; easily accessible recreational opportunities for the large number of visitors to the Mono Lake Tufa State Reserve; and the panoramic and scenic views which attract many people to the Mono Basin. D1631 noted that if the lake has not reached 6,391 ft amsl elevation by September 28, 2014, the SWRCB will hold a hearing to consider the condition of the lake and the surrounding area, and to determine if further revisions to LADWP's Licenses are appropriate. The Settlement Agreement set the hearing date at September 28, 2020. Mono Lake has not reached the 6,391 ft amsl target elevation to date and a hearing has not been held.

Mono Lake elevation, and changes in elevation, are largely a reflection of basin hydrology and climatology. Drier conditions lead to lake elevation recessions, and wetter conditions typically lead to increases in lake elevation. The link between climate variability and surface-elevation changes on Mono Lake is well-documented in scientific literature, with numerous studies describing the history of lake-elevation fluctuations on Mono Lake in response to long-term climate fluctuations (Bacon et al., 2018; Stine, 1994; Mensing et al., 2008; Cook et al., 2010). The published literature supports a link between the elevation of the shoreline of Mono Lake and regional trends in precipitation and temperature. For example, from 1700 to 1941, changes in the hydrologic balance of Mono Lake are well correlated with snowpack levels in the Sierra Nevada Range (Benson et al., 2003). Additionally, fluctuations in the shoreline between ~850-1250 correlate with temperature and aridity fluctuations occurring during the Medieval Climate Anomaly (Stine, 1994). Farther back in time, the Marina low stand of Mono Lake (~143; Stine 1990) corresponds to the Late Holocene dry period (~850 BCE -100 CE; Mensing et al., 2013). Therefore, it is likely that the current shoreline fluctuations are strongly affected by recent trends in precipitation and temperature. The precipitation records from the Great Basin area show that the years preceding the diversion of water from Mono Lake by LADWP were generally wetter than average (Cook et al., 2004, using Western Regional Climate Center data), which would have influenced the shoreline and created a local high stand. However, recent droughts (e.g., from 2001-2004, 2007-2010, and 2012-2016) coupled with higher average temperatures (up to 4°F higher on average compared to the 1940s) favor conditions that would create a local low stand of the Mono Lake shoreline.

Mono Lake has risen 8 feet since D1631, and per the SWRCB, rising lake levels continue to protect public trust resources balanced in D1631. The Settlement Agreement noted that Mono Lake will continue, on average, to rise towards 6,391 feet amsl, and the trend in lake level remains within the ranges previously forecast by the SWRCB for this transition period.

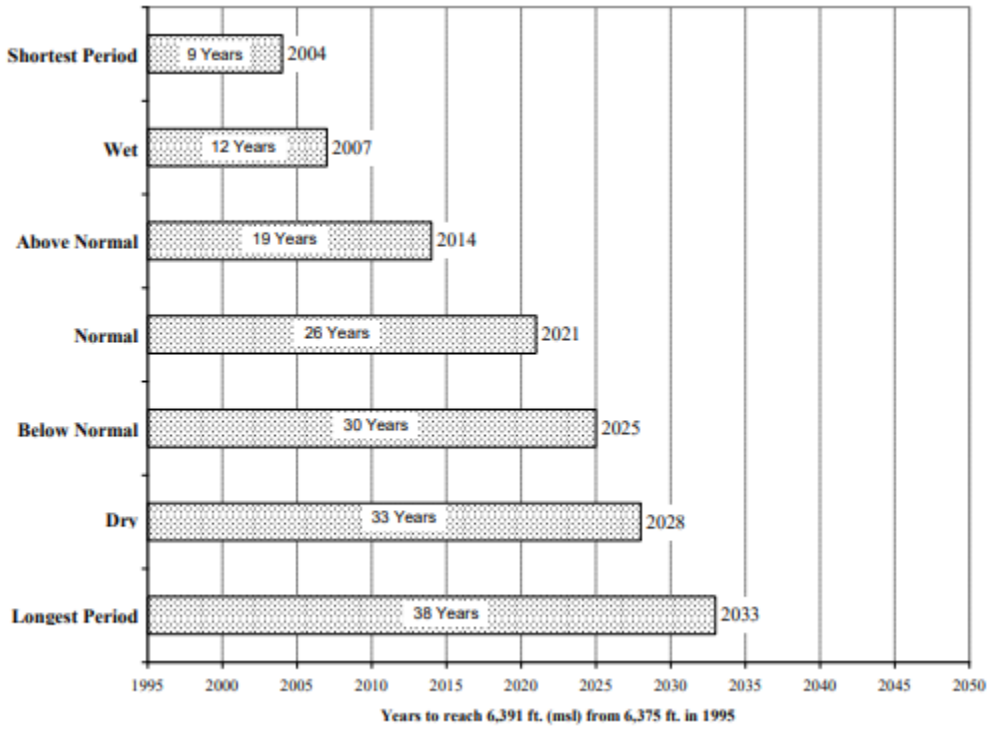
To improve the understanding of forecasting Mono Lake surface elevation, Watercourse Engineering conducted a suite of studies to address questions regarding Mono Lake elevation and associated export (Appendix E):

- Revisiting the Los Angeles Aqueduct Monthly Program (LAAMP) model used in developing the 1994 Mono Basin EIR for D1631 - The LAAMP assessment provides insight into the time to transition estimate based on the D1631 EIR analyses given that Mono Lake is approximately halfway to the transition elevation of 6,391 ft amsl after more than 25 years.
- Updating the regression equations used to forecast Mono Lake surface elevations in the eSTREAM model (previously updated in 2017).
- Using eSTREAM to update the analysis of Mono Lake elevation effects with additional export of 12,000 acre-feet as defined in the Settlement Agreement.
- Assessing long term exports and Mono Lake elevations under post-transition conditions.

As documented in Appendix E, Mono Lake elevation is influenced by starting lake elevation, hydrology, and order of hydrology. Different starting lake elevation, all other processes being constant, has a direct impact on time to transition. Lower lake elevations result in longer times to transition. Since 1993, Mono Lake elevations have ranged from approximately 6,375 ft amsl to nearly 6,385 ft amsl. Mono Basin hydrology has a direct impact on lake elevations. During drier

and wetter years, lake elevations typically fall and rise, respectively. The severe drought of 2012-2015 resulted in a decline in Mono Lake of nearly 6 feet, effectively extending the time to transition. Finally, year order has direct impacts on time to rise to transition as identified in the eSTREAM modeling. If a hydrologic time series commences with a dry period, the time to transition can be longer; the converse occurs for hydrologic time series starting with wet periods (Appendix E). Thus, while **Figure 7** was a useful guide for resource managers in 1995, the diagram has limited applicability due to the variability of other conditions (i.e., different starting elevation, different hydrologic conditions).

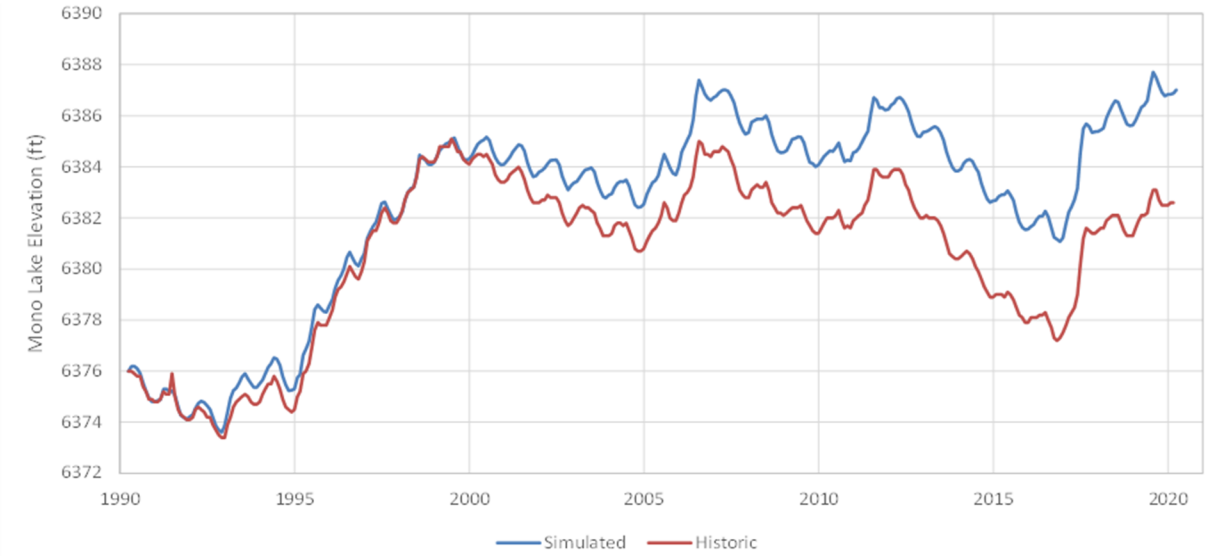
Figure 7
Years to Attain the Mono Lake Transition Elevation of 6,391 ft amsl for Varying Hydrologic Conditions Based on a 1995 Starting Elevation of 6,377.8 ft amsl



Source: LADWP, 1996b

Forecasts of the 1990 to 2020 period using the Mono Lake water balance equations in the LAAMP anticipate a lake level that is approximately 4.6 ft higher than actual historic levels (**Figure 8**). Appendix E identifies the potential for groundwater storage conditions to play an important role in transition time of the lake from lower to higher elevations. Further, LAAMP did not examine potential uncertainty in precipitation assumptions (e.g., that Cain Ranch precipitation rates are representative of precipitation onto the Mono Lake surface), evaporation assumptions (e.g., that the 48-inch per year average rate of evaporation from Mono Lake is representative of evaporation from the surface of Mono Lake), or other assumptions associated with hydrology information used in the water balance equations. These variables are likely to account for the discrepancy between forecast and historic elevations at Mono Lake according to LAAMP.

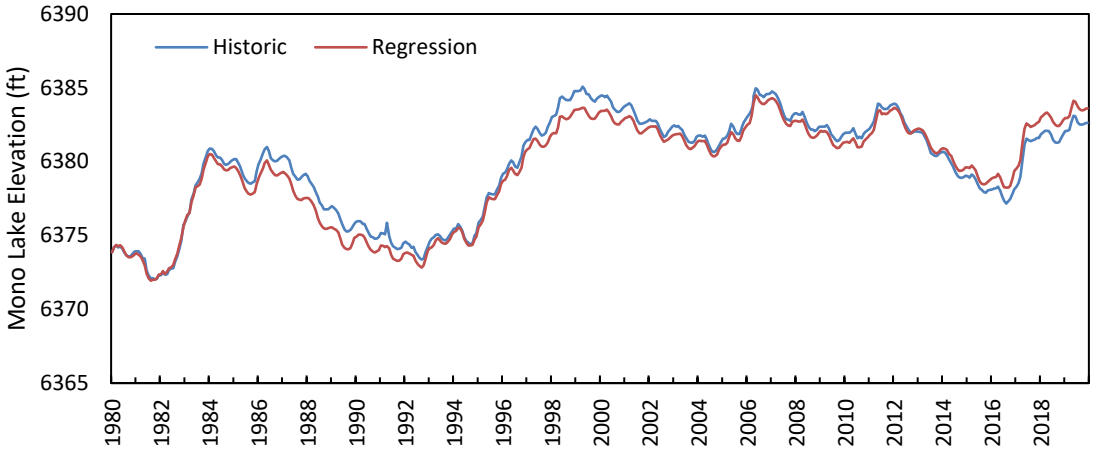
Figure 8
Simulated LAAMP (blue) and Historic (red) Mono Lake Water Surface Elevation (RY1990 to RY2019)



Source: Watercourse, 2020 (Appendix E)

Updated eSTREAM modeling with calibrated regression equations indicates that the time to transition from the current (April 1, 2020) elevation of 6,382.6 ft amsl ranges from as short as 6 years to more than 40 years with an average time to transition of 22 years (**Table 4**). The comparison between historic and forecasted Mono Lake water surface elevation using the updated regression equations is depicted in **Figure 9**. Over the course of the 40 years, the average difference between the calculated elevation and the historic elevation was 0.37 ft, and at the end of the 40-year simulation period, the calculated elevation was approximately 1.0 ft higher than the historic.

Figure 9
Comparison of Predicted (monthly regression equation, 1980 to 2019 data set) versus Historic Mono Lake Elevations



Source: Watercourse, 2020 (Appendix E)

The updated eSTREAM model (extended to hydrology through runoff year 2019 and updated regressions) was used to simulate the License conditions to assess the implications of export volumes and Mono Lake elevation in a post-transition environment (Appendix E). These results reflect averages of 40-year simulations and indicate that the long-term export for the City is approximately 15,500 af per year for the Licenses (**Table 5**). This value is approximately 50 percent of the long-term export identified in D1631. The notable reduction is due in part to operational constraints (e.g., Grant Lake storage target) and the stream release schedule prescribed in the Synthesis Report, updated Mono Lake forecasting equations, and use of the latest hydrologic data (e.g., 1990-2020) in eSTREAM. As described in Appendix E, updated eSTREAM modeling under the terms of the proposed Licenses estimates that during the forecasted 40 years following attainment of the transition elevation, the target surface elevation of 6,391 feet amsl on Mono Lake would be met, on average, only one year in four (**Table 5**).

Table 5
Average Export and Mono Lake Elevation Metrics for Simulated License Conditions using eSTREAM

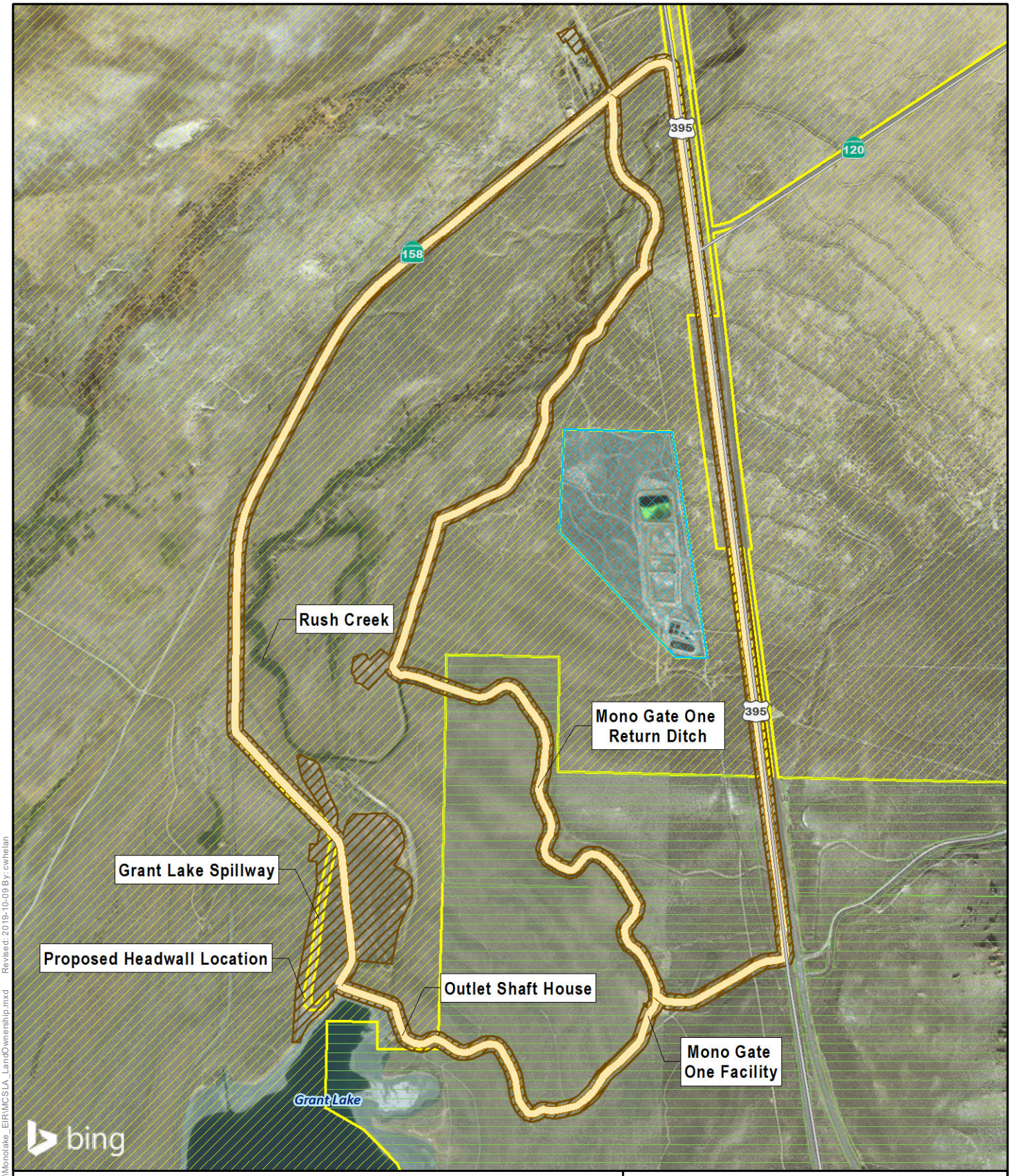
Metric	Value
Average Export[1] (TAF)	15.5
Avg # of Years with Export[2]	28.2
Average Median Export[3] (TAF)	10.0
Average Elevation[4] (ft msl)	6,389.4
Maximum Elevation[5] (ft msl)	6,396.3
Minimum Elevation[6] (ft msl)	6,383.1
Median Elevation[7] (ft msl)	6,389.1
Percent of Months ≥ 6,391 ft msl[8] (%)	25

[1] Average export is the average of the 40 years in the wrapped eSTREAM simulation. For the License Conditions scenario, the maximum annual export in any one year was approximately 74.5 taf.
[2] Average number of years (out of 40) that total annual export is greater than zero
[3] Average median export is the median values form the 40 years in the wrapped eSTREAM simulation.
[4] Average of the wrapped run averages (i.e., average of the 40 average values)
[5] Maximum elevation across all 40-wrapped runs
[6] Minimum elevation across all 40-wrapped runs
[7] Average of the wrapped run medians (i.e., average of the 40 median values)
[8] Average percent of months above 6,391 ft msl (i.e., average of the 40 values for percent of months for each year)

1.5 PLANS AND POLICIES APPLICABLE TO THE PROJECT

The spillway is located on City of Los Angeles-owned lands within Mono County. The MGORD and some of the access roads to the site are on USFS property (**Figure 10**). The Mono County General Plan maps the spillway area as Open Space (OS), portions of the access roads and MGORD as Resource Management (RM), and other portions of the roads and MGORD as Public and Quasi-Public Facilities (PF). The streams cross lands designated as OS, RM and PF. In Mono County, the General Plan and Zoning Code have been combined into one document. The relevant land use designations are defined as follows:

> **OS** - The "OS" designation is intended to protect and retain open space for future generations. These lands may be valuable for resource preservation (e.g., visual open space, botanical habitat, stream environment zones, etc.), low intensity recreational uses, mineral resources, or other reasons.
>
> **RM** - The "RM" designation is intended to recognize and maintain a wide variety of values in the lands outside existing communities. The RM designation indicates the land may be valuable for uses including but not limited to recreation, surface water conservation, groundwater conservation and recharge, wetlands conservation, habitat protection for special status species, wildlife, habitat, visual resources, cultural resources, geothermal or mineral resources. The land may also need special management consideration due to the presence of natural hazards in the area (e.g., avalanche-prone areas, earthquake faults, flood hazards, or landslide or rockfall hazards).
>
> **PF** - The "PF" designation is intended to provide for a variety of public and quasi-public facilities and uses.



Mono County Parcel Land Ownership
LADWP Provided, 2014

- Potential Construction Disturbance Area
- June Lake Public Utilities District
- LADWP
- US Forest Service
- Potential Travel Route

N

0 750 1,500 Feet

Date: 10/9/2019

TITLE:

Figure 10.
Land Ownership

PROJECT:
Mono Basin Water Rights Licenses Project

LA DWP Los Angeles Department of Water & Power

Stantec

V:\1858\active\185865176\gis_MXDs\Monolake_EIR\MCSLA_LandOwnership.mxd Revised: 2019-10-09 By: cwhelan

1.6 PROJECT APPROVALS

Permits, approvals and notifications for the Project construction and operation are anticipated to include:

- Amendments to Water Licenses 10191 and 10192 would be obtained from the SWRCB.
- Improvement and access on roadways and temporary pipeline re-routing on federal lands may require federal approval. LADWP will coordinate with USFS regarding a Special Use Permit, as relevant.
- LADWP will coordinate with the DSOD regarding required permits and/or design approvals.
- Depending on the jurisdictional status of waterbodies present onsite, a Streambed Alteration Agreement per Section 1602 of the Fish and Game Code may be sought from the CDFW.
- Depending on the jurisdictional status of waterbodies present onsite, a Clean Water Act Section 404 Permit from the U.S. Army Corps of Engineers may be required. Any such permit may be subject to water quality certification under Clean Water Act Section 401 and associated Waste Discharge Requirements, to be issued by the Lahontan Regional Water Quality Control Board.
- Construction of the spillway modification would 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 (Adopted Order 2009-0009-DWQ, as amended by 2010-0014-DWQ and 2012-0006-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.
- Transportation of heavy construction equipment and/or materials, which requires the use of oversized-transport vehicles on State highways, will require a transportation permit from the California Department of Transportation (Caltrans). Caltrans will also be notified of any work, proposed closures or traffic control on state roadways.
- Mono County will be contacted and notified of work proposed for roads under County jurisdiction.

Under CEQA, public agencies (other than the lead agency) with discretionary approval over a project are responsible agencies.

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
☒ Cultural Resources, Tribal Resources	☐ Mineral Resources	☐ Utilities and Service Systems
☐ Energy	☐ Noise	☐ Wildfire
☒ Geology and Soils		☒ 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: Nadia J Pam for Title: Manager of Environmental Planning and Assessment

Printed Name: Charles C. Holloway Date: 10-26-2020

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
Except as provided in Public Resources Code Section 21099, 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 public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	☐	☐	☒	☐
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☒	☐

Discussion: GLR is located on the eastern slope of the Sierra Nevada Mountains, at elevations ranging from 6,800 to 7,200 ft amsl. The project area is bisected by the Rush Creek drainage, which is bordered by steep-walled moraines.

a) and c) **Less than Significant Impact**. Existing views of the spillway construction site are of the reservoir and spillway, Rush Creek, local roads and the existing MGORD. The area is vegetated with two basic vegetation community types - sagebrush scrub and willow riparian. Portions of the project construction area are included in the Inyo National Forest administered by the USFS. The Land Management Plan for the Inyo National Forest designates the portion of the MGORD on federal land as having High scenic integrity objectives (USDA, 2019; Figure 7). Mono Lake is within a designated national scenic area in the Inyo National Forest.

The project construction area has been previously disturbed for construction of the GLR dam, installation of the MGORD, installation of utility lines, and construction of roadways. **Figure 11** includes photographs of the project construction area. Additional photographs are included in the Biological Resources Technical Report - Appendix C.

U.S. Highway 395 is located approximately 1 mile east of the GLR spillway. Based on the ground surface elevations, observers along U.S. 395 would not have views of the spillway or the potential construction disturbance areas. State Route 158 (the June Lake Loop) is located approximately 800 ft west of the Spillway; the seasonally available road continues south, immediately adjacent to the reservoir on the west side.

Visual Impacts During Construction. Construction activities for the spillway modification would include soil excavation, transport and relocation; embankment improvements, concrete work, gate installation and installation of power poles and the control building; and dewatering and concrete work needed for the roto valve replacement. Views of the project site during construction would include up to approximately 20 to 31 workers and approximately 40 vehicles/equipment – primarily tractors, backhoes, light duty trucks, and concrete trucks.

Visual Impacts During Operation. Once project facilities are installed, the changes in the views of the site would be the modified spillway (see **Figure 5** for a photograph of a Langemann® Gate), vegetated soil stockpile locations, five new power utility poles and the small control building.

There are no residential homes or permanent residents with views of the project area. Once the project is completed, views of the site from State Route 158 would be substantially the same as existing conditions. The addition of five additional utility poles, minor land modifications related to the soil stockpile locations and embankment raising, and the installation of the gates on the spillway would alter but not substantially degrade the scenic nature of the project area; the impact would be less than significant on the visual character of the project site.

b) **Less than Significant Impact**. Scenic roadways are designated by the Bureau of Land Management (BLM), Inyo National Forest, Caltrans, and the Federal Highway Administration. In Mono County, 101 miles of Hwy 395 are designated as State Scenic Highway – from the Inyo County line to south of the town of Walker. The stated intent of the California Scenic Highway program is to protect and enhance California's natural beauty and to protect the social and economic values provided by the State's scenic resources (Streets and Highway Code Section 260). Highway 395 is an officially designated State Scenic Highway in the project area (Caltrans, 2011). State Route 158 in the project area is an eligible State Scenic Highway that is not officially designated (Caltrans, 2011). Highway 395 and State Route 158 are also listed as part of the Mono County Scenic Highway System (Mono County, 2001). Observers along U.S. 395 would not have views of the spillway or the potential construction disturbance areas. Views from State Route 158 would be altered for the duration of the construction activity. The temporary impacts of construction activity on views from a County scenic highway (State Route 158) would be less than significant.

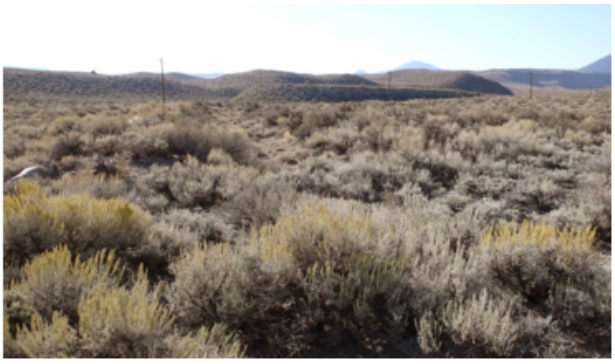
The Lee Vining Canyon national forest scenic byway has been administratively designated along Highway 120, stretching between Highway 395 (at 6,781 ft in elevation near the town of Lee Vining and Mono Lake) and the Yosemite Park entrance (USDA, 2019). Construction and operation of the proposed project would have no impact on this reach of Highway 120.

Lee Vining Creek, Parker Creek, Walker Creek, and multiple segments of Rush Creek are eligible Wild and Scenic Rivers due to their outstanding natural, cultural, or recreational values (USDA, 2019). Since the proposed project is intended to enhance the restoration of the creeks, the project would have no adverse impacts on the creeks' Wild and Scenic eligibility.

d) **Less Than Significant Impact.** Permanent lighting proposed under the project would be for maintenance, and for exterior lighting of the control building. This lighting would not be routinely used, but would be available for evening emergency maintenance needs and control building access. Construction activities would occur primarily in daylight hours; some limited use of lighting may be necessary in the early morning or evening hours. There are no plans for a 24-hour construction schedule. Since the proposed lighting would be of limited duration and confined to the specific area of construction, impacts on light that could affect day or nighttime views of the project area would be less than significant. Based on the distance from permanent residences and most drivers, impacts on glare would be less than significant.

Figure 11
Views of the Grant Lake Reservoir Spillway Project Area

Existing concrete spillway and access road, looking south, unlined spillway in background



Proposed staging area, looking southeast with spoils site in background

Grant Lake Dam (on left) and concrete spillway (on right), looking southwest from proposed staging area

Unlined spillway, looking northwest

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: The Mono County General Plan (2015) describes two goals related to agricultural and forestry: preserve and protect agricultural and grazing lands in order to promote both the economic and open-space values of those lands, and allow timber harvesting and fuelwood cutting on private lands consistent with the maintenance of recreational, scenic, and natural resource values.

a) **No Impact.** The Farmland Mapping and Monitoring Program (FMMP) does not include Mono County and there is no farming conducted on the project site. Therefore, the proposed project would have no impact on conversion of FMMP designated Farmland (California Department of Conservation, 2019).

b) **No Impact.** In Mono County, the General Plan and Zoning Code have been combined into one document. The existing (2015) Mono County General Plan designations of the project areas are Open Space, Resource Management and Public and Quasi-Public Facilities. Enacted in 1965, the California Land Conservation Act (Williamson Act) involves voluntary contracts between landowners and a city or county in which they agree to retain their lands in agriculture or other open space uses for a minimum of 10 years. The landowners receive property tax relief on the lands under contract. While Mono County has offered a Williamson Act program in the past, it is not currently accepting new Williamson Act contracts (Mono County, 2015). Therefore, the proposed project would have no impact on agricultural zoning or Williamson Act contracts.

c) and d) **No Impact.** 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. There are no timber production zones on the project site. A portion of the MGORD, and portions of the potential travel route for project construction are located on USFS property managed per the Land Management Plan for the Inyo National Forest (USDA, 2019) (**Figure 10**). Per the Land Management Plan Timber Suitability mapping, the area is Not Suitable (USDA, 2019, Figure 21). The project area is not used for timber harvest and the proposed site modifications would not alter existing use of the site. Since the project would not result in conversion of forest land to non-forest use, the project would have no impact on forest lands.

e) **No Impact.** The project would not require construction on or adjacent to forest harvest areas or farmlands, or change the use of the project site. Therefore, there would be no impact on agricultural operations from adoption and implementation of the Licenses, including construction and operation of the proposed spillway modification.

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) 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?	☐	☐	☒	☐
c) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	☒	☐

Discussion:

Mono Basin Attainment Status

Mono County is located within the jurisdiction of the Great Basin Unified Air Pollution Control District (GBUAPCD). Mono Basin has been designated by the State of California and the United States Environmental Protection Agency (EPA) as a "moderate" non-attainment area for PM_{10}, or particulate matter less than or equal to 10 microns in aerodynamic diameter. Particles of this size are roughly $1/10^{th}$ the diameter of a human hair and because of their small size are easily entrained into human lungs, adversely affecting the health of sensitive individuals. The federal 24-hour average PM_{10} standard is 150 micrograms per cubic meter. Three PM_{10} monitors are currently operating within Mono Basin: one at Mono Shore and two monitors in the town of Lee Vining (GBUAPCD, 2019).

Mono Basin is currently in attainment (or unclassified) for all other National Ambient Air Quality Standard (NAAQS) pollutants, including: carbon monoxide, lead, ozone, nitrogen dioxide, and sulfur dioxide. Large industrial sources of air pollutants are absent from Mono County.

Mono Basin Dust Sources

One of the dust sources that continues to influence Mono Basin's non-attainment status for PM_{10} is the exposed north shoreline of Mono Lake (North Beach). PM_{10} emissions from this source directly influence the adjacent Mono Shore monitor. Between 2000-2017, an average of 15 violations per year of the federal PM_{10} standard were recorded at that location (GBUAPCD, 2018). North Beach is not the only source of windblown dust within Mono Basin. Other sources include: Paoha Island[1], other exposed shorelines around Mono Lake, vegetated and unvegetated dunes

[1] Paoha Island is a volcanic island within Mono Lake, rising 288 feet above the current lake stand and composed of highly emissive (former) lake bottom sediments capping a volcanic dome that was pushed up by a series of volcanic eruptions in the 17th century (https://www.usgs.gov/volcanoes/mono-lake-volcanic-field/paoha-and-negit-islands-mono-lake-california).

formed during past high lake-stands, miles of sandy unpaved roads crossing the surrounding desert and circumnavigating the Mono Lake shoreline, and 26 square miles of barren or partially vegetated burn scars to the east and south of Mono Lake. All have been observed at one time or another to be emissive during high-wind events. None of these other sources are currently being monitored by GBUAPCD.

a) **Less than Significant Impact.** In 1995, the Mono Basin PM_{10} State Implementation Plan (SIP) was adopted by the GBUAPCD and the State of California to comply with the requirements of the 1990 federal Clean Air Act (GBUAPCD, 1995). In 2019, GBUAPCD voluntarily petitioned EPA to withdraw its unapproved 1995 SIP. Currently, GBUAPCD does not have a federally enforceable SIP for Mono Basin. An update on the Mono Basin federal PM_{10} nonattainment area is provided periodically by the Reasonable Further Progress Mono Basin PM_{10} SIP document (RFP); the latest progress update was published in May 2018 (Appendix B). According to the 2018 update, federal PM_{10} violations continue to be measured in the Mono Basin PM_{10} non-attainment area, and based on the RFP, Mono Basin is not currently meeting the reasonable further progress trend identified in the SIP. GBUAPCD's SIP identified Mono Lake level rise as the only feasible measure to reduce PM_{10} emissions [PM10 SIP Submittal for the Mono Basin (1995)]. According to GBUAPCD's most recent 2018 RFP, given that Mono Lake has not yet reached 6,391 ft amsl, "more restrictive measures may need to be implemented." GBUAPCD relies upon the SWRCB's commitment to a Mono Lake elevation hearing in the event that Mono Lake fails to reach elevation 6,391 ft amsl as a contingency measure to satisfy its air quality obligations under the SIP.

   Although GBUAPCD currently does not have a federally enforceable SIP for Mono Basin, the 1995 Mono Basin PM_{10} SIP (GBUAPCD 1995; withdrawn in 2019) is still the most relevant air quality plan for the project area. The focus of the 1995 SIP is maintenance of specific water level elevations at Mono Lake to reduce dust emissions along the north shoreline. The SIP demonstrates how the NAAQS will be attained and claims that raising the lake level to a target elevation of 6,391 ft amsl would submerge or wet most of the exposed lakebed areas that were believed to produce the majority of windblown dust emissions. D1631 amended the City's Water Rights Licenses in the Mono Basin to require an increase in the surface level of Mono Lake to 6,391 ft amsl to, among other goals, meet clean air standards by submerging sources of windblown PM_{10}. Since development of the SIP, lake level has fluctuated between 6,378 and 6,384 ft amsl and has not met the transition water level elevation of 6,391 ft amsl (Mono Basin Clearinghouse, 2020). Based on eSTREAM modeling, additional export of up to 12,000 af, as included in the Licenses, would not substantially impact the time it takes for Mono Lake to reach 6,391 ft amsl. The average time it takes to reach transition is estimated at approximately 22 years for both the Without Additional Export Case (no additional export of 12,000 af) and the With Additional Export Case (Appendix E). As described in Appendix E, updated eSTREAM modeling under the terms of the proposed Licenses estimates that during the forecasted 40 years following attainment of the transition elevation, the target surface elevation of 6,391 feet amsl on Mono Lake would be met, on average, only one year in four (Table 5).

Because the project would not conflict with or otherwise obstruct management of Mono Lake water level elevations, the project is consistent with the applicable air quality plan. Project-related impacts on the applicable air quality plan would be less than significant.

b) **Less than Significant Impact.** Emissions associated with adoption and implementation of the Licenses would result from construction of the spillway modification and then later from the replacement of the roto valve. Construction equipment during the period with the greatest amount of construction activity (spillway modification) is anticipated to include: trucks, dozers, a backhoe, rollers, loaders, a crane, forklifts, excavators, hydraulic breakers, generators, and workers' personal vehicles. **Table 6** summarizes worst-case, peak-day emissions estimates for the heaviest period of construction activity, assumed to be during Year 2 of construction.

The GBUAPCD has not established specific quantitative thresholds of significance for air emissions related to construction. However, projects that violate the NAAQS for PM_{10} are deemed unacceptable.

Construction activities would result in tailpipe emissions of criteria pollutants and dust emissions from earth work and vehicle travel, including travel on unpaved areas. Consistent with GBUAPCD Rule 401 (Fugitive Dust), LADWP would take reasonable precautions to prevent visible particulate matter from being airborne, under normal wind conditions, beyond the property during construction. These precautions would include, but not be limited to, using a water truck during project construction to control dust from active excavation areas, soil stockpiles and unpaved roadways. With dust control during project construction, emissions would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region in is nonattainment under an applicable federal or state ambient air quality standard. Therefore, air pollutant emissions during construction would be less than significant.

Operation of the project would include infrequent travel to the site by LADWP and others for spillway maintenance and stream monitoring. Minor tailpipe emissions and travel on unpaved roadways would result. As described above, based on eSTREAM modeling, export of an additional 12,000 af of water, above and beyond the annual 16,000 af maximum permitted export when Mono Lake is between 6,380 and 6,391 feet amsl, would not substantially impact the time it takes for Mono Lake to reach 6,391 feet amsl (the transition water level elevation) (Appendix E). Therefore, operations-related air pollutant emissions would be minor and less than significant.

c) **Less than Significant Impact.** Sensitive receptors include schools, day-care facilities, nursing homes, and residences. The closest sensitive receptors to the project site are temporary residences at the campground near GLR Marina (located approximately 2 miles south of the spillway). As noted above, construction of the spillway modification and replacement of the roto valve would necessitate use of construction equipment and vehicles. However, given the distance of temporary receptors to the proposed project site, the impact from gas and diesel fumes associated with vehicles and heavy equipment engines would be less than significant.

d) **Less than Significant Impact.** Project construction and operation would result in minor localized odors associated with fuel use for equipment and vehicles. These odors are common,

not normally considered offensive, and would not be experienced by any residences since none are immediately adjacent to the project site. Odor impacts to potential recreation visitors near the project site during construction activities would be temporary and less than significant.

Table 6
Summary of Estimated Worst-Case Peak Day Construction Emissions

Emissions Source (on-road vehicles)	Vehicle Type	No.	Est Max miles per day	Emission Factor (g/mi) [1]						Estimated Peak Day Emissions (lbs/day)					
				ROG	CO	NOx	PM10	PM2.5	SOx	ROG	CO	NOx	PM10	PM2.5	SOx
Pickup Truck	LDT2	6	10	0.025353	1.177686	0.135317	0.001756	0.001615	0.003597	0.0034	0.1558	0.0179	0.0002	0.0002	0.0005
Dump Truck	HHDT	3	10	0.068858	0.328416	3.282715	0.049553	0.047409	0.013138	0.0046	0.0217	0.2171	0.0033	0.0031	0.0009
Water Truck	HHDT	2	10	0.068858	0.328416	3.282715	0.049553	0.047409	0.013138	0.0030	0.0145	0.1447	0.0022	0.0021	0.0006
Workers Personal Vehicles [3]	LDA	30	100	0.013889	0.767798	0.055504	0.00168	0.001544	0.002778	0.0919	5.0781	0.3671	0.0111	0.0102	0.0184
Emissions Source (construction equipment)	**No.**	**Est Max hrs of use per day**	**Emissions Factor (tons/day) [2]**						**Estimated Peak Day Emissions (lbs/day)**						
			ROG	CO	NOx	PM10	PM2.5	SOx	ROG	CO	NOx	PM10	PM2.5	SOx	
Backhoe	1	8	0.000537	0.006719	0.005497	0.00032	0.000294	9.28E-06	1.07	13.44	10.99	0.64	0.59	0.02	
Dozer	2	8	8.68E-05	0.000688	0.000916	4.09E-05	3.76E-05	8.77E-07	0.35	2.75	3.66	0.16	0.15	0.00	
Excavator	2	8	0.000124	0.000947	0.001142	3.84E-05	3.53E-05	4.27E-06	0.50	3.79	4.57	0.15	0.14	0.02	
Roller	2	6	4.27E-05	0.000432	0.000436	2.66E-05	2.44E-05	6.05E-07	0.13	1.30	1.31	0.08	0.07	0.00	
Loader	2	8	0.000537	0.006719	0.005497	0.00032	0.000294	9.28E-06	2.15	26.88	21.99	1.28	1.18	0.04	
Forklift	2	8	2.04E-05	0.000218	0.000184	1.24E-05	1.14E-05	3.51E-07	0.08	0.87	0.74	0.05	0.05	0.00	
Crane	1	8	3.75E-05	0.000265	0.000383	2.05E-05	1.89E-05	3.68E-07	0.07	0.53	0.77	0.04	0.04	0.00	
Hydraulic Breaker	2	8	2.86E-05	0.000151	0.000139	1.08E-05	9.96E-06	1.54E-07	0.11	0.60	0.56	0.04	0.04	0.00	
Generator	2	8	0.000592	0.007462	0.004933	0.000322	0.000296	1.05E-05	2.37	29.85	19.73	1.29	1.18	0.04	
Total									**6.9**	**85.3**	**65.1**	**3.8**	**3.5**	**0.1**	

LDA: passenger vehicles, HHDT: heavy-heavy-duty trucks; LDT2: light duty trucks

[1] CARB. 2017a. Scenario Year 2021.

[2] CARB. 2017b. Scenario Year 2021.

[3] Average mileage per worker assumes 50 percent of workers are from Mammoth Lakes (38 miles away) and 50 percent from Bishop (65 miles away).

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 Wildlife 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 Wildlife or U.S. Fish and Wildlife Service?	☐	☐	☒	☐
c) Have a substantial adverse effect on state or 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?	☐	☒	☐	☐

General Impact Discussion:

Ecological Project Purpose. The goal of the Mono Basin Water Rights Licenses project is to implement modifications to existing water rights licenses to enhance the ecological restoration of four Mono Basin streams tributary to Mono Lake. Flow regimes (baseflows, peaks and durations by water year type by stream) are prescribed by the proposed Licenses and are designed to balance various ecological functions. According to the Synthesis Report, implementation of the flow regimes defined by the Licenses would affect:

- Trout foraging habitat – Summer base flows in Lee Vining Creek of 15 to 30 cfs represent flows with abundant trout foraging habitat in primary pools and runs as well as pocket pool habitats.
- Benthic macroinvertebrate habitat – Lower summer temperatures in Rush Creek would increase the productivity of macroinvertebrates.

- Trout winter holding habitat – Lower winter base flows would improve trout winter holding habitat which would minimize stress to adult trout and thus improve winter survival.
- Trout fry habitat – Slow velocities favor trout fry, streamflows over 100 cfs provide mainstem channel margin and emergent floodplain inundation which provides backwater habitats for newly emerged fry.
- Trout spawning habitat – Large floods may scour or bury brown trout redds and displace holding fish (including brown and rainbow trout, juveniles and adults). Large floods impact trout recruitment, particularly for rainbow trout due to timing of redd emergence. Short-term impairment to trout recruitment would be outweighed by the need for floods to enhance mainstem channel morphology and build floodplains to sustain and enhance abundant, high quality foraging and winter holding habitat.
- Woody debris mobilization and debris jam formation – Flood peaks exceeding 500 cfs would create larger depositional features.
- Thermal conditions – Maintaining GLR at a higher elevation (storage) would facilitate snowmelt spills to Rush Creek and provide cooler summer water temperatures for trout.
- Riparian vigor, growth, and regeneration – Riparian vegetation within the active floodplain and along channel margins would continue to be sustained by the shallow groundwater supplied by streamflow; increased wetted channel bed width during spring ascension and snowmelt bench would increase the potential for riparian vegetation growth. Summer baseflow recommendations including recession rate requirements would benefit riparian vegetation.
- Groundwater recharge – Saturation of emergent floodplains would enhance vegetation recruitment during peak seed release periods and protect vigor of established riparian species.
- Off-channel spring/early-summer streamflow connectivity – Higher flows during this period would increase connectivity to sustain riparian growth and regeneration, and recharge shallow groundwater.
- Minor, intermediate and major geomorphic work, including delta building events – As terrace surfaces are eroded and the floodplain rebuilt, patches of desert vegetation will transition to contemporary riparian vegetation, whereas riparian vegetation on older floodplains may be stranded at higher elevations than the new contemporary floodplain.

Geomorphic Analysis Conducted by LADWP. Special Studies conducted by Geosyntec Consultants and Watercourse Engineering in 2018 and 2019, on behalf of LADWP, are summarized in Section 2.3.10 (Geosyntec, Stantec, and Watercourse Engineering, 2018, Appendix D). These studies were conducted to assess the potential for geomorphic changes in Rush Creek and Lee Vining Creek with implementation of the SEFs as compared with the SRFs. Streambed connectivity to floodplains, bank erosivity, bedload transport, bed scour, and streambed degradation were evaluated along with water temperature, hydrologic analysis of flow regimes (volume, frequency and duration), hydraulic analysis (inundation, velocity, depth, and shear stress), potential effects of climate change on flows and stream response. Watercourse Engineering developed simulated daily stream flows for the Mono Basin tributaries using the eSTREAM

program. These SRF and SEF simulated daily flows were integrated with the bedload rating curves. This resulted in computed geomorphic metrics for SRFs and SEFs.

Based on the results of these analyses, geomorphic conclusions include:

- Floodplain connectivity would be similar in Rush Creek under the SRFs and SEFs. SEFs would result in more floodplain connectivity than SRFs in Lee Vining Creek.

- Bank erosivity would be similar for SEFs and SRFs in both Rush Creek and Lee Vining Creek.

- In Rush Creek, bedload transport with the SEFs would be slightly higher than under the SRFs. Upper Rush Creek would be more resistant to incision, but Lower Rush would more susceptible to increased vertical instability under the SEFs since it possesses a less coarse substrate and has a limited sediment supply. In Lee Vining Creek, bedload transport would be higher under the SEFs than the SRFs.

- A sediment transport imbalance was noted in Rush Creek, illustrating that the vast majority of sediment moving through Upper and Lower Rush Creek is exported to Mono Lake. Therefore, net channel lowering and riparian stranding would be a primary consequence of increased peak flows. The vast majority of sediment moving through Lee Vining Creek is exported to Mono Lake as well with similar geomorphic and riparian responses.

- For both Rush and Lee Vining creek systems, the SEF flow regime would result in approximately 14 percent more bedload transport over the long-term, on average, than the SRF flow regime.

- In nearly all cases and scenarios evaluated, the long-term average potential for streambed degradation is greater under the SEFs than the SRFs. The evaluation of cross sections, longitudinal profiles, and the geomorphic change detection (GCD) data for 2017 illustrate that aggradation as a bed change processes is localized, and that degradation is the primary vertical reach-scale process. The implications of this finding are that existing riparian systems on floodplain surfaces would be separated farther from the riparian groundwater table with long-term bed degradation (a process acknowledged in the Synthesis Report) ultimately leading to a narrower riparian fringe. Headcut propagation would further complicate the riparian habitat connection to groundwater and these indirect impacts would be greater for the SEFs than the SRFs. Riparian groundwater response to changes in flow stage height have shown that even changes in stage of as small as 0.1 to 0.25 ft can lower the local groundwater between 2.15 ft (in fall) and 0.56 ft (in summer), respectively (McBain & Trush and RTA, 2010). Therefore, even a small change (e.g., tenths of a ft) in average bed elevation through degradation could potentially negatively impact existing riparian vegetation and wetland systems through indirect impacts to groundwater access**.**

Rush Creek - The SEFs in general require higher peak flows and durations than the SRFs. Implementation of the SEFs would target stream physical processes that shape the existing habitats and sustain the riparian systems. Based upon the geomorphic modeling, the short-

and long-term outcomes of these processes would likely result in some accelerated vertical incision, especially in Reaches 4 and 5 where the riparian and fisheries resources are most sensitive. The physical incision of the stream channel due to increased capacity of the channel to transport more sediment due to higher peak flows would result in a local lowering of groundwater resources causing a narrowing of the riparian corridors primarily along the outer fringes and on terraces. Generally, the fisheries are anticipated to improve throughout the majority of the reaches, however physical habitat may be temporarily impacted by shifting channel locations, fine sediment, and lack of stable habitat. For example, the physical habitat continues to improve as demonstrated by recent pool and fisheries survey results following the 2017 peak flow. Reaches 2 and 3 are not expected to change much due to their very coarse channel bed materials (boulder, cobble, and gravel) and stable channel morphology and riparian habitat.

Lee Vining Creek - Under the SEF regime, Lee Vining Creek would have the potential for more summer snow-melt flood peaks in a given water year compared to the SRF regime. This change in peak flow frequency and snow-melt flood duration will result in more channel network changes including channel lowering due to increased stream power to transport sediment, extended durations of floodplain inundation, riparian area changes in coverage and vegetation patterns, and some negative impacts to fisheries due to reduced recruitment of juvenile trout (primarily Rainbow Trout). Under the SEFs, Lee Vining diversion rules would no longer cause rapid drops on the receding limbs of the hydrograph caused by LADWP diversions. SEF flows would reduce stranding and redd dewatering, resulting in an overall benefit to both Brown Trout and Rainbow Trout in Lee Vining Creek.

Fall and winter bypass flows on Lee Vining Creek are expected to minimize stress to adult trout and improve winter survival. Secondarily, the fall and winter bypass flows would enable a steady diversion of Lee Vining Creek streamflow into the conduit to maintain GLR at a higher winter to spring elevation in anticipation of achieving a full GLR for spill the following runoff year.

Other Evidence in the SWRCB's Hearing Record. The Synthesis Report and LADWP's Special Studies supplement extensive evidence in the SWRCB's hearing record, from 1993-2010, related to peak flows.

In the hearing that resulted in D1631, multiple witnesses testified that the peak flows that occurred in 1938, reaching 711 cfs in Rush Creek immediately below Grant Dam, resulted in benefits for the stream functionality. In D1631, the SWRCB anticipated increasing the requirement for a channel maintenance flow of 300 cfs in Rush Creek in Wet-Normal and Wet hydrologic years, as riparian vegetation matured thus increasing channel stability.

In its 1996 Steam & Stream Channel Restoration Plan, LADWP indicated it would release peak flows when it could do so without adversely affecting its Mono Basin water supply. Channel maintenance flows of up to 500 cfs in Extreme Wet year types were proposed to promote restoration of stream functionality (LADWP, 1996b). The year 1995 was an Extreme Wet hydrologic year, with a peak runoff on Rush Creek of 676 cfs on July 30 (LADWP, 1996b). The 1996 Stream & Stream Channel Restoration Plan found that such peak flows caused many benefits, including increased channel sinuosity, deposit of spawning gravels, colonization of riparian

vegetation, and activation of secondary channels (LADWP, 1996a). Order 98-05 approved peak flows of 500 cfs, subject to further study that the Stream Monitoring Team was directed to undertake.

Biological Surveys of the Grant Lake Reservoir Spillway Construction Area. LADWP conducted a Biological Assessment for the spillway construction area - approximately 43.5 acres between the GLR Spillway cut, the spillway channel down to the confluence with Rush Creek, the soil stockpile locations, and staging areas (LADWP, 2015a). In 2019, Stantec conducted additional field review in the area of proposed construction disturbance and prepared a Biological Resources Technical Report (Appendix C, Stantec, 2019) incorporating information from the 2015 report as updated by 2019 observed conditions. The Stantec survey considered a larger area, an approximately 706-acre Biological Study Area (BSA) including potential construction disturbance areas and a 300-ft buffer zone (Appendix C Figure 2).

a) **Less Than Significant Impact with Mitigation Incorporated.**

Records Search. Known occurrences of special-status species within the GLR area and a surrounding 10-mile buffer area were identified by searching the California Natural Diversity Database (CNDDB), the CDFW 2019 "Special Animals List," and the California Native Plant Society (CNPS) rare plant inventory (CNPS, 2019). The following 7.5 minute USGS quadrangles were considered: Koip Peak, Lee Vining, June Lake, Crestview, Mount Dana, Mono Mills, Mount Ritter, Mammoth Mountain and Old Mammoth. Additional data regarding the potential occurrence of special-status species and policies relating to these special-status natural resources were gathered from the following sources:

- State and federally listed endangered and threatened animals of California (CDFW, 2019b)
- List of California Sensitive Natural Terrestrial Communities (CDFW, 2018)
- Consortium of California Herbaria (CCH, 2019)
- Natural Resources Conservation Service (NRCS) Web Soil Survey (USDA NRCS, 2019)

Tables 3 and **4** of Appendix C summarize the sensitive species with potential to occur at the spillway construction site. The potential for special-status plant species to occur is based on proximity to previously recorded occurrences, onsite vegetation and habitat quality, topography, elevation, soils, surrounding land uses, habitat preferences, and geographic ranges. Each of the taxa identified in the record searches was assessed for their potential to occur within the BSA based on the following criteria:

Present: Taxa were observed within the BSA during recent botanical surveys or population has been acknowledged by CDFW, U.S. Fish and Wildlife Service (USFWS), or local experts.

High: Both a documented recent record (within 10 years) exists of the taxa within the BSA or immediate vicinity (approximately 5 miles) and the environmental conditions (including soil type) associated with taxa presence occur within the BSA.

Moderate: Both a documented recent record (within 10 years) exists of the taxa within the BSA or the immediate vicinity (approximately 5 miles) and the environmental conditions associated with taxa presence are marginal and/or limited within the BSA or the BSA is located

within the known current distribution of the taxa and the environmental conditions (including soil type) associated with taxa presence occur within the BSA.

Low: A historical record (over 10 years) exists of the taxa within the BSA or general vicinity (approximately 10 miles) and the environmental conditions (including soil type) associated with taxa presence are marginal and/or limited within the BSA.

Not Likely to Occur: The environmental conditions associated with taxa presence do not occur within the BSA.

2014 Field Surveys. In 2014, the project area was surveyed for potentially occurring special-status species, including federal- and state-listed species, species covered under the federal Bald and Golden Eagle Protection Act, and non-listed species, including species covered under the federal Migratory Bird Treaty Act, and California Fish and Game Codes. One pygmy rabbit (*Brachylagus idahoensis*) was observed on the access road adjacent to the existing spillway and sign for this species was observed in the spillway cut area. One Willow Flycatcher (*Empidonax traillii*) was seen below the dam in the willow riparian community, but no nest was found. Yellow Warblers (*Setophaga pelechia*) were seen foraging along Rush Creek near the confluence with the spillway channel. No nests were found, but they are common breeders in the area. The sagebrush community was densely populated with nesting birds, including Brewer's Sparrows (*Spizella breweri*). Approximately 20-30 California Gulls (*Larus californicus*) were observed flying over the project site. No other special status wildlife or vegetation species were observed.

2019 Field Survey. The 2019 biological resources assessment included a reconnaissance-level survey, non-protocol survey to detect the presence of special-status plant and wildlife species, and non-protocol avian survey to detect the presence of listed birds in the BSA on June 24, 2019.

Invertebrates and Gastropods. The reconnaissance-level survey of the BSA detected a variety of common and non-native invertebrates. Some of the orders identified included *Coleoptera* (beetles), *Diptera* (flies), *Lepidoptera* (moths and butterflies), *Hymenoptera* (wasps, bees and ants), and *Orthoptera* (grasshoppers).

Fish. While there are no fish native to the Mono Basin, multiple species have been introduced beginning in the 19th century (Mono Lake Committee, 2019). Historically, GLR and Rush Creek are known to support several fish species and are popular with anglers. Fish species known to occur include Rainbow Trout (*Oncorhynchus mykiss*), Lahontan Cutthroat Trout (*Oncorhynchus clarkii henshawi*), Brown Trout (*Salmo trutta*), Brook Trout (*Salvelinus fontinalis*), Tui Chub (*Siphateles bicolor snyderi*), and Threespine Stickleback (*Gasterosteus aculeatus*).

Amphibians. Amphibian species were not observed during the reconnaissance survey within the BSA and are not well documented in the area. The BSA is within the range of the Great Basin spadefoot (*Spea intermontana*), which is known to occur along the shores of Mono Lake and where there is sagebrush flat habitat suitable for the species.

Reptiles. Though weather conditions were favorable for reptile activity during the reconnaissance-level survey, none were observed. Although not detected in the BSA, suitable habitat conditions for common reptiles known to occur in the area are present. Reptiles likely

inhabiting the site include side-blotched lizard (*Uta stansburiana*), common sagebrush lizard (*Sceloporus graciosus*), gopher snake (*Pituophis catenifer*), and mountain garter snake (*Thamnophis elegans elegans*).

Birds. Osprey (*Pandion haliaetus*), Sage Thrasher (*Oreoscoptes montanus*), and Turkey Vulture (flyover) were observed during the 2019 survey. Other bird species known to inhabit the BSA include the yellow-rumped warbler (*Setophaga coronata*), bushtit (*Psaltriparus minimus*), dusky flycatcher (*Empidonax oberholseri*), northern rough-winged swallow (*Stelgidopteryx serripennis*), green-tailed towhee (*Pipilo chlorurus*), Brewer's sparrow (*Spizella breweri*), house wren (*Troglodytes aedon*), and the special-status species burrowing owl (*Athene cunicularia*) and greater sage grouse (*Centrocercus urophasianus*), both of which are CDFW SSC.

Mammals. Mammal species were not observed during the reconnaissance-level survey within the BSA; however, based on known occurrences in the area and the suitability of the habitat present on the site, several would be expected to occur. These include smaller mammals such as the least chipmunk (*Neotamias minimus*), golden-mantled ground squirrel (*Callospermophilus lateralis*), Belding's ground squirrel (*Urocitellus beldingi*), Audubon's cottontail (*Sylvilagus audubonii*), and black-tailed jackrabbit (*Lepus californicus*) and larger fauna such as mule deer (*Odocoileus hemionus*) and mountain lion (*Puma concolor*).

Plant Communities and Other Cover Types. Three vegetation cover types were mapped in 2019 in the BSA and two in the area of direct construction disturbance, in addition to areas that were already disturbed (Appendix C Figure 3). **Table 7** shows the acreage distribution of these communities in the BSA. Direct construction impacts would be anticipated for construction of the spillway, control building, West Side Road improvement, and power facilities. Additionally, spoil sites and equipment staging areas would be disturbed during construction (**Figure 6**). Direct construction impacts would occur on approximately 43.5 acres.

Land cover types of these areas are:

Sagebrush Scrub	34.79 acres
Willow	0.08 acres
Disturbed	8.62 acres

Mitigation Measure BIO-1 (worker environmental education program) will be implemented to avoid or minimize impacts on biological resources. To reduce construction-related impacts on currently vegetated areas, Mitigation Measure BIO-2 would be implemented to protect area topsoil and re-establish vegetated cover on disturbed areas.

Table 7
Vegetation Communities/Land Cover Types within the BSA

Land Cover Type	Acres within BSA
Vegetation Communities	
Artemesia tridentata Shrubland Alliance – Big Sagebrush	632.0
Salix exigua Alliance – Sandbar Willow Thickets	8.3
Eliocharis macrostachya Herbaceous Alliance – Pale Spike Rush Marshes	1.4
Land Cover Types	
Disturbed/Developed Land	62.0
Open Water	2.2

Sensitive Plant Species. Rare plants were not observed during the 2014, 2015, or 2019 field surveys for the project and none are known to be present. However, 1 rare plant species is considered to have high potential to occur in the BSA (Mono Lake lupine) and 22 species (including Booth's evening-primrose, Booth's hairy evening-primrose, and golden violet) are considered to have to have moderate potential to occur in the BSA (Appendix C Table 3). These species are listed by the CNPS as rare (mostly for lists 1 and 2), but none of these species is state or federally-listed as Threatened or Endangered. However, since plant distribution is impacted by water year type/weather and since conditions change over time, additional focused botanical surveys would be conducted prior to construction (mitigation measure BIO-3) to reduce potential impacts on sensitive plants to less than significant levels.

Sensitive Avian Species. The Migratory Bird Treaty Act (MBTA) and Sections 3503, 3503.5, and 3513 of the Fish and Game Code (FGC) protect the nests of essentially all bird species (native and non-native), including common species. Additionally, potential foraging habitat is present in the project area for several sensitive avian species, including one observed (Osprey) and three with high potential to occur in the project area (Willow Flycatcher, Yellow Warbler, and Brewer's Sparrow). With implementation of a pre-construction survey for active bird nests (Mitigation Measure BIO-4), project-related impacts on sensitive avian species would be less than significant.

Sensitive Mammal Species. Although no Threatened or Endangered animal species were observed during the 2014, 2015 or 2019 surveys, four sensitive mammal species have moderate potential to occur in the project region (Appendix C Table 4) and one, pygmy rabbit, has high potential to occur. The smallest members of the rabbit family in North America, pygmy rabbits have been observed in the project area and this species is considered likely to be present, although in low numbers based on surveys conducted in the area. To reduce impacts to this species from project construction, a pre-construction survey for active burrows would be conducted prior to the start of project construction (Mitigation Measure BIO-5). With avoidance of active burrows, impacts on sensitive mammal species would be less than significant.

Impacts Related to Invasive Species. Soils disturbed during project construction could degrade onsite habitat and render it vulnerable to colonization by invasive plant species, which could reduce the availability of suitable habitat for native plants through competition. Additionally, construction equipment used at the Project site has the potential to transport invasive aquatic species (e.g., quagga

and zebra mussels) to onsite waterways. With implementation of an invasive species prevention plan (Mitigation Measure BIO-6), impacts related to invasive species would be less than significant.

Summary of Impacts to Sensitive Species. The project site is potential habitat for several sensitive species. Implementation of mitigation measures BIO-1 through BIO-6 during project construction would reduce impacts to sensitive species to less than significant levels.

Additional water export included in the proposed Licenses would not substantially impact the time it takes for Mono Lake to reach 6,391 feet amsl (the transition water level elevation) (Appendix E) and therefore would not substantially impact sensitive species present at Mono Lake. The Licenses would provide a new funding mechanism for habitat restoration projects (e.g., stream channel maintenance and waterfowl habitat restoration), a beneficial impact. Continuation of monitoring programs as prescribed by the Licenses would be similar to existing conditions and would not adversely impact sensitive species.

b) and c) **Less Than Significant Impact**. Project Construction. The project area contains GLR, Rush Creek, Lee Vining Creek and the MGORD, a man-made conveyance constructed in the late 1930s. These are features that could potentially fall under federal jurisdiction (Clean Water Act Section 404 administered by the U.S. Army Corps of Engineers) as areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support wetland vegetation. However, since construction activity is not proposed directly in the creeks (construction vehicles would cross Rush Creek via a bridge) and since no work in the MGORD is proposed, potential construction impacts on wetland vegetation would be limited to sedimentation in the spillway channel. During construction of project facilities, construction vehicles would travel on existing roadways; adjacent wetland areas would not be impacted. Since site disturbance would exceed 1 acre, stormwater would be managed during construction 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 during construction activity would result in a less than significant impact to onsite surface waters.

Project Operation. As described above, the Synthesis Report concluded that operation of the project and implementation of the flow regimes set forth in the proposed Licenses would target the ecological enhancement of the four Mono Basin streams tributary to Mono Lake. The flow peaks, durations and timing were defined in the Synthesis Report to balance the various ecological functions of the creeks, with an acknowledgement that some flow modifications favor some processes over others and may cause some adverse stream system responses. As detailed in the geomorphic analysis conducted by LADWP to compare the SRFs to the SEFs, higher peak flows in Rush Creek have the potential to result in scouring alterations to the stream channels which would further alter and potentially decrease riparian habitat. However, historical high flows since D1631 have periodically exceeded the peak flow requirements of the SRFs when GLR spilled. For example, in 2017, flows resulting from a spill of GLR reached 742 cfs into Rush Creek, well in excess of the peak SRF of 500 cfs. Thus, potential impacts caused by the high flows of the proposed SEFs would be within the range of variability seen in historical flows. Moreover, the spillway modification element of the Project would provide LADWP with greater control over the timing, duration and magnitude of flows in high runoff

years. The proposed Licenses also contain provisions for continued monitoring, specific stream channel maintenance (as feasible), side-channel opening (as feasible), and adaptive management.

Once implemented, the effects of the revised flow regime would vary by creek, by specific location, and by water year. With continuation of the monitoring and adaptive management program, flow adjustments could be made if warranted based on observed conditions and supporting trends in data. The high flow releases associated with the SEFs are intended to mimic components of the annual snowmelt hydrograph by year type for stream restoration and maintenance. Therefore, the impacts to fisheries or other resources would be incidental and not significant compared to the ecological benefits. Impacts on riparian systems would be less than significant.

Additional water export included in the proposed Licenses would not substantially impact the time it takes for Mono Lake to reach 6,391 feet amsl (the transition water level elevation) (Appendix E) and therefore would not substantially impact sensitive vegetation types present at Mono Lake. The Licenses would provide a new funding mechanism for habitat restoration projects (e.g., stream channel maintenance and waterfowl habitat restoration), a beneficial impact. Continuation of monitoring programs as prescribed by the Licenses would be similar to existing conditions and would not adversely impact sensitive vegetation types. Therefore, construction and operation of the project would have a less than significant impact on riparian habitat, wetlands, or other sensitive natural communities.

d) **Less Than Significant Impact with Mitigation Incorporated.** There are no known migration corridors for terrestrial species within the project area. GLR provides a stopping point for migratory waterbirds. Since impacts to nesting and brooding avian species from spillway construction would be mitigated to less than significant levels (Mitigation Measure BIO-4), the impact of spillway construction on wildlife migration corridors and nursery sites would be less than significant.

Operation of the project is intended to enhance the ecological restoration of the four Mono Basin streams tributary to Mono Lake, a beneficial impact on migratory waterbirds supported by the creeks.

Additional water export included in the proposed Licenses would not substantially impact the time it takes for Mono Lake to reach 6,391 feet amsl (the transition water level elevation) (Appendix E) and therefore would not substantially impact migratory species or nursery sites present at Mono Lake. The Licenses would provide a new funding mechanism for habitat restoration projects (e.g., stream channel maintenance and waterfowl habitat restoration), a beneficial impact. Continuation of monitoring programs as prescribed by the Licenses would be similar to existing conditions and would not adversely impact migratory species.

e) **Less Than Significant Impact.** No tree ordinances apply to the project area. The Mono Basin Community Plan (2012b) calls for the preservation of the area's natural values while providing diverse recreational and outdoor activities. Since mitigation measures have been identified for the protection of sensitive species and habitat, the project would not conflict with these goals. Portions of the MGORD are on federal land administered by the USFS. Since the project would not alter the MGORD, the project would be consistent with relevant federal planning

documents. As noted above, implementation of the Licenses and operation of the proposed project would not adversely impact downstream biological resources in Mono Lake and therefore would not conflict with any local policies or ordinances protecting the resources of Mono Lake. Overall, the impact on local policies or ordinances protecting biological resources would be less than significant.

f) **Less Than Significant Impact with Mitigation Incorporated.** The project site is not within a Natural Community Conservation Plan area as defined by California Fish and Game Code §2800. LADWP prepared a Habitat Conservation Plan (HCP) for LADWP-owned lands in Inyo and Mono Counties (LADWP, 2015b). The HCP has been reviewed by USFWS and federal approval is pending as of October 2020. When approved, the seven species that will be federally covered under this HCP are Owens Pupfish (*Cyprindon radiosus*), Owens Tui Chub (*Siphateles bicolor snyderi*), Owens/Long Valley Speckled Dace (*Rhinichthys osculus* spp), bi-state population of Greater Sage-Grouse (*Centrocercus urophasinus*), Yellow-billed Cuckoo (*Coccyzus americanus*), Willow Flycatcher (*Empidonax traillii*), and Bell's Vireo (*Vireo bellii*). LADWP manages the activities on its lands such as habitat restoration, recreation, control of noxious and invasive weeds, fire suppression, infrastructure maintenance, and the management of water gathering and power production/distribution in a manner that is compatible with the conservation of these seven species. Of these species, the Willow Flycatcher and Greater Sage-Grouse have potential to occur onsite. With implementation of the mitigation measures described below impacts on habitat conservation planning would be less than significant.

Mitigation Measures for Impacts to Biological Resources

To reduce impacts to biological resources to a less than significant level, the following mitigation measures shall be implemented.

BIO-1. Implement a Worker Environmental Education Program. Prior to the start of any construction related activities for the spillway modification, (i.e., surveying, mobilization, fencing, grading, or construction), a Worker Environmental Education Program (WEEP) shall be prepared and implemented by a qualified biologist. The WEEP shall be finalized and administered prior to construction mobilization, and implemented throughout the duration of the construction activities, such as when new contractor employees or subcontractors begin working on site. A log of all personnel who have completed the WEEP training shall be kept on site. The WEEP shall cover:

- Federal and State Endangered Species Acts, Bald and Golden Eagle Protection Act, and the Migratory Bird Treaty Act, and consequences of non-compliance with these acts
- Identification and values of plant and wildlife species and significant natural plant community habitats
- Hazardous substance spill prevention and containment measures
- A contact person and phone number in the event wildlife needs to be relocated or dead or injured wildlife is discovered
- Review of mitigation measures adopted as part of the Mitigated Negative Declaration
- Literature and photographs or illustrations of potentially occurring special-status plant and/or wildlife species shall be provided to construction contractor staff

BIO-2. Revegetation of Disturbed Areas. Vegetation disturbed during project construction shall be mulched and the topsoil shall be removed and stored until construction is complete. The mulch and topsoil shall then be redistributed back over the site and revegetated in the spring after project construction is complete. The site shall be reseeded with locally collected species common in the area at a rate of 20 pounds/acre.

BIO-3. Pre-construction Survey for State and Federally Threatened, Endangered, Proposed, Petitioned, Candidate, and other Special-Status Plants. Prior to (but within 2 years of) initial ground disturbance for the spillway modification, a preconstruction survey shall be conducted for State and federally listed Threatened and Endangered, Proposed, Petitioned, Candidate, and other special-status plants in areas subject to ground-disturbing activity. The survey shall be conducted during the appropriate season in all suitable habitat located within the project disturbance areas and within approximately 50 ft of disturbance areas and access roads. The survey shall be conducted by a qualified ecologist/biologist. All special status plant species found shall be marked and avoided as feasible, and suitable buffer zone delineated. Any populations of special-status plants found during the survey shall be fully described, mapped, and a CNPS Field Survey Form or written equivalent shall be prepared.

Where impacts to Federal or State listed threatened or endangered plants are determined to be unavoidable, the USFWS and/or CDFW shall be consulted for authorization. Additional mitigation measures to protect or restore listed plant species or their habitat, including but not limited to a salvage plan including seed collection and replanting, may be required by the USFWS or CDFW before impacts are authorized, as appropriate. Where impacts to CNPS List 1.B and List 2 plants are determined to be unavoidable and project activities would result in the loss of more than 10 percent of the known population, consultation with USFWS and CDFW would be conducted regarding the most appropriate conservation strategy for the particular species.

BIO-4. Pre-Construction Nesting Bird Surveys. Construction activities shall be conducted outside the nesting season to the extent feasible. For all construction-related activities that take place within the nesting season (March 15 through August 31), a preconstruction nesting-bird survey shall be conducted no more than 7 days prior to project initiation within the project area and a 300-ft buffer. The pre-construction survey for nesting birds shall be conducted in the spillway cut area, the spillway channel down to the confluence with Rush Creek, the proposed soil stockpile locations, and staging areas. If active nests are found for listed or non-listed species, a no-disturbance buffer zone shall be established around them according to the biologist's assessment of the species' sensitivity to disturbance, generally 300 ft for smaller birds and 500 ft for raptors. Within this buffer zone, no construction shall take place until August 31, until the biologist determines that the nest is no longer active, or unless an alternative method of avoiding nest disturbance is prepared by the biologist and approved by the relevant resource agencies.

BIO-5. Preconstruction Survey for Pygmy Rabbit and Badger Burrows. A preconstruction burrow survey shall be conducted no more than 2 weeks prior to project initiation. The pre-construction survey for burrows shall be conducted throughout all areas associated with construction, including the construction areas, laydown areas, and access roads. The access roads from Highway 395 to the project area shall be included. If active pygmy rabbit or badger burrows are found, a no-disturbance buffer zone shall be established around them according to the

biologist's assessment of the species' sensitivity to disturbance. Within this buffer zone, no construction shall take place unless the biologist determines that a burrow is no longer active, or an alternative method of avoiding burrow disturbance is implemented by the biologist. To avoid impacting pygmy rabbits and their burrow complexes, spoils should be preferentially placed at spoil site 1, just north of GLR Dam (**Figure 6**). Spoil site 2 shall be used only if active pygmy rabbits are not observed during the preconstruction survey.

BIO-6. Invasive Species Prevention. Construction personnel shall wash the tires and tracks of earth-moving, grading, and excavation equipment before entering the site, to prevent inadvertent introduction and spread of noxious weeds. It is anticipated that the above-referenced equipment would remain onsite throughout the duration of the project, either in construction areas or in staging/parking/laydown areas. Workers' cars and trucks and other light duty vehicles used to access the project area each day and delivery vehicles are not included in this measure. Only vehicles and equipment that have been inspected for, and declared free of, invasive aquatic invertebrates shall be allowed on the project site.

With implementation of the above mitigation measures, project-related impacts on biological resources would be reduced to a level of less than significant.

2.3.5 Cultural Resources

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

Discussion: A cultural resources assessment for modification of the Grant Dam Spillway was conducted by Garcia and Associates (GANDA) in 2015. A supplemental addendum to this report for the Mono Basin Water Rights Licenses Project was completed by Stantec in 2019. The results of both efforts are summarized below. To protect historic resources present at the project site and surrounding areas, the cultural resources reports are on file with LADWP but they are not appended to the Initial Study. The confidentiality of records and information pertaining to the location, character, or ownership of archaeological sites and historic properties will be maintained consistent with National Historic Preservation Act (NHPA) Section 304, Archeological Resources Protection Act (ARPA) Section 9, and California Government Code 6254.10, as applicable.

Ethnography. At the time of European-American contact the Mono Basin was occupied almost exclusively by the Northern Paiute subgroup *kutsavidökadö* (literally, 'eaters of brine fly larvae'), who numbered about 250 individuals spread over an area of approximately 820 square miles (Bettinger 1982; Fowler and Liljeblad, 1986). The basic social unit consisted of an independent nuclear family, and there were no large villages or socially mediated exploitation of resources. Instead, small villages or multiple family units freely shared communal resource areas (Basgall and Giambastiani, 1995). Unlike their neighbors to the south, the Owens Valley Paiute, the Mono Basin Paiute had a subsistence and settlement pattern that was based on a wide and highly variable seasonal round. A typical year would involve traveling into the Sierra Nevada canyons to harvest greens and bulbs in the spring, then in the summer establishing temporary camps at the foot of the mountains where ricegrass and wild rye would be exploited, or at Mono Lake where brine fly larvae were collected, and in the fall moving to the Bodie Hills and Sierra Nevada to harvest pinyon nuts. Winters were spent in small villages located in the pinyon groves or near lakesides. Bettinger (1982:32-33) summarized that "the Mono Basin… groups display intensive exploitation of nearly all potential resources, extensive seasonal migrations, impermanent social alliances, and reliance on the family band as the elementary social, economic, and political unit."

Early Exploration and Mining. Because the Mono Basin was not located along any of the major emigrant routes to California, the influx by European-Americans into the area was delayed until the gold rush of the 1850s and 1860s (Fletcher, 1987). Although prospectors probably ventured into the region before the gold rush, the earliest recorded excursion into the Mono Basin by whites was a military expedition in 1852 led by Lieutenant Tredwell Moore. Upon its return the Moore

expedition reported gold in the region, which subsequently attracted prospectors, and by the end of the 1850s mining camps were springing up around Mono Lake Basin.

The natural resources of Mono Basin extended beyond precious metals such as gold and silver. Lumber mills were constructed to provide fuel for machinery, wood to heat houses, and timbers for mining and construction. Creeks were impounded and diverted to facilitate mining operations, power equipment, and irrigate crops, and cattle and sheep ranching became a profitable industry in the region. When the gold and silver played out, water became the most valuable resource in the Mono Basin.

Ranching and Agriculture. The regional mining boom created a strong market for produce and livestock as early as the 1860s. Cattle and sheep ranching proliferated and provided milk, cheese, and wool for settlers and miners (Gilreath, 1996). Homesteaders also raised hogs, goats, rabbits, and poultry (Fletcher, 1987). Agricultural produce included mostly potatoes and root crops, while alfalfa and grain crops that were sown to pasture livestock ended up replacing much of the native vegetation (Gilreath, 1996). By the 1880s, the irrigable land along Rush Creek and Lee Vining Creek had been taken up by homesteaders and settlers, particularly at the mouths of the two creeks. The gold and silver industries played out in the region by the 1880s, but cattle and sheep ranching continued to thrive.

Water Conveyance and Electricity. Water has been a highly valued commodity in the Mono Basin since white settlement began. As mining camps began to attract more permanent settlers, the purpose of water delivery systems shifted from mining endeavors to agricultural irrigation. Finally, one of the driving impetuses for the development of water conveyance and storage systems was the growing need for electricity and irrigation for population centers in southern California.

Rush Creek and Lee Vining Creek were first recorded during Alexander Von Schmidt's 1855 to 1857 expedition, and no mention was made of any man-made alterations to the streams. The earliest recorded irrigation ditch constructed in the Mono Basin was built by miners around 1860 to transport water from Virginia Creek to Mono Diggings, northwest of Mono Lake (Gilreath, 1996). The diverted water powered equipment and facilitated extracting gold from the stream gravels. Two ditches were documented along Lee Vining Creek during Von Schmidt and Hanson's 1880 and 1882 surveys (Costello and Marvin, 1993).

The most noteworthy hydroelectric developments in the Mono Basin were the Lee Vining Creek and Rush Creek Hydroelectric Projects. The Rush Creek System, with construction beginning in 1915 and completed in 1917, is comprised of three high mountain reservoirs—Rush Meadows, Gem, and Agnew—and the Rush Creek powerhouse at Silver Lake (Diamond and Hicks, 1988). In 1910, the Cain Irrigation Company filed a notice of reservoir location and appropriation of water for GLR and the land surrounding it. Cain reserved the right to construct a 130-ft-high dam near where Rush Creek emerged from the mountains, and to convey water in a ditch 20 ft wide by 7 ft deep for irrigation, municipal, agriculture, mining, milling, and manufacturing purposes (Gilreath, 1996).

Although Rush Creek had been utilized for rudimentary irrigation since the late 1880s, the large-scale diversion of Rush Creek began in 1915 after completion of the first GLR Dam (Gilreath,

1996). The initial Rush Creek development was concentrated on the lakes several miles upstream of GLR and it included three main canals and a network of secondary ditches that diverted water to the formerly parched landscape of Mono Basin. The original GLR Dam was constructed in 1915 and enlarged further in 1925. Between 1934 and 1940 the current Grant Dam was built approximately 1,600 ft further downstream than the previous dam enlarging the capacity of the reservoir.

The Cain Irrigation Company sold nearly all its holdings in the Mono Basin to the City of Los Angeles in 1934 in advance of the City's plans to transport water from the Mono Basin into the Los Angeles Aqueduct. To supplement the outflow from Rush Creek, the Lee Vining Conduit was constructed in 1941 to collect waters from Lee Vining, Walker, and Parker creeks, and empty them into GLR. In conjunction with this, the Mono Craters Tunnel was built to transport water from GLR to Owens Valley and eventually into the Los Angeles Aqueduct (Gilreath 1996).

Records Searches. Records searches were conducted at the Eastern Information Center (EIC) at the University of California, Riverside, by GANDA on June 25, 2014 and by Stantec on September 4, 2019. GANDA's records searches encompassed the 44-acre project area where modifications and construction are proposed at the Grant Dam Spillway plus a 0.25-mile buffer, and Stantec enlarged the search area to include the Rush Creek Bottomlands, the Narrows, Lee Vining Creek from the Lee Vining Conduit, and the Lee Vining Creek Bottomlands. The following sources were consulted:

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

The cultural resources records search identified 19 previous studies (from 1979 to 2010) within the 0.25-mile radius of the Grant Dam Spillway area and the lower Rush Creek and Lee Vining Creek study area. Two previous studies (1988 and 1996) directly addressed portions of the current project area. The 1996 study by Far Western Anthropological Research Group, Inc. (Gilreath, 1996) covers the entire 44-acre project Area of Potential Effects (APE) as well as the lower reaches of Rush Creek and Lee Vining Creek. GANDA identified 82 previously recorded cultural resources within the 0.25-mile study area, with 13 sites within or proximal to the project area. Within the lower reaches of Rush Creek and Lee Vining Creek there were approximately 45 previously recorded sites within 300 to 600 meters of Rush Creek and Lee

Vining Creek in addition to the GANDA survey bringing the total to 58 known sites in the Grant Dam Spillway APE and extended creek study area.

Pedestrian Survey. An intensive pedestrian survey of 44 acres of city-owned land in the construction area was surveyed by GANDA and LADWP staff on September 11 and 12, 2014 and March 4, 2015. Raymond Andrews, Tribal Historic Preservation Officer of the Bishop Paiute Tribe, was also present during the March 4, 2015 survey. The two surveys examined the portions of the construction area where the greatest ground disturbance would occur during construction, including the areas bordering the spillway, the vehicular bridge, the three southernmost staging areas, and the two soil stockpile areas.

The survey area was heavily disturbed by the construction and operation of the GLR Dam, the spillway, power lines, irrigation ditches, and access roads. The area is marked by numerous borrow pits, berms, and push piles. The soils are very stony sand with occasional concentrations of boulders, and thick stands of sagebrush and bitterbrush resulting in generally poor ground visibility throughout much of the survey area.

The survey consisted of a systematic investigation of the ground surface in 5-meter transects. During the survey, the archaeologist examined the ground surface for artifacts (e.g., flaked stone tools, tool-making debris, stone milling tools, fire-affected rock, prehistoric ceramics), soil discoloration that might indicate the presence of a prehistoric cultural midden, soil depressions, and features indicative of the former presence of structures or buildings (e.g., standing exterior walls, postholes, foundations, wells, mines) or historic debris (e.g., metal, glass, ceramics). Ground disturbances such as gopher holes, burrows, cut banks, and arroyos were also visually inspected. A Trimble global positioning system (GPS) receiver and a topographic map were used to locate the APE boundaries and maintain survey accuracy. All newly encountered cultural resources were mapped with GPS and hand-drawn sketch maps, documented with field notes and digital photographs.

The cultural resources surveys resulted in the updating of two previously recorded resources (P-26-002762 and P-26-002971) and the documentation of seven newly discovered archaeological sites (GL-Site-1 through -7), 13 newly discovered archaeological isolates (GL-Iso-1 through -13), and one historical structure (the vehicular bridge). Resources identified during the pedestrian survey included: historic-period scatters of industrial and domestic debris, historic-period refuse dumps, an historic-period ditch system, sparse scatters of prehistoric obsidian debitage and tools, and isolated prehistoric obsidian flakes and tools.

Supplemental Field Assessment. On August 22 and 23, 2019 Stantec archaeologists revisited the Grant Dam Spillway area to field check the recorded locations and determine if site distribution or site integrity had changed with time. Stantec enlarged the records search area to include the Rush Creek Bottomlands, the Narrows, Lee Vining Creek from Lee Vining Conduit, and the Lee Vining Creek Bottomlands which represent a large part of a 2,700-acre cultural resources study conducted in 1996 of the four Mono Lake tributaries. The 1996 study was conducted by Far Western Anthropological Research Group, Inc. and was focused on the areas immediately within and surrounding the creeks and entailed a comprehensive study and 100 percent survey of the extended study area (Gilreath, 1996). Stantec conducted a brief field check to assess the condition of sites recorded by GANDA and Far Western (Gilreath, 1996).

The field visits at the select locations determined that the integrity of the sites recorded both by GANDA and Gilreath remain virtually unchanged from initial recordation. The mapped boundary of two sites visited, both prehistoric, appeared to extend only slightly beyond initially recorded boundaries which is an expected condition given the diffuse nature of large lithic scatters.

a) and b) **Less than Significant Impact with Mitigation Incorporated.** The proposed project would require excavation for construction of the spillway approach channel, realignment of the existing spillway channel, widening the road east of the concrete spillway, installing a concrete pad for gate maintenance, removing the vehicular bridge, and installing power poles and control building. These actions have the potential to dislodge, relocate, crush, and otherwise cause substantial adverse changes to cultural resources potentially eligible for listing in the CRHR. Thirteen archaeological isolates were identified in the project area, but because isolates are considered ineligible for listing in the CRHR, project impacts on these features would be less than significant. The vehicular bridge has been evaluated for CRHR eligibility, and found not eligible under CRHR criteria (GANDA, 2015). However, the seven archaeological sites identified in the project area were not evaluated for CRHR eligibility, and therefore are conservatively assumed to be significant resources under CEQA.

The lower reaches of Rush Creek and Lee Vining Creek examined for the update to the GANDA report (Stantec, 2019b) also revealed a large number of previously recorded unevaluated sites. In addition to hundreds of previously recorded isolates, sites recorded within 300 meters of Rush Creek include an additional 20 prehistoric sites, up to 5 ethnographic period sites (based on physical remains and ethnographic testimony), and up to 10 historic sites including the Rush Creek drainage system. The portions of Lee Vining Creek within the study area conservatively contain an additional eight prehistoric sites and two historic sites as well as the Lee Vining Ditch System. In addition to archaeological sites, the lower Rush Creek area is sensitive for Tribal Cultural Resources as reported by Gilreath (1996:88-93). Unevaluated resources and areas identified as containing Tribal Cultural Resources are assumed to be significant resources under CEQA.

With implementation of the proposed Licenses, Walker Creek and Parker Creek would not be subject to diversions (the same as existing conditions), therefore impacts to cultural resources related to the project would not occur on these waterways. Implementation of the SEFs would increase peak flows and durations on Rush Creek, that would accelerate stream physical processes, likely including some accelerated vertical incision, especially in Reaches 4 and 5. Reaches 2 and 3 are not expected to change substantially due to their very course channel bed materials (boulder, cobble, and gravel) and stable channel morphology and riparian habitat. On Lee Vining Creek, the SEF regime would result in more summer snow-melt flood peaks in a given water year compared to the SRF. However, flow releases of the order of magnitude described by the SEFs, and that have potential to alter artifact distribution, have historically occurred on these creeks. Therefore, implementation of the proposed flow regime, with its goal of providing proper flow management in a pattern that allows natural stream processes to develop functional, dynamic, and self-sustaining stream systems, would result in less than significant impacts on cultural resources.

The proposed Licenses would provide a new funding mechanism for habitat restoration projects such as channel maintenance and continue on-going environmental monitoring programs. The impact of specific habitat restoration activities or installation of monitoring structures on cultural resources would be separately analyzed, as relevant, at the time these projects are proposed. Restoration activities within riparian habitat have the potential to impact cultural resources and natural resources important to Native Americans.

Since the project has the potential to adversely impact cultural resources, mitigation measures CUL-1 through CUL-5 shall be implemented to reduce project-related impacts to less than significant levels.

CUL-1. **Cultural Survey of New Areas**. Prior to construction activities, any additional areas required to implement the project that have not been previously archaeologically surveyed shall be surveyed for cultural resources. Previously recorded resources including newly discovered resources as well as those that are considered Tribal Cultural Resources shall be delineated with a 50-ft buffer around the mapped boundaries of each of the recorded archaeological sites or traditionally important areas. Project-related ground disturbing activities, including vehicle travel, shall be prohibited within the delineated areas.

CUL-2. Site Evaluation. If it is determined that a project element requiring ground disturbance cannot be located at least 50 ft from the mapped boundaries of an archaeological or tribal cultural resource site (including sites encountered during construction), then significance testing (Phase II evaluation) shall be conducted to make a definitive determination of the site's eligibility for listing in the CRHR, and to verify whether or not the site would be affected by the disturbance. This would require the following:

- Development of a research design that guides assessments of site significance and scientific potential, and if appropriate, incorporation of treatment measures resulting from Native American consultation
- Mapping and systematic collection of a representative sample of surface artifacts
- Subsurface investigation through shovel test pits, surface scrapes, or 1 by 1 meter excavation units; a combination of such methods; or equivalent methods
- Analysis of recovered material to determine significance pursuant to CEQA
- Preparation of a report, including an evaluation of site significance, and recommendations for mitigation, if appropriate
- Appropriate disposition of collected artifacts

Resources found to be not significant shall not require additional mitigation; however, those sites found to be significant may require additional documentation or data recovery (Phase III) investigations to mitigate project impacts adequately. The Phase III data recovery program shall include:

- Development of a comprehensive research design to answer questions addressed during the Phase II on a broader regional level and to provide a procedural framework for the collection of data at sites determined to be significant

- Mapping and systematic collection of surface artifacts
- Subsurface investigation through methods such as controlled hand-excavation units, mechanical excavations, deep testing, or a combination of methods. When applicable, other techniques, such as geophysical testing methods, may also be used
- Analysis of recovered material through visual inspection and chemical analysis when applicable
- Preparation of a report
- Appropriate curation or treatment of collected artifacts

CUL-3. Archaeological Monitoring. During all ground-disturbing phases of project construction, a qualified archaeological monitor shall be present. The monitor shall be authorized to halt construction, if necessary, in the immediate area where cultural resources are encountered. A treatment or avoidance plan shall be developed within 48-hours of the discovery and may include consultation with Native American representatives. The monitor shall maintain a daily monitoring log which describes monitoring activities and results. Tribal representatives that participated in past Native American consultation for the project shall be contacted prior to the start of project construction. Qualified Native American monitors shall be afforded an opportunity to be present during earthwork and excavation activities associated with construction of the spillway modification.

CUL-4. Unanticipated Discoveries. If previously unrecorded cultural resources are encountered at any time during project construction, all work shall cease within 50 ft of the discovery until the find can be evaluated by a qualified archaeologist. If determined to be potentially significant, a treatment or avoidance plan shall be developed within 48-hours of the discovery. Work shall not resume in areas determined by the archaeologist as sensitive until the discovery has been evaluated and the recommendations for treatment have been implemented.

CUL-5. Worker Education. All construction workers and supervisors shall attend a mandatory workshop providing information on monitor roles, responsibilities, and authority; restricted areas and approved vehicle corridors; the types of artifacts that may be encountered; penalties for unauthorized collection of artifacts; and the need to temporarily redirect work away from the location of any unanticipated discovery until it is recorded and adequately documented and treated. The presentation shall be available to train additional personnel who may join the project in the future.

c) **Less than Significant Impact with Mitigation Incorporated.** Based on a review of the available historic maps for the area, no recorded cemeteries are located within the proposed project area. Human remains were not found in the course of the 2014, 2015 or 2019 pedestrian surveys of the project area. However, during Native American consultation tribal members stated that Native American burials are located in the vicinity of the project, although none were known in the area of planned ground disturbance. Native American consultants engaged by McCarthy (Gilreath, 1996:88-93) did not identify cemeteries within the updated study area which included the lower reaches of Rush Creek and Lee Vining Creek. In the unexpected event that human remains are discovered during project construction or operation, the Mono County Coroner shall be contacted, the area of the

find would be protected, and provisions of State CEQA Guidelines Section 15064.5 and Public Resources Code 5097 would be followed. With implementation of the mitigation measure CUL-5, project-related impacts on human remains potentially present in the project area would be less than significant.

CUL-6. Unanticipated Human Remains. In the unexpected event that human remains are discovered, the Mono County Coroner shall be contacted, the area of the find shall be protected, and provisions of State CEQA Guidelines Section 15064.5 and Public Resources Code 5097 shall be followed. If the Coroner determines the remains to Native American, LADWP shall work with the appropriate Native Americans as identified by the Native American Heritage Commission (NAHC) as provided in Public Resources Code section 5097.98. LADWP shall develop an agreement for treating or disposing of, with appropriate dignity, the human remains and any items associated with Native American burials with the appropriate Native Americans as identified by the NAHC.

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

2.3.6 Energy

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 potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	☐	☐	☒	☐
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☒	☐

Discussion:

a) **Less Than Significant Impact.** Adoption and implementation of the proposed Licenses would require construction and operation of the modified Grant Dam Spillway. Energy for construction equipment and vehicles would be consumed in the form of fossil fuels and electric use during construction. Energy for project operation would be consumed in the form of fossil fuels for maintenance vehicles and equipment, and electric use for spillgate operation. Additionally, changes in flow regime could impact hydropower generation by LADWP.

Project Operation Energy Consumption. Operations and maintenance of the GLR Spillway would be conducted as per the GLOMP. Energy, in the form of fossil fuels, would be consumed by maintenance personnel visiting the site and maintenance equipment. The quantity of fossil fuels consumed for operations and maintenance would be minor, and similar to existing conditions.

Spillgate Operation. Two Langemann® gates would be placed side-by side inside the headwall to provide controlled spills from GLR. Power to the gates would be supplied by four 24 V batteries per gate. Electric power would be used to continually recharge the batteries. The gates, security lighting, electric hoists, air bubbler system, and heating and cooling for the control house would create a power demand for project operations. Based on existing power use at the Lee Vining Intake Langemann® gate (comparable in size), the project is estimated to require approximately 56,000 kWh/year. Since the gates would be new equipment and are required for conveyance of the prescribed flows, the energy use would not be considered a wasteful, inefficient or unnecessary consumption of energy resources.

Hydropower Generation. Water exported from the project area passes through five hydropower plants downstream along the LAA. Implementation of the proposed Licenses would result in 12,000 af of additional export over existing conditions. Depending on timing of the export, and flow conditions at the hydropower plants, additional power could be generated from the additional export release. The potential increase in hydropower generation would be beneficial for energy resources.

Overall, the project would require similar operations and maintenance fuel use as under existing conditions, minor new electric power use for operation of the Langemann® gates and associated facilities, and a potential increase in hydropower generation in years when the additional export included in the Licenses occurs. Overall, the impact on energy resources would be less than significant.

b) **Less Than Significant Impact.** The Mono County General Plan includes a section on Energy Resources & Energy Efficiency (Mono County, 2015). The County has established goals to:

- Minimize adverse environmental impacts during geothermal exploration.
- Permit the productive and beneficial development of geothermal resources consistent with the objectives of Goal I and national and local interests.
- Protect the natural resources of Mono County from the potentially damaging effects of water storage and diversions for hydroelectric power generation.
- Encourage appropriately scaled renewable energy generation for use within the county.
- Regulate use of other energy resources for power generation to ensure that environmental impacts and impacts to public health and safety are minimal.
- Minimize the visual, environmental, and public health and safety impacts of electrical transmission lines and fluid conveyance pipelines.
- Encourage the prudent use of energy and to allow substitution of alternative energy sources for conventional energy when such substitution would result in minimal environmental impacts.
- Improve energy efficiency in existing buildings.
- Reduce energy use in new construction and major renovations.
- Collaborate with community partners, and empower the public to improve resource efficiency within the county.
- Reduce generation of waste within the county.

Construction of the proposed project would require the consumption of fossil fuels, but construction would not be conducted in a wasteful manner. Operation of the project would require minor electric power to operate new gates and associated facilities. Overall, the project would be consistent with Mono County General Plan goals and the impact on energy planning would be less than significant.

2.3.7 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) Directly or indirectly cause 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 direct or indirect 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?	☐	☐	☐	☒
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☒	☐	☐

Discussion: Historical soils data from the NRCS are mapped for the GLR Spillway modification construction area on Figure 4 of Appendix C.

a)-i) and a)-ii) **Less Than Significant Impact.** Located at the border of two major physiographic provinces – the Sierra Nevada and Basin and Range, the project area is subject to seismic and volcanic activity related to the continued uplift of the mountains along the range-front faults of the Sierra Nevada. The Mono Craters, located just east of the project area, are associated with a ring fracture zone along the range front fault zone (Mono County, 2001). Quaternary faults are mapped west of Grant Reservoir and through the southern extension of the reservoir. The spillway area has not been mapped as part of the Alquist-Priolo Earthquake Fault Zoning Act (Mono County, 2001).

Surface rupture and seismic ground shaking are therefore possible for the project site and surrounding region. Spillway design modifications will be done in consideration of the relevant seismic conditions and applicable seismic code requirements. Since habitable structures would not be built as part of the proposed project, people would not be exposed to adverse effects involving seismic ground shaking. Damage to project facilities would be repaired as necessary. Therefore, impacts related to seismic events would be less than significant.

a)-iii) **Less Than Significant Impact.** Since habitable structures would not be built as part of the proposed project, people would not be exposed to adverse effects involving seismic-related ground failure. Damage to project facilities would be repaired as necessary. Therefore, impacts related to ground failure would 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 habitable structures would not be built as part of the proposed project, people would not be exposed to adverse effects involving landslides. Damage to project facilities would be repaired as necessary. Therefore, impacts related to landslides would be less than significant.

b) **Less Than Significant Impact.** Soil disturbance related to the proposed project would be related to excavation for the spillway, widening of the road east of the concrete spillway, installation of the West Side Road, and installation of power poles. As described in Section 2.3.4, mitigation measure BIO-2 would require topsoil to be removed and stored until construction is complete. Mulch and topsoil would then be redistributed back over disturbed areas and revegetated. Since only small areas of soil disturbance would be exposed at any one time, impacts related to erosion and loss of topsoil would be less than significant.

c) and d) **Less Than Significant Impact.** Habitable structures would not be built as part of the proposed project. Design of the proposed project facilities will consider soil conditions and include appropriate design features as relevant. Impacts related to unstable or expansive soils, if any are present on the project site, would be less than significant.

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

f) **Less than Significant Impact with Mitigation Incorporated.** The project area is located on the eastern slope of the Sierra Nevada Mountains. The geologic formations underlying the spillway site consists of Pleistocene-age glacial till. To develop a baseline paleontological resource inventory of the study area and to establish the paleontological sensitivity of each geologic unit present in the study area, the following tasks were completed:

- Geologic maps and available published and unpublished geological and paleontological literature covering the bedrock and surficial geology of the study area were reviewed to determine the exposed and subsurface rock units, to assess the potential paleontological productivity of each rock unit, and to delineate their respective areal distribution in the study area.

- A search of the Natural History Museum of Los Angeles County (LACM) archival specimen and locality records conducted by LACM vertebrate collections manager Samuel McLeod. This research identified the geologic units, previous paleontological studies, fossil localities (i.e., locations at which paleontological resources have been documented), and types of fossils in geologic units that may be within or adjacent to the study area.

- The literature review was supplemented by online fossil locality searches conducted by GANDA on April 13, 2015 and by Stantec on October 3, 2019 using the Berkeley Natural History Museum (BNHM) online database, University of California Museum of Paleontology (UCMP) online database and the online Paleobiology Database managed by a consortium of academic institutions and supported in part by the National Science Foundation.

After completing the previously described tasks, each geologic unit exposed within the study area was assigned a paleontological sensitivity based on the number of previously recorded fossil sites it contains and the scientific importance of the fossil remains recorded. These methods are consistent with Society of Vertebrate Paleontology (SVP, 1995) criteria and guidelines for assessment and mitigation of adverse impacts to paleontological resources in areas of potential environmental effect and areas of critical environmental concern.

The paleontological resources study was required to determine whether previously recorded fossil localities are present in the project area in the immediate vicinity of proposed ground disturbing construction activities.

According to geologic mapping, the project area is underlain and surrounded by Quaternary glacial till (Qti, Qta), Quaternary volcanic tuff (Bishop Tuff/Qbt), Quaternary landslide deposits (Qsl), Quaternary (Holocene) talus and slopewash (Qts) and alluvium and pumice (Qal), and granitic rocks (ka, jl, kwc). Museum records searches of collections maintained by the Natural History Museum of Los Angeles County (LACM) and the UCMP were performed on April 13, 2015. The records searches did not identify any vertebrate or invertebrate fossil localities within or nearby to the proposed project boundaries.

Quaternary deposits such as Glacial Till (Qti), Alluvium (Qta and Qal), Landslide deposits (Qsl), Slopewash deposits (Qts) are considered low to moderate paleontological sensitivity. Quaternary Holocene deposits such as Holocene talus, slopewash an alluvium are considered low paleontological sensitivity. As such, surface grading in the upper layers of younger Quaternary Alluvium (Holocene age) are unlikely to reveal significant vertebrate fossils. However, deeper excavations into the older Quaternary alluvium, till or tuff have the potential to encounter significant vertebrate fossil remains. Similarly, volcanic deposits are considered low paleontological sensitivity, though volcanic airfall deposits, such as the Bishop Tuff (Qbt) may contain fossils. Granitic rocks, such as ka, jl and kwc do not typically contain fossils.

During cultural resources field surveys of the project area, paleontological materials were not observed. Paleontological remains are considered limited, nonrenewable, scientific, and educational resources. Fossils can qualify as unique resources because they represent the best examples of specific species found in the region, particularly if they are discovered in an

undisturbed context. Fossils can also qualify as unique paleontological resources because they provide evolutionary, paleoclimatic, or paleontological data important to our understanding of geologic history (SVP, 1996).

The results of the paleontological assessment indicate that although the paleontological sensitivity of the geologic units within the project area is low to moderate, significant fossils are possible in these depositional environments. Project-related construction, including grading and excavating, has the potential to disturb soils containing paleontological resources. If significant fossils are present and not recovered or avoided, destruction during construction would be a significant impact. Therefore, mitigation measure GEO-1 shall be implemented to protect paleontological resources from disturbance during construction of the spillway modification. With implementation of mitigation, impacts on paleontological resources would be less than significant.

The proposed License include on-going environmental monitoring and adaptive management. If ground-disturbing activities are proposed in the future as a result of monitoring results, the potential impacts on paleontological resources would be separately analyzed, as relevant, at the time these projects are proposed. Therefore, operation of the proposed project would not significantly impact paleontological resources.

GEO-1. Protection of Discovered Paleontological Resources. During earthwork necessary for modification of the spillway, a paleontological monitor shall be present. The monitor may be a qualified paleontological monitor or a cross-trained archaeologist, biologist, or geologist working under the supervision of a qualified principal paleontologist. Monitoring shall continue in the project area until the supervising qualified paleontologist determines that no native sediments are present or that significant paleontological resources are not likely to be discovered.

If paleontological materials are discovered and cannot be avoided, all construction work within a 50-ft radius of the find shall be halted until a qualified paleontologist or paleontologically-trained archaeologist can assess the significance of the find. Paleontological discoveries during project operation would also be reviewed by a qualified paleontologist or paleontologically-trained archaeologist.

If the discovery is significant or potentially significant, then the following shall apply: data recovery and analysis, preparation of a data recovery report, and accession of recovered fossil material at an accredited paleontological repository (e.g., the University of California's Museum of Paleontology). Significant vertebrate fossils shall be recovered. A representative sample of significant invertebrate and plant fossils shall be recovered.

With implementation of the above mitigation measure, project-related impacts on paleontological resources would be less than significant.

2.3.8 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: Greenhouse gases (GHGs) are gases that trap heat in the atmosphere. The most common GHGs emitted from natural processes and human activities include carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O). Examples of GHGs created and emitted primarily through human activities include fluorinated gases (hydrofluorocarbons and perfluorocarbons) and sulfur hexafluoride. Each GHG is assigned a global warming potential. The global warming potential is the ability of a gas or aerosol to trap heat in the atmosphere. The global warming potential rating system is standardized to CO_2, which has a value of one. For example, CH_4 has a global warming potential of 21, which means that it has a global warming effect 21 times greater than CO_2 on an equal-mass basis. Total GHG emissions from a source are often reported as a CO_2 equivalent (CO_2e). The CO_2e is calculated by multiplying the emission of each GHG by its global warming potential and adding the results together to produce a single, combined emission rate representing all GHGs. On a national scale, federal agencies are addressing emissions of GHGs by reductions mandated in federal laws and Executive Orders. Several states have promulgated laws as a means to reduce statewide levels of GHG emissions. In particular, the California Global Warming Solutions Act of 2006 directs the State of California to reduce statewide GHG emissions to 1990 levels by the year 2020.

Assembly Bill (AB) 32, California Global Warming Solutions Act of 2006, was signed into law on September 27, 2006. AB 32 requires the California Air Resources Board (CARB), in coordination with other State agencies and members of the private and academic communities, to adopt regulations to require the reporting and verification of statewide GHG emissions and to monitor and enforce compliance with this program. Under the provisions of the bill, by 2020, statewide GHG emissions would be limited to the equivalent emission levels in 1990. On December 12, 2008, CARB adopted its Climate Change Scoping Plan pursuant to AB 32 (CARB, 2008). The Scoping Plan was re-approved by CARB on August 24, 2011, and in November 2017, CARB adopted the final 2017 Scoping Plan: The Strategy for Achieving California's 2030 GHG target. The 2017 Scoping Plan indicates existing and ongoing emission reduction efforts and identifies new policies and actions to accomplish the State's climate goals.

The potential effects of proposed GHG emissions are by nature global, and have cumulative impacts. As individual sources, project GHG emissions are not large enough to have an appreciable

effect on climate change. Therefore, the impact of proposed GHG emissions to climate change is discussed in the context of cumulative impacts.

As a power utility, the majority of LADWP's GHG emissions results from power generation. Other GHG emissions are a result of vehicle and equipment use for construction and operation of LADWP facilities. To reduce Department-wide GHG emissions, LADWP has instituted various programs including: increasing the generation of renewable energy to 33 percent by 2020, early divestiture of coal generation, repowering existing natural gas power plants, adopting an aggressive energy efficiency program, and use of electric fleet vehicles.

a) **Less Than Significant Impact.** Project-related GHG emissions would be limited to air pollutants generated from equipment and vehicles during the construction period. As described in Section 2.3.3 Air Quality, construction of the project would result in less than significant combustion emissions from vehicles and equipment.

According to the California Air Resources Board (2019), in 2017, CO_2 accounted for approximately 83 percent of statewide GHG emissions, with CH_4 accounting for approximately 9 percent of GHG emissions and N_2O accounting for another 3 percent of GHG emissions. Fluorinated gases accounted for approximately 5 percent of GHG emissions in California in 2017. The transportation sector is the single largest category of California's GHG emissions, accounting for 40 percent of emissions statewide (CARB, 2019). In 2017, total California GHG emissions were 424 million metric tons of CO_2e ($MMTCO_2e$), 5 $MMTCO_2e$ lower than 2016 levels and 7 $MMTCO_2e$ below the 2020 GHG Limit of 431 $MMTCO_2e$ (CARB, 2019).

Based on the estimated average day construction emissions (**Table 8**), annual emissions of GHG related to construction of the proposed project are summarized in **Table 9**. Since the GBUAPCD does not have established GHG thresholds of significance, LADWP reviewed the threshold defined by the SCAQMD (the air district with jurisdiction over the air basin where LADWP has its main offices) and the state-wide air resources agency, CARB. SCAQMD's threshold of significance for GHG for industrial projects is 10,000 metric tons CO_2e emissions per year (SCAQMD, 2019; includes construction emissions amortized over 30 years and added to operational GHG emissions). CARB proposed a threshold of 7,000 metric tons of CO_2e emissions per year for operational emissions (excluding transportation).

The SCAQMD recommends that construction emissions be amortized over a 30-year period to account for the project's contribution to overall GHG emissions. If amortized over a 30-year period, construction would contribute approximately 36 metric tons per year of CO_2e emissions. Predicted project GHG emissions are therefore less than either of these thresholds and less than significant. The project would not generate GHG emissions that would have a significant impact on the environment, either directly or indirectly.

Once operational, the project would result in only minimal vehicle emissions related to LADWP staff inspections of the project area (as under existing conditions). Since power to the spillway gates would be generated at hydropower plants, gate operation would not result

in GHG emissions. The impact on emissions of GHG, and thus climate change, would be less than significant.

b) **No Impact**. The Mono County General Plan Energy Resources & Resource Efficiency section promotes energy efficiency and GHG reduction measures (Mono County, 2015). The proposed project would allow releases from GLR for the ecological restoration of downstream creeks. The minor power needs for the Langemann® gates and associated facilities would not generate GHGs, since power would be generated at hydropower plants. Therefore, the project would have no adverse impact on GHG policies.

Table 8
Summary of Estimated Average Day Construction Emissions

Emissions Source (on-road vehicles)	Vehicle Type	No.	Est Avg miles per day	Emission Factor (g/mi) [1]									Estimated Project Emissions (lbs/average day)								
				ROG	CO	NOx	PM_{10}	$PM_{2.5}$	SOx	CO2	CH_4	N_2O	ROG	CO	NOx	SOx	PM_{10}	$PM_{2.5}$	CO2	CH_4	N_2O
Pickup Truck	LDT2	6	5	0.0253525	1.1776858	0.1353167	0.00176	0.001615	0.0036	363.4686	0.00582	0.00958	0.00	0.08	0.01	0.00	0.00	0.00	24.04	0.00	0.00
Dump Truck	HHDT	4	5	0.0688584	0.3284163	3.2827147	0.04955	0.047409	0.01314	1390.597	0.0032	0.21858	0.00	0.01	0.14	0.00	0.00	0.00	61.31	0.00	0.01
Water Truck	HHDT	2	5	0.0688584	0.3284163	3.2827147	0.04955	0.047409	0.01314	1390.597	0.0032	0.21858	0.00	0.01	0.07	0.00	0.00	0.00	30.66	0.00	0.00
Workers Personal Vehicles [3]	LDA	26	100	0.0138886	0.767798	0.0555037	0.00168	0.001544	0.00278	280.7515	0.003388	0.005591	0.08	4.40	0.32	0.01	0.01	0.02	1609.27	0.02	0.03
Emissions Source (construction equipment)	No.	Est Avg hrs of use per day	Emissions Factor (tons/day)[2]										Estimated Project Emissions (lbs/average day)								
			ROG	CO	NOx	PM_{10}	$PM_{2.5}$	SOx	CO2	CH_4	N_2O	ROG	CO	NOx	SOx	PM_{10}	$PM_{2.5}$	CO2	CH_4	N_2O
Backhoe	1	6	0.0005369	0.0067194	0.0054974	0.00032	0.000294	9.3E-06	1.005235	1.5E-05	0.00052	0.81	10.08	8.25	0.48	0.44	0.01	1507.85	0.02	0.78
Dozer	2	6	8.684E-05	0.0006878	0.0009161	4.1E-05	3.76E-05	8.8E-07	0.095049	7.3E-05	8.7E-05	0.26	2.06	2.75	0.12	0.11	0.00	285.15	0.22	0.26
Excavator	2	6	0.0001244	0.0009471	0.0011421	3.8E-05	3.53E-05	4.3E-06	0.462165	2.5E-05	0.00011	0.37	2.84	3.43	0.12	0.11	0.01	1386.49	0.07	0.33
Compactor	1	6	2.187E-06	1.388E-05	1.657E-05	6.5E-07	5.96E-07	3.5E-08	0.002273	1.8E-06	1.6E-06	0.00	0.02	0.02	0.00	0.00	0.00	3.41	0.00	0.00
Roller	2	6	4.271E-05	0.000432	0.0004363	2.7E-05	2.44E-05	6.1E-07	0.06556	1.9E-05	4.1E-05	0.13	1.30	1.31	0.08	0.07	0.00	196.68	0.06	0.12
Concrete Mixer Truck	3	6	0.0002658	0.0015902	0.0023264	8.5E-05	7.86E-05	5.7E-06	0.622198	3.1E-06	0.00022	1.20	7.16	10.47	0.38	0.35	0.03	2799.89	0.01	0.99
Forklift	1	6	2.037E-05	0.000218	0.000184	1.2E-05	1.14E-05	3.5E-07	0.038015	1.1E-05	1.7E-05	0.03	0.33	0.28	0.02	0.02	0.00	57.02	0.02	0.03
Hydro Crane	1	4	3.75E-05	0.000265	0.0003829	2.1E-05	1.89E-05	3.7E-07	0.039893	3.1E-05	3.6E-05	0.04	0.26	0.38	0.02	0.02	0.00	39.89	0.03	0.04
Hydraulic Breaker	1	1	2.865E-05	0.0001506	0.0001391	1.1E-05	9.96E-06	1.5E-07	0.016753	2.4E-05	1.3E-05	0.01	0.04	0.03	0.00	0.00	0.00	4.19	0.01	0.00
Generator	2	4	0.0005922	0.0074617	0.0049328	0.00032	0.000296	1.1E-05	1.141065	1.3E-05	0.00047	1.18	14.92	9.87	0.64	0.59	0.02	2282.13	0.03	0.94
Loader	2	6	0.0005369	0.0067194	0.0054974	0.00032	0.000294	9.3E-06	1.005235	2.5E-05	0.00052	1.61	20.16	16.49	0.96	0.88	0.03	3015.71	0.08	1.57
Total												**5.7**	**63.7**	**53.8**	**2.8**	**2.6**	**0.1**	**13303.7**	**0.6**	**5.1**

LDA: passenger vehicles, HHDT: heavy-heavy-duty trucks; LDT2: light duty trucks

[1] CARB. 2017a. Scenario Year 2021.

[2] CARB. 2017b. Scenario Year 2021.

[3] Average mileage per worker assumes 50 percent of workers are from Mammoth Lakes (38 miles away) and 50 percent from Bishop (65 miles away).

Table 9
Estimated Annual Greenhouse Gas Emissions from Construction

Source	CO_2 metric tons (total)	CH_4 metric tons (total)	N_2O metric tons (total)
Average Day Construction Emissions	6.03	0.0003	0.002
Construction Emissions Annual Total	965.52	0.041	0.37
Global Warming Potential	1	21	310
CO_2-Equivalent Emissions	965.5	0.9	114.9
Total CO_2-Equivalent Emissions from Construction	1081		
Amortized CO_2-Equivalent Construction Emissions	36		

2.3.9 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 or excessive noise for people residing or working in the project area?	☐	☐	☒	☐
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
g) Expose people or structures, either directly or indirectly, to the risk of loss, injury or death involving wildland fires?	☐	☐	☒	☐

Discussion: Hazardous materials are not currently used or stored on the project site.

a) and b) **Less Than Significant Impact.** Construction of the proposed spillway modification would require the routine transport, use, and storage of limited quantities of gasoline and diesel fuel, and potentially degreasers and solvents for construction vehicle maintenance. Other chemical use is not anticipated.

LADWP would employ standard operating procedures for the routine transport, use, storage, handling, and disposal of hazardous materials related to the construction of new facilities. Therefore, with adherence to the standard operations procedures for hazardous materials use, impacts related to release or accidental exposure to humans or the environment would be less than significant.

GLR Dam Stability. Under the proposed Licenses, GLR would be managed at a higher pool elevation for longer durations. Seepage from Grant Dam may increase in response to the greater storage volumes. Frequent (approximately daily) monitoring at the Grant Dam Toe

Drain for changes in seepage characteristics would be conducted. Hazards related to dam instability are not anticipated, but monitoring would be on-going during facility operation.

c) **No Impact.** There are no schools within ¼ mile of the project area. The closest schools are located in Lee Vining (Lee Vining Elementary School and Lee Vining High School), over 7 miles north of the project site. Therefore, the proposed project would have no impact on hazardous materials release within ¼ mile of an existing or proposed school.

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 (DTSC).

Based on a search of hazardous waste and substances sites listed in the DTSC "EnviroStor" database; a search of leaking underground storage tank (LUST) sites listed in the 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 within 1 mile of the project site. The Pumic Valley Rush Creek Landfill is a DTSC Cleanup site and a Land Disposal Site, but is approximately 2.8 miles northeast of GLR Dam. Therefore, the project would have no impact related to hazardous waste sites.

e) **Less Than Significant Impact.** Two public airports are operated in Mono County: Bryant Field in Bridgeport and Lee Vining Airport. Additionally, the Mammoth-Yosemite Airport is administrated by the Town of Mammoth Lakes. The closest airport, Lee Vining, is over 6 miles north of the spillway. New power poles (40 to 50 ft tall) are proposed to extend an existing power line to a new control building, and are necessary for operation of the proposed gates. However, the project is not located sufficiently near either a private airstrip or public airport to pose a safety risk. Therefore, project-related impacts on airport safety would be less than significant.

f) **Less Than Significant Impact.** Limited numbers of construction workers, delivery trucks, concrete trucks and soil hauling trucks would travel to the project site via Highway 395. Local roads adjacent to the project site (not part of an emergency evacuation plan route) would also be used throughout the construction period. Local emergency response agencies (Mono County Sheriff's Department, June Lake Fire Department, California Department of Forestry and Fire Protection) would be notified of the timing and duration of planned road closures, and accommodation would be made for travel on State Route 158 by emergency vehicles. Since the project site is not designated as an emergency staging area, the project would have a less than significant impact on emergency access and evacuation plans.

g) **Less Than Significant Impact.** New habitable structures are not proposed as part of the project. Project construction would require approximately 20 to 31 workers. Increased fire risk would be managed by the construction contractor, as applicable, during use of welding equipment, if any. Once the proposed facilities are installed and disturbed areas are

revegetated, the risk of fire in the GLR Dam area would be similar to existing conditions. Modification of the flows released downstream would impact existing vegetation both through scour of sediments and physical removal of vegetation, and through redistribution of sediments and enhanced seedling development. However, since flows would be within the range of flows historically experienced on the downstream creeks, changes in vegetation extent or composition would not constitute a significant impact on fuel for fires. Therefore, the proposed project would have a less than significant impact related to wildland fires.

2.3.10 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 or otherwise substantially degrade surface or groundwater quality?	☐	☐	☒	☐
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☒	☐
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or through the addition of impervious surfaces, in a manner which would:				
i. result in substantial erosion or siltation on- or off-site;	☐	☐	☒	☐
ii. substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	☐	☐	☒	☐
iii. 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; or	☐	☐	☒	☐
d) In a flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☐	☒
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☐	☒

Discussion: The four creeks subject to the proposed Licenses are tributary to Mono Lake, a terminal lake in a watershed with no outlet. GLR was formed by a 93-ft earthfill dam and has a maximum storage capacity of 47,171 af (at spillway elevation 7,130 ft amsl). Below GLR, water passes through a conduit to an 11.3 mile long Mono Craters Tunnel and is exported from the basin. The goal of the project is to implement the proposed Licenses which will require the controlled release of scheduled volumes of water to Rush Creek and Lee Vining Creek; Walker Creek and Parker Creek would not be diverted. Snowmelt runoff from the Sierra Nevada dominates flows in the four Mono Basin streams, with most contributing precipitation occurring in winter. Upstream of LADWP facilities (GLR and Lee Vining Creek Intake), SCE reservoirs and hydropower operations regulate stream flow timing; in general, peak flows are diminished and base flows are increased by SCE operations.

Management of the hydrology of the four Mono Basin streams is the intent of the proposed project. For Walker Creek and Parker Creek, implementation of the proposed Licenses would not alter existing conditions since these streams are not currently diverted by LADWP. For Rush Creek and Lee Vining Creek, stream hydrology would be managed as described in the project description and

Appendix A. Since 1998, with some exceptions, the streams have been operated under the SRFs. Following completion of the Synthesis Report in 2010, there have been periods where the SEFs, or portions of the SEFs, have been implemented: November 2010 to September 2011, November 2018 to October 2019, and November 2019 to October 2020.

Synthesis Report. Implementation of the proposed Licenses will result in the SEF flow regimes recommended in the Synthesis Report to enhance and maintain stream ecosystem functions (McBain & Trush and RTA, 2010). High flow releases are intended to mimic components of the annual snowmelt hydrograph by year type for stream restoration and maintenance. Per the Synthesis Report, most major geomorphic work is accomplished by peak streamflows greater than 250 cfs. Peak flows in Wet runoff years target major geomorphic functions, riparian regeneration, wetting off-channel features (such as side channels and scour channels), and groundwater recharge. The proposed flow regime in Rush Creek includes more frequent, shorter duration flood peaks exceeding 450 cfs to 500 cfs to help transport and deposit sediment, re-confine channels, and re-build floodplains. Peak flows in Wet hydrologic years are intended to promote advanced floodplain deposition along channel margins and within the interior of floodplain surfaces, deposit gravel bars opposite eroding meander bends, alter side channel entrances, and form delta channels. In Rush Creek, peak flows in Extreme-Wet runoff years are expected to cause channel avulsions over reaches longer than one or two meander wavelengths, cause rapid migration of headcuts, and provide the highest water surface stage heights for major floodplain aggradation and channel re-confinement.

LADWP Stream Special Studies. In 2018, Geosyntec Consultants, on behalf of LADWP, conducted special studies to assess the potential for geomorphic changes in Rush Creek and Lee Vining Creek with implementation of the SEFs. One goal of the study was to quantify geomorphic change in the ecosystem related to the Extreme-Wet year in 2017. Field observations were made pre-peak (May 2017) and post-peak (Oct 2017). Based on this analysis, the following findings were made:

- Floodplain Connectivity - SRFs and SEFs are similar to one another for Rush Creek. SEFs would result in more (15 percent increase) floodplain connectivity than SRFs in Lee Vining Creek.
- Bank Erosivity - Bank erosivity would be similar for SEFs and SRFs in both Rush Creek and Lee Vining Creek.
- Bedload Transport and Bed Scour – In Rush Creek, bedload transport with the SEFs would be slightly higher than under the SRFs. Upper Rush Creek would be more resistant to incision, but Lower Rush would be more susceptible to increased vertical instability under the SEFs since it possesses a less coarse substrate than Upper Rush and has a limited sediment supply. In Lee Vining Creek, bedload transport would be higher under the SEFs than the SRFs.
- Geomorphic Change Detection during 2017 High Flows – A sediment transport imbalance was noted in Rush Creek, illustrating that the vast majority of sediment moving through Upper and Lower Rush Creek is exported to Mono Lake. Therefore, net channel lowering and riparian stranding would be a primary consequence of increased peak flows. In 2017, Rush Creek lost a total of 64,090 cubic yards of bed and bank material. Similarly, the vast majority of sediment moving through Lee Vining Creek is exported to Mono Lake.

Geosyntec Consultants also conducted an analysis to predict long-term average bed degradation (channel bed lowering) for Rush Creek (below the Narrows) and Lee Vining Creek (below Hwy 395) (Geosyntec, 2019). The reach-scale analysis quantified the difference in bed degradation potential between SRF and SEF flow regimes over a 30-year horizon with and without consideration of climate change.

Data used to estimate long-term bed degradation were:

- Cross section measurements – historical (1997 – 2010) cross section data reported in the Synthesis Report and 2017 LADWP measurements for the main channels of Rush Creek (11 locations) and Lee Vining Creek (9 locations)

- Longitudinal profiles – historical (1997 and 2004) survey data reported in the Synthesis Report and 2017 LADWP data collected pre- and post-summer peak

- Light detection and ranging (LiDAR) topographic surveys – pre-peak LiDAR survey from May 22 to June 5, 2019 and post-peak survey from October 9 to 27, 2019 input to a GCD analysis

While different levels of precision are present in each form of surveyed data (Anderson and Pitlick, 2014; Dietterick et al., 2012), the three lines of data analyzed produced very similar results (i.e., magnitude of bed degradation estimated). Therefore, the uncertainty in the analysis is sufficiently low that it would not change the conclusions described below.

Historical geomorphic monitoring data (McBain & Trush, 2006 and StreamWise, 2004) were used to create discharge-dependent bedload transport rating curves, which relate to channel bed erodibility. The rating curves are integrated with a time series of daily flow data, to compare cumulative bedload transport and net bed degradation.

Long-term net bed degradation was estimated accounting for the effects of climate change (2020 to 2050) using a suite of four climate change projections encompassing a range of hydrologic precipitation conditions. For each climate model, the frequency of runoff year type (i.e., Dry, Dry-Normal, Normal, Wet-Normal, Wet, and Extreme-Wet) was estimated.

Results of the degradation analysis were:

1. During the 28-year historical flow record (Water Year 1990 to 2017), a substantial portion of bedload transported (30-70 percent on Rush Creek; 20-45 percent on Lee Vining Creek) occurred during the summer of 2017 (May 27 to November 27).
2. For both creek systems, the SEF flow regime would result in approximately 14 percent more bedload transport over the long-term, on average, than the SRF flow regime.
3. Estimates of the 28-year net average bed degradation, without climate change, for Rush Creek range from -0.6- to 3.1 ft, an interquartile range (IQR) from 0.6 to 1.3 ft, and an

average of 0.8 to 0.9- ft for the SRF. For the SEFs, estimates range from -0.6 to 3.2 ft, an IQR from 0.7 ft to 1.4 ft, and an average of 0.9 to 1.0 ft.

4. Estimates of the 28-year net average bed degradation, without climate change, for Lee Vining Creek range from -0.2- to 7.7 ft, an IQR from 0.4 to 2.8 ft, and an average of 1.8-ft for the SRFs. For the SEFs, estimates range from -0.3 to 8.7-ft, an IQR from 0.4 ft to 3.2 ft, and an average of 2.0 to 2.1 ft.

5. The evaluation of cross sections, longitudinal profiles, and the GCD data for 2017 illustrates that aggradation as a bed change process is localized, and that degradation is the primary vertical reach-scale process.

6. In nearly all cases and scenarios evaluated, the potential for degradation is greater under the SEFs than the SRFs. The magnitude of this increase, over 28 years (without climate change), has a range from -0.05 to 0.5-ft, an IQR from 0.05 to 0.15-ft, and an average of 0.1 ft for Rush Creek. For Lee Vining Creek, bed degradation estimates range from -0.05 to 1.0-ft, an IQR from 0.05 to 0.4 ft, and an average of 0.25 ft.

7. Three of the four climate models analyzed result in increased long-term average bed degradation where the SEFs have greater potential for bed degradation relative to the SRFs (the implication of this conclusion is that the SEFs have a higher potential to strand riparian resources). The remaining scenario modeled under HadGEM2-ES, which represents warmer and drier conditions, is the only model of the four that estimates a decrease in long-term bed degradation for the SEF and SRF flow regimes.

a) **Less than Significant Impact.** The project area is in the Mono Lake Hydrologic and Drainage Basin. 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, 1995, amended through 2019). Relevant to the project site, beneficial uses are designated for GLR and Rush Creek (**Table 10**).

Table 10
Beneficial Uses of Grant Lake Reservoir

Surface Water	MUN	AGR	GWR	FRSH	REC-1	REC-2	COMM	COLD	WILD	SPWN
Grant Lake Reservoir	X				X	X	X	X	X	X
Rush Creek (below Grant Lake Reservoir)	X	X	X	X	X	X	X	X	X	X

MUN – municipal and domestic supply; AGR – agricultural supply; GWR – groundwater recharge, FRSH – Freshwater replenishment; REC-1 – water contact recreation; REC-2 – noncontact water recreation; COMM – commercial and sportfishing; COLD – cold freshwater habitat; WILD – wildlife habitat; SPWN – spawning, reproduction, and development.
Source: Regional Board, 1995 (amended through 2019)

Waterbody-specific numeric objectives for the protection of these beneficial uses are summarized in **Table 11**. Additional narrative and numeric water quality standards for all surface waters 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.

Table 11
Water Quality Objectives

Water Body	Objective (mg/L)							
	TDS	**Cl**	**SO_4**	**F**	**B**	**NO_3-N**	**Total N**	**PO_4**
Grant Lake Reservoir	37/46	2.0/4.0	4.0/8.0	0.10/0.20	0.05/0.08	-	0.4/0.9	0.07/0.15
Rush Creek (Grant Lake Reservoir inlet)	58/70	-	-	-	-	0.1/0.1	0.2/0.2	0.07/0.09
Rush Creek (SCE inlet)						0.1/0.1	0.1/0.2	0.02/0.07

Project Construction. During project construction, disturbance to surface soils would result from spillway channel realignment, widening the dirt road east of the concrete spillway, installation of the West Side Road, and installation of power utility systems (control building and power poles). Nuisance groundwater would be removed from the work site area and placed in a sediment basin or pumped into tanks to allow settlement of sediments, before being discharged. Since disturbance to surface soils would exceed 1 acre, stormwater would 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). The types of BMPs to be implemented are summarized in **Table 12**. The SWPPP will include a map to detail the locations of work zones and BMP placement.

In addition to the SWPPP BMPs, LADWP will prepare and implement a Water Quality Monitoring Plan (WQMP) during construction of the spillway modification. The WQMP will detail: parameters to be monitored (including dissolved oxygen, oil and grease, temperature, pH, and turbidity), upstream and downstream monitoring stations, monitoring frequency, and notification procedures to the Regional Board if water quality objectives are exceeded.

With implementation of the required SWPPP and the WQMP, potential increases of sediment load in stormwater would not adversely affect surface water beneficial uses. Therefore, the impact on water quality during project construction would be less than significant.

Project Operation. No waste discharges are associated with operation of the proposed project. Water temperature simulation modeling conducted for LADWP found that in Lee Vining Creek for all scenarios, in all year types, temperature criteria (daily maximum 72 degrees F and daily average 67 degrees F) were not exceeded. In Rush Creek, in all scenarios

in wet years, temperatures did not exceed criteria. In normal and dry years, exceedances of maximum daily criteria did occur under both the SRF and the SEF flow regimes (Geosyntec, et al., 2018).

Releases of higher volumes to Rush Creek downstream of GLR as specified by the SEFs would increase suspension of solids in the channel as compared to SRFs and therefore increase turbidity and resuspend nutrients contained in the sediments. However, since the high flow releases are intended to mimic components of the annual snowmelt hydrograph by year type for stream restoration and maintenance, impacts on water quality would be less than significant.

Table 12
Summary of Anticipated Construction Stormwater BMPs

Best Management Practices for the Protection of Stormwater Quality During Construction
Housekeeping Measures • Conduct an inventory of products used or expected to be used • Cover and/or berm loose stockpiled construction materials • Store chemicals in watertight containers
Employee Training • Brief staff on the importance of preventing stormwater pollution • Have staff review SWPPP • Conduct refresher training during the wet season • Document training
Erosion and Sediment Controls • Provide effective cover for inactive areas – cover, berm, or direct runoff to suitable basins • Establish and maintain effective perimeter control • Stabilize construction entrances and exits to control sediment – inspect ingress and egress points daily, and maintain as necessary • Control dust during earthwork • Place sandbags or other barriers to direct stormwater flow to suitable basins
Spill Prevention and Control • Inspect construction equipment for leaking • Use drip pans until equipment can be repaired • Cleanup spills Immediately – remove adsorbent promptly • Notify the proper entities in the event of a spill
Concrete Truck Washing Waste • Provide containment for capture of wash water • Maintain containment area
Hazardous Waters Management and Disposal • Store hazardous wastes in covered, labeled containers with secondary containment for liquid hazardous wastes • Store wastes separately to promote recycling and to prevent undesirable chemical reactions
Materials Handling and Storage • Establish a designated area for hazardous materials • Berm, cover, and/or contain the storage area as necessary to prevent materials from leaking or spilling • Store the minimum volume of hazardous materials necessary for the work
Vehicle and Equipment Maintenance, Repair, and Storage • Inspect vehicles and equipment regularly • Conduct maintenance as necessary • Designate areas for storage – where fluids can be captured and disposed of properly
Scheduling • Avoid work during storm events • Stabilize work areas prior to predicted storm events

b) **Less than Significant Impact.** Implementation of the proposed Licenses would result in the modification of the GLR spillway to allow larger peak flows to be released to support restoration of downstream habitats. Per the Synthesis Report, the SEF flow regime would recharge groundwater and saturate emergent floodplains. The project does not include installation of new wells or groundwater withdrawals. The project would not substantially delete groundwater supplies or reduce groundwater recharge, therefore, impacts on groundwater would be less than significant.

c) i) **Less Than Significant Impact.** The proposed project does not include earthwork in, or physical alteration of, the four stream channels. However, implementation of the proposed Licenses would modify the flow regimes and alter the courses of Rush Creek and Lee Vining Creek. Restoration of these streams would be accomplished by modifying stream flows (as per the SEFs) to mimic components of the annual snowmelt hydrograph by year type in accordance with the proposed Licenses. The primary modifications in the flow regime would be the lower baseflows and increases in peak flows and duration by year type in comparison to the SRF flow regime. The increased peak flow would alter the existing stream processes that have stabilized under the SRF, resulting in a range of impacts on both creeks including: increased bedload transport, streambed scour, as well as, limited aggradation. Based on the analysis presented in the Synthesis Report, the SEF flow regime would help transport and deposit sediment, re-confine channels, re-build floodplains, deposit gravel bars, alter side channel entrances, and form delta channels. Impacts would also vary by location, by water year type and be influenced by climate change.

According to the Stream Special Studies conducted for LADWP (Geosyntec, et. al, 2018, Geosyntec, 2019), peak flows have the potential to cause localized major floodplain aggradation and channel re-confinement as well as exacerbate channel bed degradation (e.g., channel incision), headcut migration, and affect local groundwater access by riparian resources (e.g., riparian vegetation stranding). Higher peak flows on Rush Creek would result in increased sediment mobilization. GCD and hydraulic analyses of channel geomorphology for Rush Creek and Lee Vining Creek indicate that SEFs would increase the sediment transport rate of bed material relative to the SRFs (Geosyntec, 2018). Since the streams have limited sediment storage potential for coarse bedload, a net export of sediment would occur from the stream and riparian system as a new equilibrium is established.

Infrastructure impacts resulting from the increase in SEF peak flows compared to the SRF are possible. As illustrated in 2017, there was substantial bank failure at the SCE substation and on a portion of an SCE powerline road adjacent to Lee Vining Creek. However, these impacts have been addressed and are unlikely to occur in these locations in the future. Additionally, on Rush Creek, the 2017 high flows flanked the major spillway measurement flume and pitting on the spillway surface occurred. These effects can be remedied by maintenance of the spillway lining and repairs to the measurement flume.

Based on the analyses conducted in 2018 and 2019, in nearly all cases and scenarios evaluated, the potential for channel scour would be greater under the SEFs than the SRFs (Geosyntec et. al, 2018, Geosyntec, 2019). Additionally, three of the four climate models analyzed result in increased long-term bed scouring under the SEFs relative to the SRFs (Geosyntec, 2019). The potential for channel incision would be monitored and application of adaptive management to maintain restoration goals would be used to limit impacts to less than significant levels.

Further, after implementation of the SEFs, monitoring and adaptive management would be relied upon to modify the flow components and requirements (i.e., supported by trends in data) in regard to start or end dates, duration, or ramping rate of a hydrograph component, or specify the timing or a change in magnitude of a flow release. Therefore, while the LADWP modeling studies suggest that there is potential for erosion on Rush Creek and Lee Vining Creek with implementation of the SEF flow regime, with on-going monitoring and adaptive management, impacts on stream channel erosion would be minimized and would be less than significant.

ii) **Less than Significant Impact**. The proposed project would alter the flow regimes of Rush Creek and Lee Vining Creeks including discharge of higher peak flows (Rush Creek) and more frequent peak flows (Lee Vining Creek). Inundation of areas adjacent to the main channels of the streams would occur by design to benefit stream ecology.

The project includes a small control building necessary for operation of the proposed gates. However, this small structure would not significantly redirect stormwater flows. Additionally, since there are no habitable structures located on the project site or planned as part of the project, impacts related to flooding would be less than significant.

iii) **Less than Significant Impact**. The project includes modification of flow releases to creeks downstream from GLR. However, flows would be within the magnitude of historical discharges to these waterbodies. While high flows prescribed by the SEFs would increase sediment transport in the streams, and therefore turbidity, operation of the project would not include chemical use or any other actions that would provide an additional source of polluted runoff. Project-related impacts on stormwater drainage systems would be less than significant.

d) **No Impact.** A 100-year floodplain Zone A (no base flood elevations determined) has been mapped for GLR and on Rush Creek upstream of the reservoir (Federal Emergency Management Agency [FEMA], 2011). Surrounding areas are mapped as Zone D (areas in which flood hazards are undetermined, but possible). The project will allow an increase in the volume of flows released to Rush Creek, controlled by Langemann® gates. The gates would have an operational range of 12 ft (from elevation 7,130 ft to elevation 7,118 ft). The project would therefore increase flow control at the reservoir but would not increase flood risk. Additionally, no habitable structures exist in the immediate area of the project site and none are proposed as part of the project. LADWP will coordinate with DSOD regarding required permits and/or design approvals.

Due to the distance to the ocean, tsunami is not relevant for the proposed project. Seiches, or earthquake-generated waves on GLR, could overtop the dam and flow downstream. However, according to the Mono County General Plan Safety Element (2012a), there is no available evidence that seiches have occurred in Mono County lakes and reservoirs.

The project would not introduce new sources of pollutants to the project area. Therefore, the project would have no impact on the risk of pollutant release in a flood, tsunami or seiche zone.

e) **No Impact.** Under General Plan Policy 3.E.2., Mono County would implement the Groundwater Transfer Ordinance for out-of-basin groundwater transfers, and consider other local mechanisms to regulate groundwater exports including the provisions of the Sustainable Groundwater Management Act (Mono County, 2015). Implementation of the proposed

Licenses would revise the timing and peak flows released from GLR to Lee Vining Creek and Rush Creek. However, the overall volume of water export would the same as existing conditions with the exception of 12,000 af of additional export to offset the capital cost of constructing the spillway modification. Since implementation of the proposed Licenses would not obstruct implementation of the Basin Plan or a sustainable groundwater management plan, there would be no impact.

2.3.11 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) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☒

Discussion:

a) **No Impact.** The closest communities to the GLR spillway construction area are June Lake, approximately 7 miles to the south, and Lee Vining, approximately 7 miles to the north. No habitable structures are located on or immediately adjacent to the project site, and none are planned as part of the proposed project. Therefore, there would be no project-related impacts on established communities.

b) **No Impact.** GLR Spillway is located on LADWP-owned lands within Mono County. The MGORD and some of the access roads to the site are on USFS property (**Figure 10**). The Mono County General Plan maps the land use designation of the west side of GLR Dam including the spillway area as Open Space (OS), and the east side as Resource Management (RM). The access roads and MGORD as designated RM and Public and Quasi-Public Facilities (PF). Downstream from GLR, Rush Creek is designated RM, OS and Mixed Designation. Lee Vining Creek is designated OS and RM. In Mono County, the General Plan and Zoning Code have been combined into one document. The June Lake Area Plan (Mono County, 2010) supplements the General Plan and serves as a comprehensive, integrated and internally consistent guide for policy decisions and development in June Lake. A 20-year plan, the document summarizes existing conditions, identifies community issues and potentials, and specifies goals, objectives and policies to guide community development.

The proposed modifications would increase the operational flexibility of the spillway allowing compliance with required streamflows. Once installed, the land use of the project areas would be the same as under existing conditions. The Mono County General Plan Conservation/Open Space Element (2020) states:

> **Objective 3.F.** Promote the restoration and maintenance of Mono Lake, tributary streams, and downstream areas of the aqueduct system in Mono County, including Grant Lake, the Upper Owens River, Crowley Lake, and the Owens River Gorge.
>
> **Policy 3.F.1.** Work with the appropriate agencies to develop and implement a comprehensive water management plan for Mono Basin and the downstream areas of the aqueduct system. The water management plan should ensure that Mono Lake and the local

aqueduct system are managed in a manner that protects the ecological and fisheries values of the Mono Basin and downstream areas of the aqueduct system.

Since it would facilitate release of flows for ecological restoration, the proposed project is consistent with these land use objectives.

Construction of the project would require travel on roadways on lands managed by the USFS per the Inyo National Forest Land and Resource Management Plan (LRMP or Forest Plan) which provides direction for management activities on the Inyo National Forest (USDA, 2019). Forest plans are intended to be flexible documents that identify long-term or overall desired conditions and provide general direction for achieving those desired conditions. The 1988 LRMP was revised to address changes in economic, social, and ecological conditions and new scientific information. The LRMP outlines desired conditions, guidelines/goals, and potential management approaches for a range of forest resources. Forest-wide desired conditions include ecological sustainability and a diversity of plant and animal communities, and social and economic sustainability and multiple uses. Relative to recreation, the portion of the MGORD on federal land is designated Roaded Modified in the Land Management Plan (USDA, 2019, Figure 6). Since the proposed project would not alter the existing use of the project area, the project is consistent with federal land use plans.

Since the proposed project would be consistent with relevant local and federal planning documents, the project would have no impacts on land use.

2.3.12 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: Important mineral resources in the general project area include gravel deposits associated with alluvial fans. Mono County is the Lead Agency for the implementation of the Surface Mining and Reclamation Act of 1975 (SMARA), which establishes statewide policies for the conservation and development of mineral lands in California. Active mining operations are designated as Resource Extraction in the Mono County General Plan (2015). 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.

a) and b) **No Impact.** In the general project area there are active sand and gravel mines (Cain Ranch, Lee Vining), gold, tungsten and quartz mines, as well as closed mines (Diggins, 2019). Construction activity required for the spillway modification would not occur on or near the active mining operations or within the boundaries of a mineral lease area. Construction of the proposed project would require approximately 3,000 cubic yards of concrete for spillway construction. However, the proposed project would have no impact on the loss of availability of a known mineral resource or mineral resource recovery site.

2.3.13 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) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☒	☐
b) Generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
c) For a project located within the vicinity of a private airstrip or 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?	☐	☐	☐	☒

Discussion: GLR is located in a remote area of California's Eastern Sierra where the main source of noise is the roadway noise along Highway 395. There are no sensitive noise receptors in the immediate vicinity of the project area; the closest temporary inhabitants are located approximately 2 miles south of the spillway, at the GLR marina campground. The campground has 70 sites and is open from the last Saturday in April through mid-October.

A primary function of the Noise Element is to ensure that noise considerations are incorporated into the land use decision-making process. The noise goal identified in the Mono County Noise Element (Mono County, 2015b) is to: Preserve the county's quiet, rural atmosphere by maintaining existing ambient noise levels and preventing incompatible land uses from encroaching upon existing and planned land uses. Objectives to reach this goal are:

- Protect the existing noise quality by ensuring noise compatibility.
- Protect the existing noise quality through abatement.
- Address specific noise sources in Mono County to protect the existing noise quality.

Relevant to construction activity, the County's Noise Ordinance (Chapter 10.16 of the Mono County Code (Draft Update 2015)) considers the following prohibited acts:

- Operating or permitting the operation of any tools or equipment used in construction, drilling, repair, alteration, earthmoving, excavating, or demolition work between 7:00 p.m. and 7:00 a.m. on weekdays or at any time on weekends or legal holidays, except for emergency work by public service utilities or road crews or by variance issued by the County.

Where technically and economically feasible, construction activities shall be conducted in such a manner that the maximum noise levels at affected properties will not exceed those listed in the following schedule:

At residential properties:

a. **Mobile equipment**. Maximum noise levels for nonscheduled, intermittent, short-term operation (less than ten days) of mobile equipment shall comply with the noise limits in Table 10.16.060 (B).
b. **Stationary equipment**. Maximum noise levels for repetitively scheduled and relatively long-term operation (ten days or more) of stationary equipment shall comply with the noise limits in Table 10.16.060 (C).

At business properties:

a. **Mobile equipment**. Maximum noise levels for nonscheduled, intermittent, short-term operation (less than ten days) of mobile equipment, daily including Sunday and legal holidays, at all hours, shall be 85 dBA.
b. **Stationary equipment**. Maximum noise levels for repetitively scheduled and relatively long-term operation (ten days or more) of stationary equipment, daily including Sunday and legal holidays, at all hours, shall be 75 dBA.

All mobile or stationary internal combustion engine-powered equipment or machinery shall be equipped with suitable exhaust and air intake silencers in proper working order.

Table 10.16.060 (C) of the Noise Code lists the noise limits for stationary construction equipment, repetitively scheduled, relatively long-term operation as 50 dBA for single family residential land use (7:00 p.m. to 6:59 a.m.) and 60 dBA (7:00 a.m. to 6:59 p.m.).

a) **Less Than Significant Impact.** The closest noise receptors to the project site are visitors/recreators on adjacent LADWP or USFS lands, and temporary visitors at the GLR marina campground, approximately 2 miles south of the spillway. During construction for modification of the spillway and other proposed improvements, noise would be generated from trucks, dozers, a backhoe, rollers, a crane, forklifts, excavators, hydraulic breakers, and generators. With a minimum distance of 2 miles to the closest temporary resident, construction noise would not be noticeable to sensitive receptors. For example, construction equipment emitting 90 dBA at 50 ft would attenuate to 44 dBA at 2 miles (Canter, 1977). Additionally, construction activity would not occur during 7:00 p.m. to 7:00 a.m. when there is greater potential for noise disturbance to temporary inhabitants. Therefore, given the distance from the project site to sensitive receptors, the project would not cause noise levels to exceed established thresholds and noise impacts would be less than significant.

   Noise generated during project operation would include vehicle travel to the site for inspection and maintenance of the spillway. This routine travel to the site would be the same as existing conditions and would not generate noise noticeable by any sensitive receptors. Noise impacts from project operation would therefore be less than significant.

b) **Less Than Significant Impact.** Mono County General Plan Policy 1.C.8. is: Use Federal Transit Authority (FTA) Guidelines on Noise and Vibration to limit exposure of sensitive land uses to groundborne vibration from transportation sources, construction equipment, and other sources. The County's Noise Ordinance (Chapter 10.16 of the Mono County Code (Draft Update 2015)) considers the following prohibited acts:

- Operating or permitting the operation of any device that creates a vibration that is above the vibration perception threshold of an individual at or beyond the property boundary of the source if on private property or at 150 ft from the source if on a public space or public right-of-way.

Construction equipment necessary to install project facilities, including hydraulic breakers, would create minor groundborne vibration and groundborne noise in the immediate area of the construction. With no residences within 2 miles of the project site, impacts related to temporary groundborne vibration or noise would be less than significant.

c) **No Impact**. Two public airports are operated in Mono County: Bryant Field in Bridgeport and Lee Vining Airport. Additionally, the Mammoth-Yosemite Airport is administrated by the Town of Mammoth Lakes. Since the closest airport, Lee Vining, is over 6 miles north of the spillway, the project would not be 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 would be no project-related impacts on noise near an airport/airstrip.

2.3.14 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 unplanned 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 people or housing, 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 would not directly impact population growth in the GLR area. However, construction of the project would require approximately 20 to 31 workers. This minor number of workers over an approximately 3 year construction period would have a less than significant impact on population growth.

b) **No Impact.** No habitable structures are present in the project area and none are planned for construction as part of the project. Therefore, there would be no impacts on housing from construction and operation of the project.

2.3.15 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:

i – v) **No Impact.** New habitable structures are not proposed as part of the project. The limited number of construction workers required to construct the spillway modification (20 to 31) would not generate substantial population growth or create the need for new or expanded public services. Therefore, there would be no project-related impacts on fire protection, police protection, schools, parks, or other public facilities.

2.3.16 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: GLR, Rush Creek, Lee Vining Creek, Walker Creek, Parker Creek and the surrounding areas are used for recreation. GLR Marina has docks, fishing boat rentals, launch, and concessions. Waterskiing, wakeboarding and personal watercraft may be operated on GLR and the private campground is open from the last Saturday in April through mid-October. The majority of the 8-mile-long shoreline is accessible to the public via unpaved roads that connect to both State Route 158 and Highway 395. Below GLR Dam, Rush Creek is open for barbless catch-and-release fishing. Recreation along Lee Vining Creek includes camping, fishing and picnicking.

The Mono County General Plan includes a policy to support recreational activities and the ability to use and enjoy the land while also protecting the natural environment. The Inyo National Forest Land & Resource Management Plan (USDA, 1988) designates the June Lake Loop as a concentrated recreational area, a designation that calls for the development of recreational opportunities that can accommodate large numbers of visitors without severely impacting the environment.

The Land Management Plan for the Inyo National Forest (USDA, 2019; Figure 15) designates the portion of the MGORD on federal land as a Sustainable Recreation Management Area (General Recreation Area (Mixed/Moderate Use)). This management area is the working landscape where fuelwood gathering, vegetation management, livestock grazing, electrical transmission infrastructure, geothermal energy, and mining may occur.

a) **Less Than Significant Impact.** New habitable structures are not proposed as part of the spillway modification 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 parks. Therefore, the project would have no impact related to increased use of neighborhood or regional parks or other recreation facilities.

   However, construction of project facilities would require closure of the roads in the immediate vicinity of the spillway to protect public safety. During spillway construction, dirt roads in the immediate vicinity of the dam (and on LADWP property) would be closed to public travel. Temporary road closures on local dirt roads would be required when soils are being transported.

Road closures would avoid off-road travel and potential impacts to vegetation. Flagmen will be used at closures to internal roads off of the 158 for traffic safety.

The network of dirt roads near the spillway is used by fisherman for access to Rush Creek downstream of the spillway. Road closures required for project construction would impact recreation in these areas by reducing access via the local dirt roadways for the duration of road closures in these areas. However, since recreation areas can be accessed from State Route 158, the impact on recreation would be temporary and less than significant.

Prior to the start of construction, the GLR Marina and campground operators will be notified of the proposed schedule for construction and road closures.

Operation of the project is intended to enhance the restoration of the Mono Basin creeks, including habitat enhancements for the benefit of the trout fishery, a beneficial impact on fishing. Once the proposed facilities are installed, the project would have no adverse impacts on recreational facilities or access to recreation. Overall, the impact of the project on recreation would be beneficial.

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 would be no impacts related to the construction or expansion of recreational facilities.

2.3.17 Transportation

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 a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	☐	☐	☐	☒
b) Conflict or be inconsistent with CEQA Guidelines Section 15064.3 subdivision (b)?	☐	☐	☒	☐
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☒	☐
d) Result in inadequate emergency access?	☐	☐	☒	☐

Discussion: Major roadways in the project vicinity are U.S. Highway 395 and State Route 158.

- Highway 395 is the main north-south transportation route through the Mono Basin. In the vicinity of GLR, Highway 395 is a four-lane divided highway.

- State Route 158 (June Lake Loop) is a two-lane loop around June Lake, Gull Lake, Silver Lake and GLR. It connects to Highway 395 both north and south of the GLR. State Route 158 west of GLR is closed in winter.

- State Route 120 (Tioga Road) provides access from US 395 west to Tioga Pass at Yosemite National Park and east to Benton. In the project area, SR 120 is located adjacent to Lee Vining Creek.

a) **No Impact**. The Mono County Regional Transportation Plan (2015c) defines the goals, policies and objectives for transit systems in the project area. In this Plan, GLR and Rush Creek are identified as possible interpretive features for the June Lake Scenic Highway/Byway Facilities. Additionally, a potential project on Highway 395 between Lee Vining and June Lake is identified as a Mono Basin scenic area viewpoint, which could include an interpretive turnout/parking area to highlight Walker/Parker/Rush Creek restoration. Parking facilities for fishermen and hikers on Walker Creek and Rush Creek are also referenced. Since implementation of the proposed Licenses would not conflict with these potential projects, or with any goals of the Transportation Plan, the project would have no impact on transportation planning.

b) **Less Than Significant Impact.** CEQA Guidelines Section 15064.3 describes considerations for evaluating the transportation impacts of projects and states that vehicle miles traveled (the amount and distance of automobile travel attributable to a project) is generally the most appropriate measure of transportation impacts.

Since the proposed project is neither a land development project nor a transportation project that would permanently increase vehicle miles traveled in the project area, vehicle use for construction is considered. Construction necessary for implementation of the proposed Licenses would temporarily increase vehicle miles traveled by the approximately 21 to 30 construction workers that would travel to the project site over the course of spillway construction. Additionally, the concrete plant to be used for the project is located on Highway 395 in Mammoth Lakes, approximately 20 miles south of the spillway. Assuming 9 cubic yards per truck load, approximately 300 truck trips would be required to transport concrete to the spillway project site; these trips would occur over approximately 10 weeks. Other deliveries and workers commuting to the project site would travel on these roadways. Once transported to the site, most construction equipment (dozer, backhoe, compactor, crane, etc.) would remain in place for the duration of the construction period, and then be demobilized. Based on the estimated number of workers, concrete deliveries, and other deliveries related to the project, the temporary increase in vehicle miles traveled would be minor and less than significant.

Project effects on transit systems could include roadway erosion from high flows, as was experienced on Tioga Road adjacent to Lee Vining Creek in 2017. The impact is adverse but considered less than significant with implementation of monitoring and adaptive management included in the project.

c) **Less Than Significant Impact.** Under the proposed project, travel by construction vehicles in the project area would occur for up to 3 years. Approximately 300 concrete deliveries from Mammoth Lakes to the project site would be required over approximately 10 weeks. The estimated maximum of 6 concrete deliveries per day (approximately 1 per hour) would not substantially increase traffic hazards related to turning off Highway 395. With the planned road closures and restrictions on public access to the spillway during construction, impacts related to roadway hazards would be less than significant.

d) **Less Than Significant Impact.** The GLR area is currently accessible to emergency vehicles via Highway 395 and State Road 158. Construction of the proposed project would temporarily increase the volume of trucks travelling on these roadways and would require temporary road closures on dirt roads near the spillway. Local emergency response agencies (Mono County Sheriff's Department, June Lake Fire Department, California Department of Forestry and Fire Protection) would be notified of the timing and duration of planned road closures. The impact of the addition of approximately 20 to 31 workers commuting to the site and the increased traffic from concrete deliveries would be a less than significant impact on emergency access.

2.3.18 Tribal 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 cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or	☐	☒	☐	☐
b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	☒	☐	☐

Discussion:

Native American Outreach. On November 6, 2014, the NAHC was requested to conduct a search of their Sacred Lands File for the presence of Native American sacred sites or human remains in the vicinity of the proposed project. A written response received from the NAHC on November 24, 2014, stated that the Sacred Lands File failed to indicate the presence of Native American cultural resources in the immediate project area.

On the recommendation of NAHC, emails and letters were sent to four Native American contacts classified by NAHC as potential sources of information related to cultural resources in the vicinity of the project area. The emails and letters advised the tribes and specific individuals of the proposed project and requested information regarding cultural resources in the immediate area, as well as feedback or concerns related to the proposed project.

Ms. Charlotte Lange, Chairperson of the Mono Lake Kutzadika'a Paiute Indian Community, was the only contact who responded to the letters. On January 12, 2015, Ms. Lange telephoned GANDA to request additional information about the project to present to the tribal council.

On January 14, 2014, Mr. Raymond Andrews, Tribal Historic Preservation Officer of the Bishop Paiute Tribe, telephoned GANDA to inquire about the project and request more information about the nature of proposed ground disturbances in the project area.

On February 25, 2015, LADWP hosted an informational meeting for Native American tribal members at LADWP's Bishop, California office. At the meeting LADWP representatives

described the proposed project, the need for modifications to the spillway, and summarized the steps involved in CEQA compliance. A GANDA representative described the cultural resources documented during the initial archaeological survey. The meeting was attended by representatives of the following tribes:

- Mono Lake Kutzadika'a Paiute Indian Community
- Bishop Paiute Tribe

Issues discussed at the meeting included prehistoric Native American sites, burials, construction and monitoring. Based on input from the Bishop Paiute Tribe, traditional cultural properties or burials are not known for the areas of planned ground disturbance.

On September 28, 2015, LADWP requested a CEQA Tribal Consultation List per Assembly Bill 52 from the NAHC. Letters were subsequently sent to all tribal representatives on the NAHC list on November 17, 2015 giving them the opportunity to request formal consultation. An additional meeting was held in Bishop with the Bishop Paiute Tribe on January 6, 2016. A request for consultation was received from Ms. Lange on March 6, 2017. LADWP shared project information via a letter on April 3, 2017. LADWP staff also spoke by phone with Ms. Lange on June 9, 2019. An in-person meeting was held with the Mono Lake Kutzadika'a Paiute Indian Community on June 11, 2019 at the Mono Lake Indian Community Center. Consultation is ongoing and will extend through project development and construction.

Tribal Cultural Resources. It was reported to Stantec that the lower Rush Creek area contains potential Tribal Cultural Resources, and potential Traditional Cultural Properties that are still used by Tribal Practitioners (personal communication to Stantec by Greg Haverstock, Bishop Field Office, BLM, 2019). Consultation for past projects provides additional context for Native American use and concerns regarding the Mono Basin creeks.

BLM General Land Office (GLO) records contain a number of recorded Native American allotments (subdivisions of land under the Dawes Act of 1887) along the Rush and Lee Vining creeks granted to Kutzadika'a (Mono Lake Paiute) individuals (Gilreath, 1996:88). As reported in Gilreath's 1996 report, Helen McCarthy consulted with five individuals who had traditional knowledge of the use of the creeks in the ethno-historic period (Gilreath, 1996:88-93). McCarthy reported that the riparian areas along the creeks provided critical natural resources throughout the pre- and post-contact periods including the use of willow that grows on streambanks for house and shelter construction, tools, rafts and baskets, as well as wild roses for arrow canes. The creek margins also provided locations for many of the Native settlements in the post-contact period including the meadows on lower Rush Creek, above the Narrows, and Jamieson's ranch on lower Lee Vining. Although there were no sacred sites or traditional cemeteries identified by McCarthy's consultants, the traditional name for the Narrows, Tubudzigah or "mouth" was shared (Gilreath, 1996:93).

a) and b). **Less than Significant with Mitigation Incorporated**. Since there are known archaeological resources in the area of project construction disturbance, and since the project waterways contain potential Tribal Cultural Resources, mitigation measures (CUL-1 through CUL-6) shall be implemented. Tribal representatives that participated in past

Native American consultation for the project will be contacted prior to the start of project construction. Qualified Native American monitors will be afforded an opportunity to be present during earthwork and excavation activities associated with construction of the spillway modification. As mitigated, the project would have a less than significant impact on CRHR-listed or eligible resources, or on resources significant to a California Native American tribe.

2.3.19 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) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electrical power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	☐	☒	☐	☐
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	☐	☐	☒	☐
c) 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?	☐	☐	☒	☐
d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☐	☐	☒	☐
e) Comply with federal, state, and local management and reduction statues and regulations related to solid waste?	☐	☐	☒	☐

Discussion:

a) **Less than Significant Impact with Mitigation Incorporated.** The project includes the construction of new water storage infrastructure – the GLR Spillway modification. Additionally, five new utility power poles would be installed near the Spillway to supply power to the Langemann® Gates and for maintenance lighting. Approximately 1,500 ft of overhead power lines would be added to connect the control building to the existing overhead power line system. Impacts related to construction of these facilities would be reduced to less than significant levels by implementation of the biological, cultural and paleontological mitigation measures included in this Initial Study.

In addition to the negligible potable water demand from construction workers, water would be used for dust control during construction. Water trucks would be filled from GLR or the Cain Ranch filling station. Since no new water supplies or entitlements would be required, the impact on water supplies would be less than significant.

The project area does not have storm drain infrastructure or connect to any off-site storm drain facilities. Therefore, the project would have no impact on storm drain facilities.

b) **Less than Significant Impact.** The project includes modification of an existing water storage facility and revision to the timing and volume of flows released from GLR to Mono Basin streams. The volume of water exported from this system to meet existing water supply

demands would not be altered over existing conditions, with the exception of 12,000 af of additional export during prescribed hydrologic conditions. The project does not include residential, commercial, or industrial development which would create additional water demand. Therefore, project-related impacts on water supplies would be less than significant.

c) **Less than Significant Impact**. Habitable structures are not present on the project site and none are proposed as part of the project. The limited number of construction workers (approximately 20 to 31) required to implement the project would not create the need for new or expanded wastewater service. Wastewater generated at portable toilets would be treated locally (e.g., June Lake Public Utility District or Lee Vining Public Utilities District) in compliance with the requirements of the Lahontan Regional Water Quality Control Board. The project would have a less than significant impact on wastewater treatment facilities.

d) and e) **Less Than Significant Impact**. Modification of the spillway and the West Side Road improvement would generate minimal volumes of construction waste. Excess excavated soils (approximately 116,000 cubic yards) would be reused on-site or relocated to one or more of the soil stockpile locations. The limited volumes of solid waste generated by construction workers would be disposed at a permitted landfill (e.g., Pumice Valley Landfill) in compliance with applicable regulations. Therefore, impacts related to solid waste disposal would be less than significant.

2.3.20 Wildfire

Issues and Supporting Information Sources	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:				
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
b) Due to slope, prevailing winds, or other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	☐	☐	☒	☐
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☐	☐	☒	☐
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☐	☒

Discussion: CalFire is required by state law to map areas of significant fire hazards based on fuels, terrain, weather, and other relevant factors. LADWP-owned lands, including the Spillway location, are mapped as CalFire State Responsibility Area (SRA) Moderate Fire Hazards Zone. The majority of federally-owned land in the project area is not mapped within a INF Strategic Fire Management Zone. Where Rush Creek enters Mono Lake is mapped as a General Wildfire Protection Area and the portions of the MGORD on federal land are mapped as Wildfire Restoration in the Forest Plan (USDA, 2019, Figure 8).

The Mono County Wildfire Protection Plan does not map any at risk communities in the vicinity of the project on the Hazard Mitigation Plan (Mono County and the Town of Mammoth Lakes, 2019).

a) **Less than Significant Impact.** Roadways impacted by construction of the Spillway modification are not part of an emergency evacuation plan route. However, temporary road closures to internal dirt roadways off of State Route 158 would be implemented to protect public safety during construction. To further protect public safety, flag workers will be placed at these intersections to direct traffic. Local emergency response agencies (Mono County Sheriff's Department, June Lake Fire Department, California Department of Forestry and Fire Protection) would be notified of the timing and duration of planned road closures, and accommodation would be made for travel on State Route 158 by emergency vehicles. Since the project site is not designated as an emergency staging area, the project would have a less than significant impact on emergency access and evacuation plans.

b) **Less than Significant Impact.** Increased fire risk during construction would be managed by the construction contractor, as applicable, during use of welding equipment, if any. Once the proposed facilities are installed and disturbed areas are revegetated, the risk of fire in the GLR area would be similar to existing conditions. Modification of the flows released downstream would impact existing vegetation both through scour of sediments and physical removal of vegetation, and through redistribution of sediments and enhanced seedling development. However, since flows would be within the range of flows historically experienced on the downstream creeks, changes in vegetation extent or composition would not constitute a significant impact on fuel for fires. Additionally, new habitable structures are not proposed as part of the project and none are present on the project site. Therefore, the project would not expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of wildfire. Project-related impacts on wildfire would be less than significant.

c) **Less Than Significant Impact**. Construction necessary to implement the proposed Licenses includes five new utility power poles near the Spillway to supply power to the Langemann® Gates and for maintenance lighting. Approximately 1,500 ft of overhead power lines would be added to connect the control building to the existing overhead power line system. This limited additional infrastructure would not significantly exacerbate fire risk since the powerlines would be new construction meeting all applicable design requirements for fire safety. Power poles would be new and therefore not prone to damage from weather events. Large trees would not be located adjacent to the poles, thereby reducing the risk of tree limbs falling on powerlines during high winds. Therefore, the impact from new infrastructure on fire risk would be less than significant.

d) **No Impact**. Implementation of the proposed Licenses would alter flow releases from GLR to Rush Creek and Lee Vining Creek. However, habitable structures are not present on the project site and none are proposed as part of the project. Landslide and post-fire slope instability are not hazards identified for the project area. Therefore, the project would not expose people or structures to significant wildfire risks.

2.3.21 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 substantially 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, substantially reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?	☐	☒	☐	☐
b)	Does the project have the potential to achieve short-term, to the disadvantage of long-term, environmental goals?	☐	☐	☐	☒
c)	Does the project have impacts that are individually limited, but cumulatively considerable ("cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, effects of other current projects, and the effects of probable future projects.)?	☐	☐	☒	☐
d)	Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☒	☐

Discussion:

a) **Less Than Significant Impact With Mitigation Incorporated.** Project construction could impact sensitive species located at the project site and potentially disturb significant cultural resources. Mitigation measures have been defined to re-vegetate disturbed areas, protect rare plants, protect nesting birds and burrowing mammals from inadvertent disturbance and harm during construction, and minimize the spread of invasive species. Cultural resources mitigation measures have been identified to avoid known cultural resource sites, and unexpected discoveries during construction, to the maximum extent feasible and to conduct data recovery efforts on sites where avoidance is infeasible, if any. Therefore, with implementation of mitigation measures, impacts on biological and cultural resources would be less than significant.

b) **No Impact**. The objective of the project is to implement the provisions of the proposed Licenses including flow management and modification of the GLR Spillway to allow for controlled release of higher volumes of water from the reservoir during specific time periods. As mitigated, temporary impacts from project construction would be less than significant. The project would fulfill the requirements set forth in Settlement Agreement between LADWP and the other Parties, which will be approved by the SWRCB. The long-term goal is to improve the ecological conditions of the four Mono Basin streams tributary to Mono Lake. There are no short-term goals related to the project that would be disadvantageous to this long-term goal.

c) **Less Than Significant Impact.** An infrastructure maintenance project in the GLR Spillway is currently proposed. Presently, the project consists of removing the existing cone valve and replacing it with a new cone valve. The cone valve is located in a shaft house located east of the spillway. Due to the limited number of construction workers for the spillway modification project (approximately 20 to 31) and minor number of construction vehicles, cumulative impacts with other concurrent construction and maintenance activities, would be less than significant. With on-going monitoring and adaptive management, adverse operations-related impacts of the proposed project have not been identified, and therefore cumulatively significant adverse impacts with other projects are not anticipated.

d) **Less Than Significant Impact.** Construction of project facilities would require road closures on dirt roads adjacent to the spillway during movement of construction equipment and soil hauling. Temporary restrictions on recreational access would be implemented to protect public safety. Since alternate access would be available, the impact would be less than significant.

Section 3
References, Abbreviations, and Report Preparation

3.1 REFERENCES AND BIBLIOGRAPHY

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3.2 ACRONYMS AND ABBREVIATIONS

AB	Assembly Bill
af	acre-feet
amsl	above mean sea level
APE	Area of Potential Effect
ARPA	Archaeological Resources Protection Act
BLM	Bureau of Land Management
BMP	best management practice
BNHM	Berkeley Natural History Museum
CalEPA	California Environmental Protection Agency
Caltrans	California Department of Transportation
CalTrout	California Trout
CARB	California Air Resources Board
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CEC	California Energy Commission
CEQA	California Environmental Quality Act
cfs	cubic feet per second
CH_4	methane
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalent
CRHR	California Register of Historic Resources
D1631	Decision 1631
DSOD	(California) Division of Safety of Dams
DTSC	Department of Toxic Substances Control
EIC	Eastern Information Center (at University of California at Riverside)
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
FGC	Fish and Game Code
FMMP	Farmland Mapping and Monitoring Program
ft	feet
FTA	Federal Transit Authority
GBUAPCD	Great Basin Unified Air Pollution Control District
GCD	Geomorphic Change Detection
GHG	greenhouse gas
GLO	(United States) General Land Office
GLOMP	Grant Lake Operations Management Plan
GLR	Grant Lake Reservoir
GPS	Global Positioning System
HCP	Habitat Conservation Plan
Hwy	Highway
IQR	Interquartile Range
IS	Initial Study
LAA	Los Angeles Aqueduct
LAAMP	Los Angeles Aqueduct Monthly Program
LACM	Los Angeles County Museum
LADWP	(City of) Los Angeles Department of Water and Power
LiDAR	Light Detection and Ranging
lf	linear feet
LRMP	Land and Resource Management Plan
LUST	Leaking Underground Storage Tank
MAT	Monitoring Administration Team
MBOP	Mono Basin Operations Plan
MBTA	Migratory Bird Treaty Act
MGORD	Mono Gate One Return Ditch
MMTCO_2e	Million Metric Tons Carbon Dioxide Equivalents
MND	Mitigated Negative Declaration
N_2O	nitrous oxide
NAAQS	National Ambient Air Quality Standards

NAHC	Native American Heritage Commission
NHPA	National Historic Preservation Act
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
OS	Open Space
PF	Public and Quasi-Public Facilities
PM	particulate matter
PM_{10}	particulate matter 10 microns or less in diameter
RCV	rotary cone valve
RFP	Reasonable Further Progress
RM	Resource Management
SCADA	supervisory control and data acquisition
SCE	Southern California Edison
SCH	State Clearinghouse
SEF	Stream Ecosystem Flows
SIP	State Implementation Plan
SMARA	Surface Mining and Reclamation Act
SRA	(CalFire) State Responsibility Area
SRF	Stream Restoration Flows
SVP	Society of Vertebrate Paleontology
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
UCMP	University of California Museum of Paleontology
USDA	United States Department of Agriculture
USFS	United States Forest Service
USGS	United States Geological Survey
WEEP	Worker Environmental Education Program
WGS	World Geodetic System
WQMP	Water Quality Monitoring Plan

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